LIFE CYCLE ASSESSMENT OF CLAY BRICK WALLING IN SOUTH AFRICA

THE CLAY BRICK ASSOCIATION OF SOUTH AFRICA: TECHNICAL REPORT 7A

VOLUME 2

Prepared by the Department of Architecture, University of Pretoria

for the Clay Brick Association of South Africa

Authors:

Piet Vosloo	Associate Professor, Department of Architecture, University of Pretoria.
Howard Harris	Consultant, SP Energy.
Dieter Holm	Emeritus Professor, Department of Architecture, University of Pretoria.
Neels van Rooyen	Lecturer, Department of Architecture, University of Pretoria.
Gregory Rice	Researcher, Department of Architecture, University of Pretoria.

Revised September 2016

ISBN 978-1-77592-113-4

Copy and intellectual property rights

All rights title and interest in and to the copyright and intellectual property regarding this research report vest jointly in the Clay Brick Association of South Africa and the University of Pretoria.

Disclaimer

The authors and any participant in this study cannot be held liable for any claim of damages of any nature whatsoever, to any person or entity, arising from this study. The data used herein to develop the LCA model, are based on information that was received from the participants in this study.

Data provided by the respondents in the questionnaire survey were used to identify and quantify the environmental impacts associated with the different clay brick firing technologies employed in South Africa. The data used in this study have not been reviewed or audited by a third party. Where data were uncertain, the participant was contacted by the authors in order to verify such data.

Where the authors were restricted from accessing a particular clay brick manufacturer's factory, the data from these sites were used as received from the nominated representative of that factory.

This Life Cycle Assessment is intended to assess the environmental impacts resulting from the manufacturing, use, demolition, waste and recycling of clay bricks and does not purport to compare the assessment results to any other wall construction method employed in South Africa. The associated report titled *"A Thermal Performance comparison between six wall construction methods frequently used in South Africa CBA Technical Report 7B"* should be used in any comparative study of alternative wall construction methods in South Africa.

Acknowledgements

This study was financially supported by the Claybrick Association of South Africa, a THRIP grant of the National Research Foundation and the Swiss Agency for Development and Cooperation (SDC) as part of the Energy Efficient Clay Brick (EECB) Project implemented by Swisscontact.

Summary

Life Cycle Assessment of clay brick walling in South Africa

This volume, Life Cycle Assessment of clay brick walling in South Africa: The Clay Brick Association of South Africa: Technical Report 7A Volume 2, contains the 12 Appendices to which reference is made in Volume 1 of the report. Volume 2 cannot be read in isolation since all the references to its contents occur in Volume 1.

Table of contents

Appendix 1: Global carbon emissions for 2009 1

Appendix 2: Questionnaire, accompanying letter and consent form 3

Appendix 3: Screenshots of establishing LCA in SimaPro 19

Appendix 4: Summary of unit processes for cradle to gate phase of clay bricks for all firing Technologies

Appendix 4.1 Clamp kiln unit processes 37

Appendix 4.2 Tunnel kiln unit processes 39

Appendix 4.3 TVA kiln unit processes 41

Appendix 4.4 Hoffman kiln unit processes 43

Appendix 4.5 VSBK unit processes 45

Appendix 4.6 Zigzag kiln unit processes 47

Appendix 5: Inventory of emitted substances for all firing technologies for the cradle to gate phase 49

Appendix 5.1: Inventory of emitted substances for the clamp kiln firing technology for the cradle to gate phase 57

Appendix 5.2: Inventory of emitted substances for the tunnel kiln firing technology for the cradle to gate phase 64

Appendix 5.3: Inventory of emitted substances for the TVA kiln firing technology for the cradle to gate phase 71

Appendix 5.4: Inventory of emitted substances for the Hoffman kiln firing technology for the cradle to gate phase 78

Appendix 5.5: Inventory of emitted substances for the VSBK firing technology

for the cradle to gate phase 85

Appendix 5.6: Inventory of emitted substances for the Zigzag kiln firing technology for the cradle to gate phase 94

Appendix 6: Summary of unit processes for transporting materials for 1m² clay brick walling from the gate to the building site **102**

Appendix 7: Inventory of emitted substances for transporting materials for 1m² clay brick walling from the gate to the building site

Appendix 7.1: Inventory of emitted substances for the transport to site unit process 104

Appendix 7.2: Inventory of emitted substances for 1m² of a 220mm double brick wall with face brick externally 119

Appendix 7.3: Inventory of emitted substances for 1m² of a 220mm double brick wall with both sides plastered and painted 134

Appendix 7.4: Inventory of emitted substances for 1m² of a 280mm double brick cavity wall with face brick externally 149

Appendix 7.5: Inventory of emitted substances for 1m² of a 280mm double brick cavity wall with both sides plastered and painted 165

Appendix 7.6: Inventory of emitted substances for 1m² of a 280mm double brick insulated cavity wall with face brick externally 179

Appendix 7.7: Inventory of emitted substances for 1m² of a 280mm double brick insulated cavity wall with both sides plastered and painted 194

Appendix 8: Summary of South African Electricity unit processes **208**

Appendix 9: Inventory of emitted substances for operational phase (50 years) of the various brick walls **213**

Appendix 10: Summary of unit processes for clay brick for the demolition, waste and recycle phase **223**

Appendix 11: Inventory of emitted substances for the demolition, waste and recycle phase 225

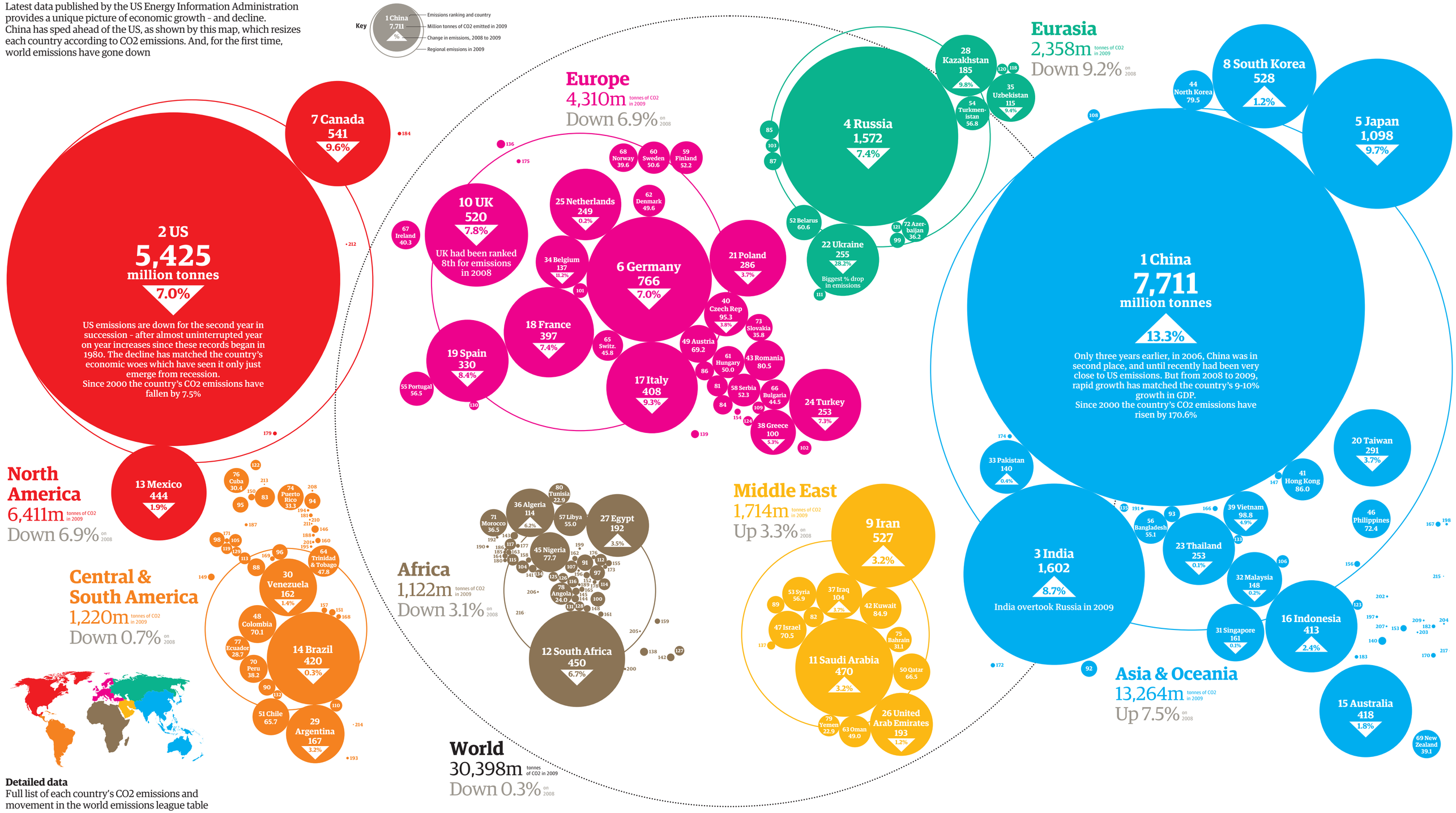
Appendix 12: Langkloof Emissions Study and permission to use data 238

Appendix 13: Critical Review: Final Statement 279

Appendix 1: Global carbon emissions for 2009

An atlas of pollution: the world in carbon dioxide emissions

Latest data published by the US Energy Information Administration provides a unique picture of economic growth – and decline. China has sped ahead of the US, as shown by this map, which resizes each country according to CO2 emissions. And, for the first time, world emissions have gone down



Detailed data

Full list of each country's CO2 emissions and movement in the world emissions league table

Rank/ change on 2008	Country	Million tonnes 2009	Percent change 08–09
= 1	China	7,711	13.3
= 2	US	5,425	-7.0
▲ 3	India	1,602	8.7
▼ 4	Russia	1,572	-7.4
= 5	Japan	1,098	-9.7
= 6	Germany	766	-7.0
= 7	Canada	541	-9.6
▲ 8	South Korea	528	1.2
▲ 9	Iran	527	3.2
▼ 10	UK	520	-7.8
▲ 11	Saudi Arabia	470	3.2
▼ 12	South Africa	450	-6.7
= 13	Mexico	444	-1.9
▲ 14	Brazil	420	-0.3
▲ 15	Australia	418	-1.8
▲ 16	Indonesia	413	2.4
▼ 17	Italy	408	-9.3
▼ 18	France	397	-7.4
= 19	Spain	330	-8.4
▲ 20	Taiwan	291	-3.7
▲ 21	Poland	286	-3.0
▼ 22	Ukraine	255	-28.2
▲ 23	Thailand	253	-0.1
▼ 24	Turkey	253	-7.3
= 25	Netherlands	249	-0.2
= 26	United Arab Emirates	193	-1.2
= 27	Egypt	192	3.5
▲ 28	Kazakhstan	185	9.8
▼ 29	Argentina	167	-3.2
= 30	Venezuela	162	-1.4
= 31	Singapore	161	-0.1
▲ 32	Malaysia	148	-0.2
▲ 33	Pakistan	140	0.4
▼ 34	Belgium	137	-11.2
▼ 35	Uzbekistan	115	-9.4
▼ 36	Algeria	114	6.2
▲ 37	Iraq	104	3.7
▼ 38	Greece	100	-5.3
▼ 39	Vietnam	98.8	-4.9
= 40	Czech Republic	95.3	-3.8
▲ 41	Hong Kong	86.0	10.3
= 42	Kuwait	84.9	6.3
▼ 43	Romania	80.5	-16.6
▲ 44	North Korea	79.5	14.3
▼ 45	Nigeria	77.7	-22.4
▼ 46	Philippines	72.4	-2.9
▲ 47	Israel	70.5	4.8
▲ 48	Colombia	70.1	7.9
▼ 49	Austria	69.2	-2.5
▲ 50	Qatar	66.5	4.8
▼ 51	Chile	65.7	-3.8
= 30	Venezuela	162	-1.4
▲ 53	Syria	56.9	6.1
▼ 54	Turkmenistan	56.8	-1.2
▲ 55	Portugal	56.5	1.5
▲ 56	Bangladesh	55.1	9.4
▼ 57	Libya	55.0	-3.9
▲ 58	Serbia	52.3	-3.2
▼ 59	Finland	52.2	-4.9
▼ 60	Sweden	50.6	-7.7
▼ 61	Hungary	50.0	-10.7
▼ 62	Denmark	49.6	-8.6
▲ 63	Oman	49.0	9.9
= 64	Trinidad and Tobago	47.8	-4.1
▲ 65	Switzerland	45.8	1.0
▼ 66	Bulgaria	44.5	-11.9
▼ 67	Ireland	40.3	-11.2
= 68	Norway	39.6	-0.3
▲ 69	New Zealand	39.1	-1.1
▲ 70	Peru	38.2	4.0
▲ 71	Morocco	36.5	-2.2
▼ 72	Azerbaijan	36.2	-8.9
▼ 73	Slovakia	35.8	-4.5
= 74	Puerto Rico	33.3	-3.2
= 75	Bahrain	31.1	1.6
= 76	Cuba	30.4	4.7
= 77	Ecuador	28.7	1.7
= 78	Angola	24.0	1.8
▲ 79	Yemen	22.9	13.5
▲ 80	Tunisia	22.9	5.7
▼ 81	Croatia	21.5	-4.7
▲ 82	Jordan	20.0	2.4
▲ 83	Dominican Republic	19.9	2.1
▼ 84	Bosnia and Herzegovina	18.3	-15.9
▼ 85	Estonia	17.5	-11.8
▲ 86	Slovenia	17.4	0.5
▼ 87	Lithuania	15.8	-12.8
= 88	Panama	15.5	1.7
= 89	Lebanon	14.8	3.6
= 90	Bolivia	13.9	-2.7
▲ 91	Sudan	13.0	7.0
▲ 92	Sri Lanka	12.8	1.7
▼ 93	Burma	12.5	-9.5
▼ 94	US Virgin Islands	12.5	-3.5
▼ 95	Jamaica	12.1	-4.6
= 96	Netherlands Antilles	11.6	-4.1
▲ 97	Kenya	11.5	2.4
= 98	Guatemala	11.3	-1.4
▲ 99	Armenia	11.2	1.5
▲ 100	Zimbabwe	10.6	18.6
▼ 101	Luxembourg	10.6	-11.2
= 102	Cyprus	9.4	-3.5
▲ 103	Latvia	8.5	8.1
▲ 104	Ghana	8.1	9.6
= 105	Honduras	7.9	-2.4
▼ 106	Brunei	7.6	-27.1
▲ 107	Cameroon	7.5	-1.9
= 108	Mongolia	7.4	-3.8
▼ 109	Macedonia	7.3	-20.1
▼ 110	Uruguay	7.2	-10.2
= 111	Moldova	7.1	-4.1
▲ 112	Ethiopia	6.9	7.1
▼ 113	Costa Rica	6.8	-4.4
▲ 114	Tanzania	6.7	7.1
▼ 115	IvoryCoast	6.6	2.2
▲ 116	Congo	6.3	3.8
= 117	Senegal	6.2	1.8
▼ 118	Tajikistan	6.1	-10.4
= 119	El Salvador	5.9	0.0
= 120	Kyrgyzstan	5.7	-0.4
= 121	Georgia	5.3	-4.9
= 122	Bahamas	5.2	3.1
▲ 123	Papua New Guinea	4.8	6.7
▲ 124	Albania	4.6	3.8
▼ 125	Equatorial Guinea	4.6	-2.1
▼ 126	Gabon	4.6	-3.2
▼ 127	Mauritius	4.6	-1.0
▲ 128	Botswana	4.5	7.7
▼ 129	Nicaragua	4.5	-2.9
▼ 130	Gibraltar	4.4	-3.8
▲ 131	Namibia	4.1	3.7
▲ 132	Paraguay	4.0	3.7
▼ 133	Cambodia	3.9	-6.1
▲ 134	Benin	3.5	4.3
▲ 135	Nepal	3.4	3.8
▼ 136	Iceland	3.4	-7.4
▲ 137	Palestine	3.2	4.3
▲ 138	Madagascar	3.1	13.4
▼ 139	Malta	3.1	-2.5
▼ 140	New Caledonia	3.0	0.0
▲ 141	Togo	2.8	5.6
▼ 142	Reunion	2.8	0.0
▲ 143	Mauritania	2.7	5.3
▲ 144	Zambia	2.7	18.8
▼ 145	Congo, Dem Rep	2.7	-2.6
▼ 146	Martinique	2.6	6.3
▼ 147	Macau	2.4	1.3
▲ 148	Mozambique	2.3	4.6
▼ 149	Guadeloupe	2.2	-5.1
▲ 150	Haiti	2.1	2.9
▲ 151	Suriname	2.0	4.0
= 152	Uganda	1.9	-3.0
▼ 153	Fiji	1.9	-6.2
= 154	Montenegro	1.9	4.3
▲ 155	Djibouti	1.8	3.4
▼ 156	Guam	1.7	-3.5
= 157	Guyana	1.5	0.0
▲ 158	Burkina Faso	1.4	2.1
▲ 159	Seychelles	1.4	6.1
▼ 160	Barbados	1.4	-4.0
▲ 161	Swaziland	1.4	17.0
= 162	Niger	1.3	3.5
▼ 163	Guinea	1.3	-1.2
▲ 164	Sierra Leone	1.3	5.9
▼ 165	Malawi	1.3	4.6
= 166	Laos	1.2	1.1
▼ 167	Wake Island	1.2	-4.3
= 168	French Guiana	1.1	6.1
= 169	Aruba	1.1	4.2
▲ 170	French Polynesia	1.1	7.7
▼ 171	Belize	0.94	-5.4
= 172	Maldives	0.92	3.4
= 173	Somalia	0.90	3.4
= 174	Afghanistan	0.83	-2.9
= 175	Faroe Islands	0.80	6.4
▲ 176	Eritrea	0.77	6.4
▲ 177	Mali	0.74	6.4
▼ 178	Rwanda	0.74	0.0
= 179	Bermuda	0.71	4.2
= 180	Liberia	0.69	2.2
= 181	Antigua and Barbuda	0.69	4.4
= 182	American Samoa	0.67	2.2
▲ 183	East Timor	0.63	8.7
▼ 184	Greenland	0.61	-4.8
▲ 185	Guinea-Bissau	0.46	0.0
▲ 186	Gambia	0.44	15.4
▼ 187	Cayman Islands	0.43	-11.8
▼ 188	Saint Lucia	0.41	0.0
▲ 189	Burundi	0.37	4.0
▲ 190	Cape Verde	0.34	4.5
▼ 191	Bhutan	0.33	-11.1
▲ 192	Western Sahara	0.32	0.0
▲ 193	Antarctica	0.31	17.6
▲ 194	Saint Kitts and Nevis	0.30	11.1
= 195	Grenada	0.30	4.8
▼ 196	Central African Republic	0.29	-13.0
▲ 197	Solomon Islands	0.29	25.0
▼ 198	US Pacific Islands	0.29	0.0
▼ 199	Chad	0.29	11.1
▼ 200	Lesotho	0.27	5.9
= 201	Saint Vincent/Grenadines	0.27	17.6
▲ 202	Nauru	0.20	9.1
▼ 203	Tonga	0.15	-23.1
▲ 204	Cook Islands	0.15	66.7
▲ 205	Comoros	0.15	25.0
▼ 206	Sao Tome and Principe	0.15	11.1
▲ 207	Vanuatu	0.15	25.0
▲ 208	British Virgin Islands	0.15	25.0
▼ 209	Samoa	0.15	-16.7
= 210	Montserrat	0.15	58.7
▼ 211	Dominica	0.14	11.1
▼ 212	Saint Pierre and Miquelon	0.11	16.7
= 213	Turks and Caicos Islands	0.08	0.0
= 214	Falkland Islands	0.05	0.0
= 215	Kiribati	0.04	0.0
= 216	Saint Helena	0.01	11.2
= 217	Niue	0.01	2.9

Table shows total carbon dioxide emissions from the consumption of energy

GRAPHIC: MARK MCCORMICK, PAUL SCRUTON.

SOURCE: EIA

Appendix 2: Questionnaire, accompanying letter and consent form

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Department Of Architecture

10 June 2013

To: Clay brick manufacturer

University of Pretoria / Clay Brick Association Life Cycle Assessment Project

Firstly, thank you for the time you are going to spend filling in the data collection sheets necessary to produce first grade quality data for the UP-CBA Life Cycle Assessment for Clay Brick Walling project.

To understand the process of Life Cycle Assessment, the ISO 14040 defines it as the compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle. The CBA contracted the University of Pretoria to conduct this research in order to produce academically grounded scientific results which can be used as a marketing and development tool in the clay brick industry.

In order to present internationally recognised LCA results, the process needs to comply strictly with ISO 14040 and 14044 requirements. This will ensure that the results of this project are of a high level and will hopefully set a trend in many other building industry members in South Africa, which in turn will help to increase awareness about the necessary changes we all need to make in order to reduce our environmental impacts.

Due to the strict process of LCA, the project is expected to be finished and feedback can be given by June 2014.

Please do not hesitate to contact the UP/CBA representative anytime throughout the process using the provided details should you have any questions or comments after the data collection sheet has been completed.

Yours sincerely

On behalf of the *University of Pretoria / CBA Life Cycle Assessment team*

Dr. Piet Vosloo Pr Arch Pr LArch Pr CPM
Associate Professor, Department of Architecture
Boukunde Building 2-16, University of Pretoria
Tel +27 (0)12 420 4128
Fax +27 (0)12 420 2552
Cell +27 (0)82 374 4497
E-mail piet.vosloo@up.ac.za

RESEARCH SUBJECT CONSENT FORM

Title of research project:

"Life Cycle Assessment for Clay Brick Walling in South Africa"

Declaration by research subject:

I, ……as representative of ……..(Brick factory company name or similar) hereby voluntarily grant my permission for participation in the project as explained to me by Gregory Rice/John Volsteedt (LCA data collector).

Conditions of declaration:

- The nature and objective have been explained to me and I understand them.

- I understand my right to choose whether to participate in the project and that the information furnished will be handled confidentially. I am however aware that the results of the investigation may be used for the purposes of publication without referring to or divulging the identity of any participant.

- I understand that Gregory Rice/John Volsteedt is committed to ensuring confidentiality of any information gained with regard to the Life Cycle Assessment for Clay Brick Walling in South Africa, and that any such information will not be used for any other purpose other than for determining sector averages for each issue addresses in the questionnaire, and that the specific information gathered from a participant will not be shared with or distributed to any other company or individual.

- Please retain a copy of this signed consent form.

Signed: _____ Date: _____

Witness: _____ Date: _____

Researcher: _____ Date: _____

LIFE CYCLE ASSESSMENT ON CLAY BRICKS IN SOUTH AFRICA

QUESTIONNAIRE

A research project by: GREGORY RICE

for the degree

MSc (Applied Science) (Architecture)

in the

Department of Architecture
University of Pretoria

Partly funded by:

The Clay Brick Association of South Africa
Halfway House
Midrand

Reference Number: _____

Version 12/060613

INSTRUCTIONS FOR QUESTIONNAIRE

1. Please fill in all the appropriate answers with historical data, that is, data which can be accessed for future reference if necessary.

2. Please mark in the appropriate block/s with a cross.

3. When asked for data that is applicable to a variety of products produced at your plant, please average this data as best you can.

4. Please fill in N/A in the blocks which are not applicable.

DEFINITIONS

1. Majority - more than 50% of the time
2. Year/annum - latest complete annual period of operation (ideally 1 January 2012 TO 31 December 2012)

3. On site - within the boundary lines of the brick production plant

4. Off site - not within the boundary lines of the brick production plant
5. Green brick - brick which has been extruded and cut, but not yet dried or fired
6. Fuel - petrol, diesel or other fossil fuels
7. Firing energy source - the energy source which allows firing to take place, examples include gas, electricity and coal
8. Firing - term could be referred to as baking or burning
9. Additive - non silicate substance such as fuel, chemicals, lubricants etc, but excluding water
10. Brick equivalent - an imperial brick with the dimensions 222x106x73mm
11. Internal waste heat - heat that which is gathered from other processes in the brick production process that is used in another process as a primary input

QUESTIONNAIRE

FOR OFFICE USE ONLY

SECTION A - CONTACT

1. Name of company/organisation

2. Name of contact person at your brick production plant

3. Telephone number of contact person

4. E-mail address of contact person

SECTION B - OPERATION DETAILS

5. Province of your brick production plant

Gauteng		V5	
Limpopo			
Mpumalanga			
Kwazulu Natal			
Eastern Cape			
Western Cape			
Northern Cape			
North West			
Free State			
Other (outside SA)			

6. Type of firing process employed at your brick production plant

Clamp kiln		V6.1	
Tunnel kiln		V6.2	
VSBK kiln		V6.3	
TVA kiln		V6.4	
Zigzag kiln		V6.5	
Other _____		V6.6	

7. Please fill in the table below, where applicable

	Dimensions (mm x mm x mm)	Number of bricks produced per year	Calculated number of brick equivalents	Percentage of total bricks produced (%)	FOR OFFICE USE ONLY				
					V7.1a	V7.1b	V7.1c	V7.1d	V7.1e
Imperial									
Maxi									
Jem block									
Pavers									
Other _____									
Other _____									
				100%	V7.6a	V7.6b	V7.6c	V7.6d	V7.6e

8. Average saleable brick weight (kg)

Imperial		V8.1	
Maxi		V8.2	
Jem block		V8.3	
Pavers		V8.4	
Other _____		V8.5	

9. Please fill in the table, where applicable

	Number of bricks saleable per year	Calculated number of brick equivalents saleable per year	Calculated factor between imperial and other i.t.o. volume		
Imperial			1	V9.1	
Maxi				V9.2	
Jem block				V9.3	
Pavers				V9.4	
Other _____				V9.5	

10. Total land area upon which brick factory is located (hectares)

	V10	

11. Percentage of total land area used for producing bricks at your production plant (inclusive of quarry, storage of clay, production plant and administration)?

	V11	

FOR OFFICE USE ONLY

12. Please fill in the table below, if applicable to your production plant

Land use	Volume (tons)	Land area (m²)	Number of years in operation	Number of years still available for operation		
Quarry					V12	

13. To date, what is the total quantity of clay quarried from the quarry/ies at your brick production plant?

	V13	

SECTION C - RAW MATERIAL EXTRACTION

14. What percentage of clay is mined on site and off site?

	%		
On site		V14.1	
Off site		V14.2	
	100%		

15. What type of raw material extraction method is employed?

Open cast quarry		V15.1	
Other_____		V15.2	

16. Please fill in the table below, where applicable

Raw material	Annual m³	Annual fuel used for transportation from quarry to stockpile	Annual fuel used for transportation from stockpile to infeed	V16.1a	V16.1b	V16.1c
Mined on site 1						
Mined on site 2						
Mined on site 3						
Mined on site 4						
				V16.4a	V16.4b	V16.4c

17. Please fill in the table below, where applicable

Raw material	Annual m³	Annual fuel used for transportation from quarry to stockpile	Annual fuel used for transportation from stockpile to infeed	V17.1a	V17.1b	V17.1c
Imported 1						
Imported 2						
Imported 3						
Imported 4						
				V17.4a	V17.4b	V17.4c

18. Please fill in the table below, where applicable

Raw material		Travel distance (km)	Annual fuel used to transport to factory
Imported 1			
Imported 2			
Imported 3			
Imported 4			

FOR OFFICE USE ONLY

	V18.1a	V18.1b
	V18.4a	V18.4b

SECTION D - STOCKPILING

19. What percentage of the mined/imported clay is stockpiled on site and off site?

	%		
On site		V19.1	
Off site		V19.2	
	100%		

20. On average, what tonnage of clay is stockpiled per stockpile?

	tons	V20	

21. On average, how many stockpiles are on site at a time?

		V21	

22. What is the average land area of a single stockpile?

	m^2	V22	

23. On average, for how many days is clay stored in the stockpile?

	days	V23	

SECTION E - RAW MATERIAL PREPARATION

24. Is milling of clay employed on site or off site?

On site		Go to Q25	V24	
Off site		Go to Q26		

25. If on site, what quantity of clay is milled per year at your brick production plant?

	tons	V25	

26. If off site, what quantity of milled clay is imported per year?

	tons	V26	

SECTION F - MIXING, EXTRUSION to GREEN BRICK

FOR OFFICE USE ONLY

27. Is milling done mechanically only?

Yes		V27
No		

28. Please fill in the table below, where applicable

	Type of energy/fuel used for transport	Quantity of energy used for transport (eg. Litres of fuel, kWh electricity)	V28.1a	V28.1b
Transport of wet green bricks				
Transport of dry green bricks				
Transport of fired bricks on site				
			V28.3a	V28.3b

29. Which additives and their percentages are added to the wet clay mix (exclude internal fuels)?

Additive name	Percentage by mass (%)	V29.1a	V29.1b	
Colourant:				
Plasticizer:				
Inerts:				
Soluble salt control:				
Other:				
Other:				
Other:				
Other:				
Other:				
		V29.9a	V29.9b	V29.9c

30. Where and in what quantities is water sourced for the **wet clay mix?**

Water source	Percentage sourced	Quantity sourced per annum (litres)	V30.1a	V30.1b	
Municipal					
Borehole					
Stream/river/dam					
Rain collection					
Other_____					
	100%		V30.5a	V30.5b	V30.5c

31. Is there additional water used on site other than for the preparation of the clay mix?

Yes		V31
No		

32. If "yes" was answered above, what quantity of additional water is used per year for the various other purposes?

FOR OFFICE USE ONLY

Purpose	Quantity/ year (litres)	
Sanitary		V32.1
Cleaning		V32.2
Dust settling		V32.3
Irrigation		V32.4
Other_____		V32.5
Other_____		V32.6

33. Please indicate what happens to run off water from the brick production plant site in the table below.

	Agriculture	Stored and reused in brick making	Stored and used for other purposes	Treated for sludge collection
Kept on site				
Sent off site				
Other_____				

V33.1a	V33.1b	V33.1c	V33.1d

V33.3a	V33.3b	V33.3c	V33.3d

34. What mass of clay is used for the production of 1 000 green bricks (SBE)? (kg/1000)

	V34

35. Is there clay waste (that which cannot be reclaimed and used in the production of bricks again) generated from extrusion to green brick stage at your brick production plant?

Yes		V35
No		

36. If "Yes" was answered in the previous question, please indicate what happens to this waste below

Landfill		V36.1
Rehabilitation of quarry		V36.2
Other_____		V36.3

SECTION G - DRYING

37. What method/s of drying is employed at your brick production plant?

Hackline drying		V37.1
Chamber drying		V37.2
Tunnel drying		V37.3
Other_____		V37.4
	100%	

38. What quantity of energy is used per annum for the drying of green bricks? (only where applicable)

	Energy choice (tick)	Quantity of energy per annum			V38.1a	V38.1b
Outdoor		N/A		V38.1		
Electricity			kWh	V38.2		
Coal			Kg	V38.3		
Fuel Oil			Litres	V38.4		
Gas			GJ	V38.5		
Internal waste heat		N/A		V38.6		
Other_____				V38.7		
					V38.7a	V38.7b

39. Please fill in the table below

	Brick equivalent weight (kg)		
Before drying		V39.1	
After drying		V39.2	

FOR OFFICE USE ONLY

SECTION H - FIRING

40. What is the average mass of a fired single brick equivalent produced by your brick production plant?

	kg

41. Please fill in the table below which concerns INTERNAL BODY FUEL

Internal body fuel	Quantity kg of fuel per 1000 brick equivalents	CV of fuel	Method of transport to brick plant	Distance fuel travels to brick plant (km)	V41.1a	V41.1b	V41.1c	V41.1d	
Fly Ash									
Coal fines									
Peas									
Grains									
Other _____									
					V41.5a	V41.5b	V41.5c	V41.5d	

42. Please fill in the table below which concerns EXTERNAL FIRING FUEL

FOR OFFICE USE ONLY

External firing fuel	Quantity of fuel per 1000 brick equivalents	CV of fuel	Method of transport to brick plant	Distance fuel travels to brick plant (km)	V42.1a	V42.1b	V42.1c	V42.1d	
Coal fines									
Peas									
Grains									
Small nuts									
Gas									
Light Fuel Oil									
Heavy Fuel Oil									
Other _____									
					V42.8a	V42.8b	V42.8c	V42.8d	

43. What gases and in what quantities and percentages, are expelled from the firing of bricks per annum?

Gas expelled	Percentage of total gas expelled	Quantity expelled per year	Unit of gas, eg. Mg/Nm^3	V43.1a	V43.1b	V43.1c	V43.1d	
O_2								
CO								
CO_2								
No_x as NO_2								
SO_x								
Flourides								
Other_____								
Other_____								
Other_____								
Other_____								
Other_____								
Other_____								
	100%			V43.12a	V43.12b	V43.12c	V43.12d	V43.12e

44. What percentage of the fired brick yield is saleable for the intended purpose?

	%	V44	

45. What happens to the brick waste generated from the firing process, ie. The produced brick which is not sold for its intended purpose?

FOR OFFICE USE ONLY

Landfill			V45.1	
Rehabilitation of quarry			V45.2	
Crushed as aggregate			V45.3	
Other_____			V45.4	
Other_____			V45.5	
Other_____			V45.6	

SECTION H - POST FIRING

46. What percentage of sold bricks is delivered or collected?

	%		
Delivered		V46.1	
Collected		V46.2	
	100%		

47. Please fill in the table below

Distance that bricks are transported to site	Proportional percentage of sales (%) (∑100%)		
1-25km		V47.1	
26-50km		V47.2	
51-100km		V47.3	
101-200km		V47.4	
201-500km		V47.5	
> 500km		V47.6	

48. What type of fuel is used in the transportation vehicles for transporting bricks to building sites?

Petrol		V48.1	
Diesel		V48.2	
Other_____		V48.3	

49. Is there brick waste generated during the transport phase?

Yes		V49	
No			

50. Of the total bricks distributed to building sites, what percentage is classified as waste?

[0 - 2] %		V50	
(2 - 5] %			
(5 - 10] %			
> 10 %			

SECTION I - ADDITIONAL QUESTIONS

FOR OFFICE USE ONLY

51. What is the total energy consumption, which is used for firing 1000 brick equivalents?

GJ/1000 V51

52. What is the total electrical energy consumed by the brick plant per annum (including administration, lighting, airconditioning etc but excluding electricity used inside the plant used for transport of bricks etc.)?

kWh V52

53. Please fill in the table below

Stage in brick production process	Percentage of total electrical energy used (%)	
Clay preparation		V53.1
Extrusion		V53.2
Drying		V53.3
Firing		V53.4
Additional		V53.5
	100%	

54. If you are aware of any businesses/entrepeneurs that deal with recycling and reusing bricks from demolished sites, please provide contact details of them?

55. If you are aware of brick recycling businesses, please give a brief explanation of the extent of the operation, the quantity recycled, collection methods etc.

INCENTIVE

Please note that by participating in the above survey you and your production plant are allowing internationally recognized research to be conducted on the life cycle of bricks and brick production in South Africa. As a thank you to your response recognition will be awarded to the participating firms by awarding a certificate to your production plant which will represent the following items:

1. Production plant recognizes the value of the environment
2. Production plant recognizes efforts to investigate environmental issues around the plant
3. Production plant participated in the Clay Brick Association and University of Pretoria LCA research project

4. Production plant has recognized the areas which may be improved upon to reduce environmental impacts of the production of bricks

Additionally, *personalised* results of the research project can be forwarded to your production plant should you wish to receive them.

Yes, forward me the results	
No, do not forward the results	

FEEDBACK

Should there be any feedback/comments, please feel free to write this

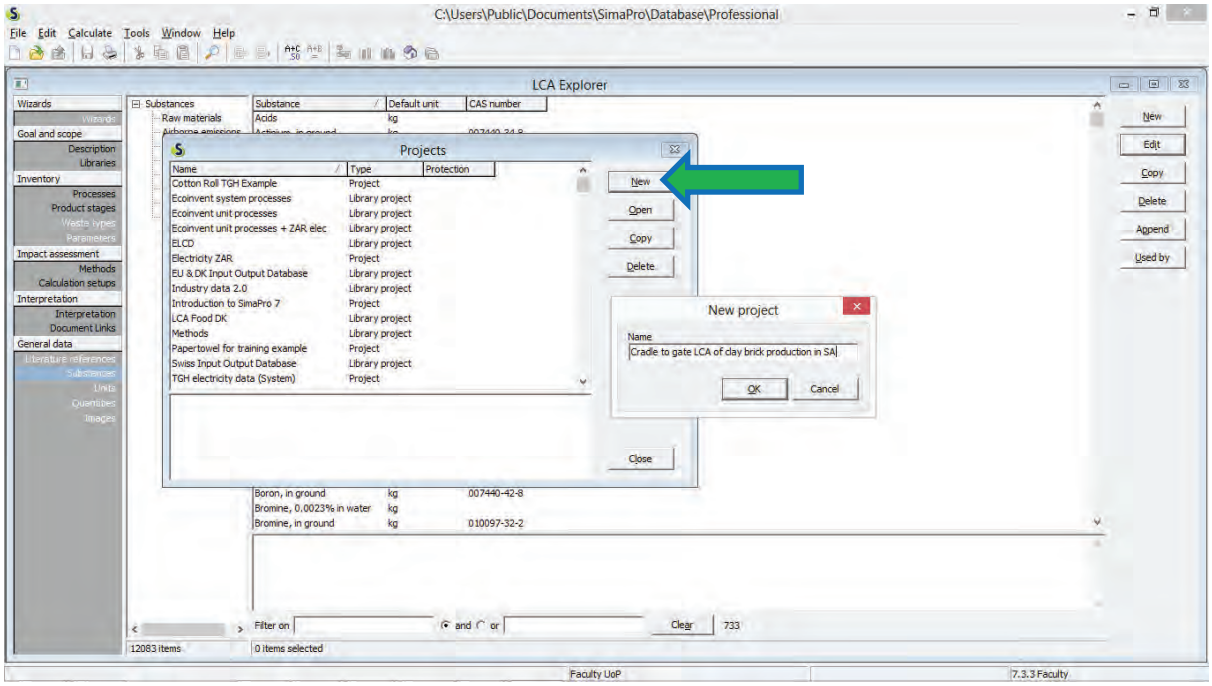
THANK YOU for your participation in the survey, your answers and commentary are regarded as highly important information for the investigation into LCA on clay bricks in South Africa

FOR OFFICE USE ONLY

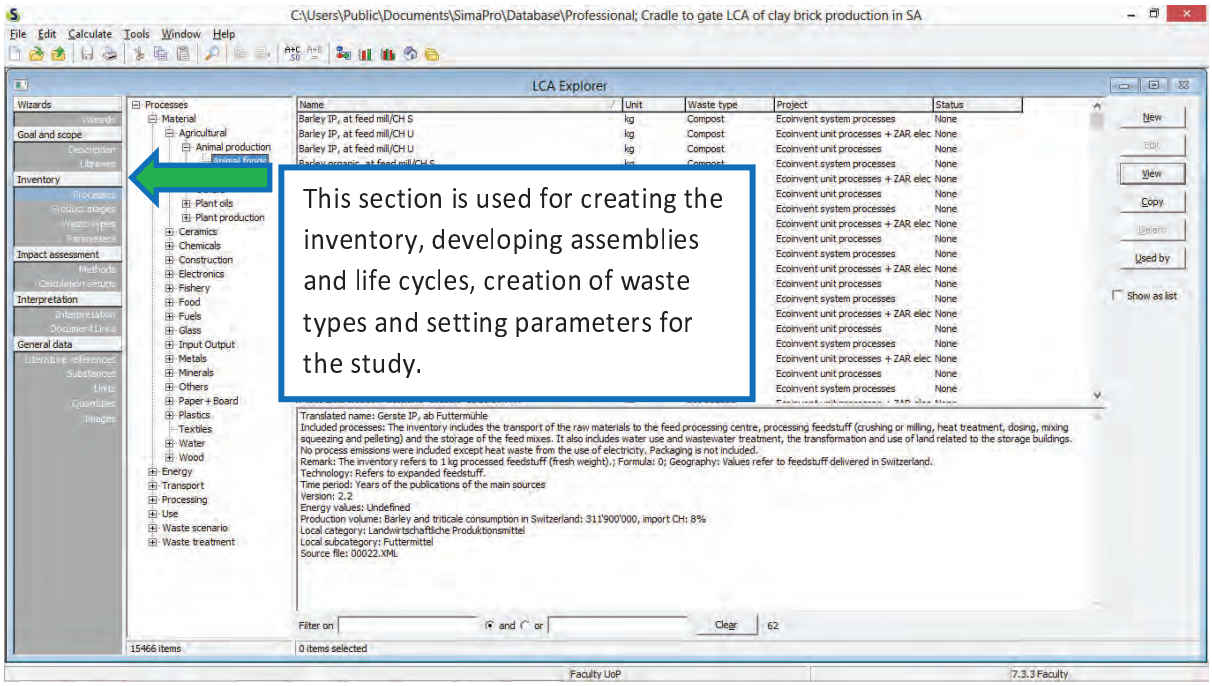
Appendix 3: Screenshots of establishing LCA in SimaPro

Establishing a LCA model in SimaPro

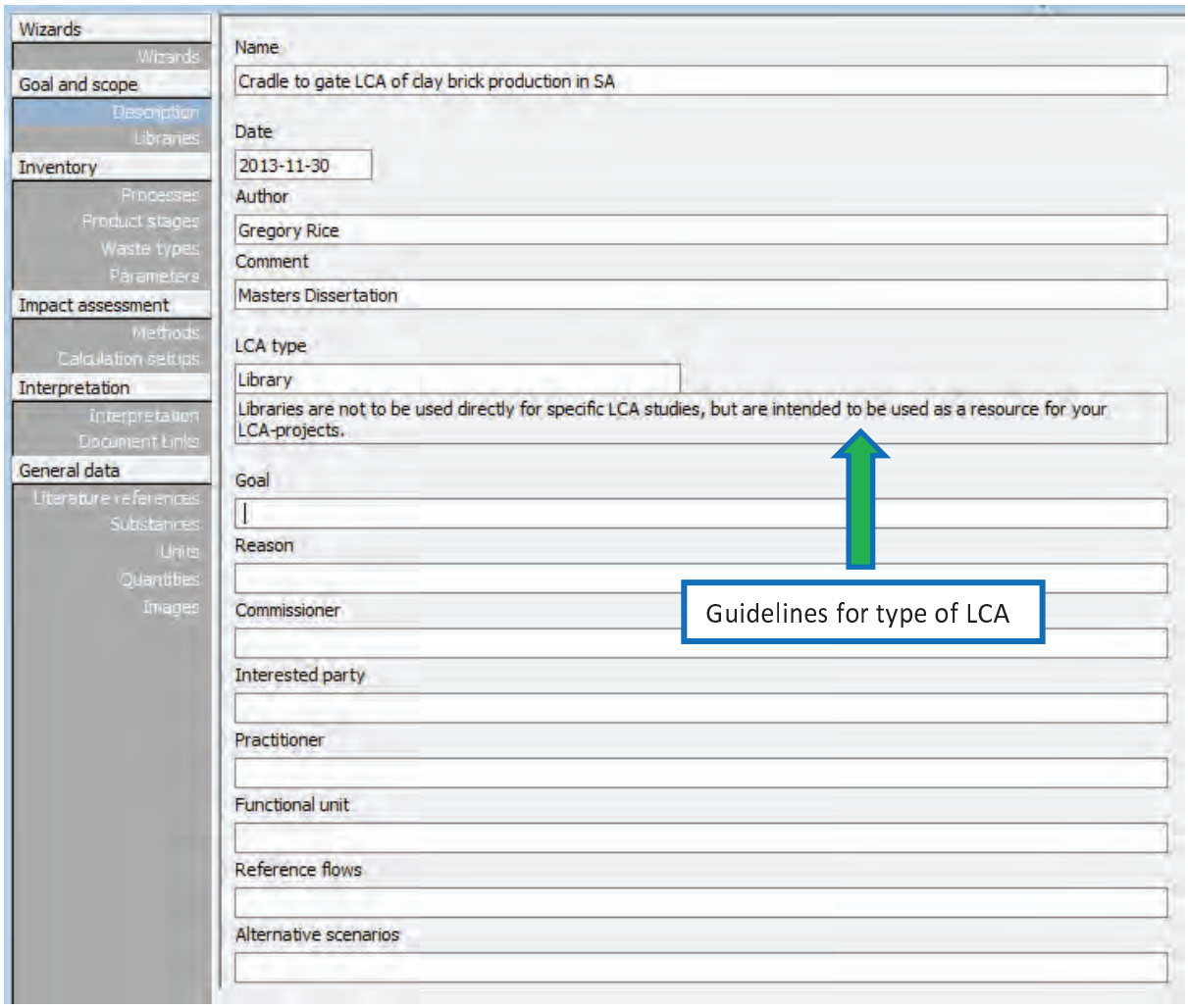
Screen shot 1 shows the creation of a new project in SimaPro.



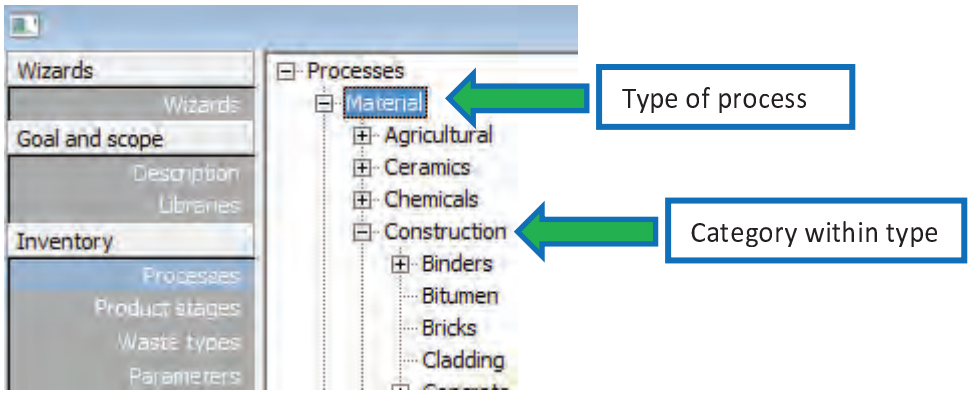
Screen shot 2 describes parts of SimaPro necessary to understand navigation within the program and the necessary steps required while modelling.



Screen shot 3 shows the window used for inserting a description to the LCA. Guidelines are provided depending on type of LCA being done.

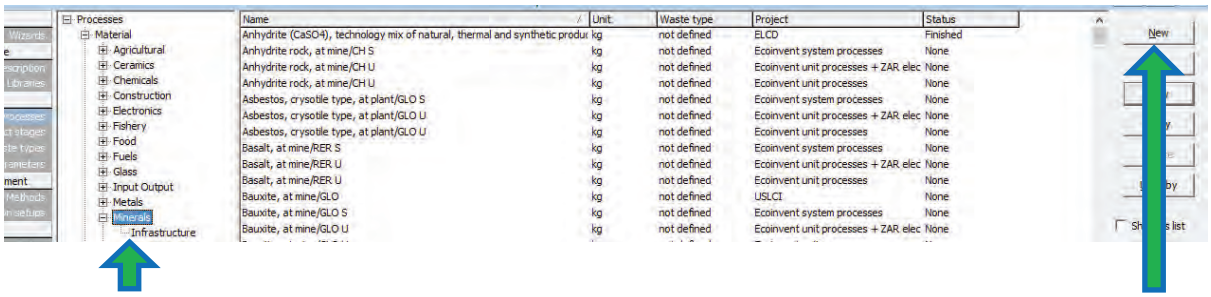


The next step in developing a model in SimaPro is the unit processes input. This is done by selecting “Processes” and then a category within which the unit process falls. Unit process input is shown in screen shot 4.



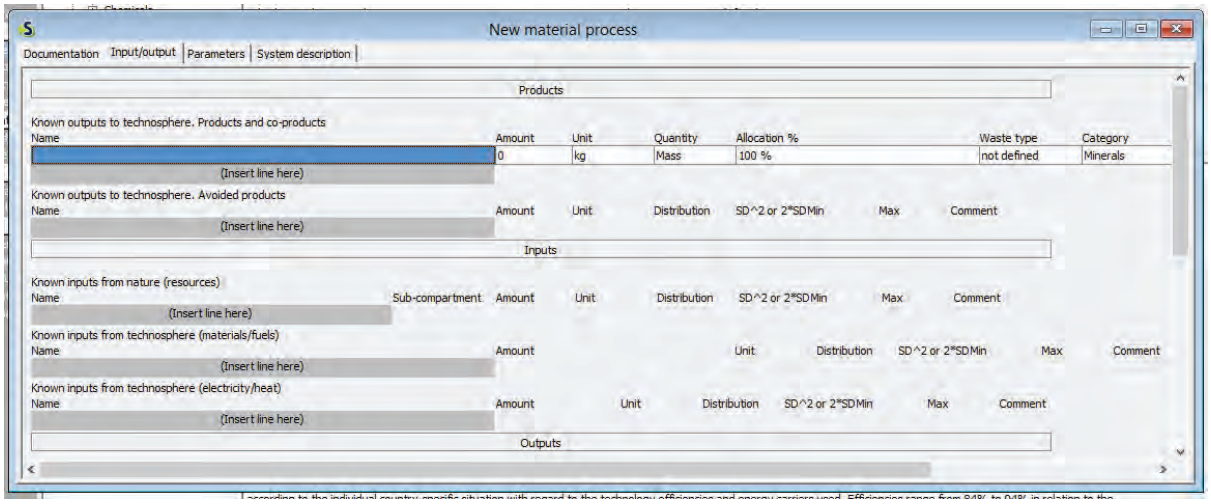
Inputting new unit processes

The next step is selecting “New” in order to create a new process within a chosen category or created category.



A new process will be created within the minerals category of material process type

The New material process window will show up, into which the data will be inserted for the created unit process.



Data being inserted into the new material process window.

Documentation | Input/output | Parameters | System description

Products

Known outputs to technosphere. Products and co-products

Name	Amount	Unit	Quantity	Allocation %	Waste type	Category
Clay, at mine, clamp kiln, ZA	1	kg	Mass	100 %	not defined	Minerals
(Insert line here)						

Known outputs to technosphere. Avoided products

Name	Amount	Unit	Distribution	SD^2 or 2*SD Min	Max	Comment
(Insert line here)						

Inputs

Known inputs from nature (resources)

Name	Sub-compartment	Amount	Unit	Distribution	SD^2 or 2*SD Min	Max	Comment
Clay, unspecified, in ground	in ground	0,000479*2000 = 0,958	kg				Volume per kg * densit
Occupation, mineral extraction site	in ground	0,00000032*10000 = 0,0032	m2a				Ha * 10 000
Transformation, from pasture and meadow	in ground	0,0032	m2	Undefined			
Transformation, to mineral extraction site	in ground	0,0032	m2	Undefined			
Water, unspecified natural origin, ZA	in ground	0,0172621	l	Undefined			Additional water - dus
(Insert line here)							

Known inputs from technosphere (materials/fuels)

Inputs from nature such as clay, land use, water are inserted with quantities for 1kg of product

Data is inserted for the defined unit process “Clay, wet green brick, clamp kiln, ZA.

Nature input for this unit process is water only, from different sources

Documentation | Input/output | Parameters | System description

Products

Known outputs to technosphere. Products and co-products

Name	Amount	Unit	Quantity	Allocation %
Clay, wet green brick, clamp kiln, ZA	1	kg	Mass	100 %
(Insert line here)				

Known outputs to technosphere. Avoided products

Name	Amount	Unit	Distribution	SD^2 or 2*SD Min	Max
(Insert line here)					

Inputs

Known inputs from nature (resources)

Name	Sub-compartment	Amount	Unit	Distribution	SD^2 or 2*SD
Water, process, drinking	in ground	0,024901779	kg	Undefined	
Water, well, in ground	in ground	0,042498996	l	Undefined	
Water, river	in ground	0,031656628	l	Undefined	
Water, rain	in ground	0,010130127	l	Undefined	
(Insert line here)					

Known inputs from technosphere (materials/fuels)

Name	Amount	Unit	Distribution	SD
Diesel, low-sulphur, on location, ZA	0,000279248*0,832 = 0,000232	kg		
Light fuel oil, at regional storage/RER U	0,0000000004*0,900 = 3,6E-10	kg		
Brick, at plant/RER U	0,0000000030	kg	Undefined	
Sand, at mine/CH U	0,0000000119	kg	Undefined	
Bentonite, at mine/DE U	0,0000000038	kg	Undefined	
South African medium voltage electricity production (at grid) (rolled up)	0,003314145	kWh	Undefined	
South African medium voltage electricity production (at grid) (rolled up)	0,005438107	kWh	Undefined	
Hard coal, at regional storage/ZA U	0,093254646	kg	Undefined	
Hard coal, at regional storage/ZA U	0,122970547	kg	Undefined	
Excavation, hydraulic digger/RER U	0,220*0,110*0,075 = 0,00181	m3		

Inputs from the technosphere include electricity, additives, coal, fuel oil and diesel. Data has been input for excavation hydraulic digger which represents the machinery needed for transport, as well as diesel used in the transport process.

The following screen shot shows modelling of the Dry Green Brick unit process.

Documentation | Input/output | Parameters | System description

Products

Known outputs to technosphere. Products and co-products

Name	Amount	Unit	Quantity	Allocation %
Brick, dry green brick, clamp kiln, ZA	1	kg	Mass	100 %
(Insert line here)				

Known outputs to technosphere. Avoided products

Name	Amount	Unit	Distribution	SD^2 or 2*SD	Min	Max
(Insert line here)						

Inputs

Known inputs from nature (resources)

Name	Sub-compartment	Amount	Unit	Distribution	SD^2 or 2*SD
(Insert line here)					

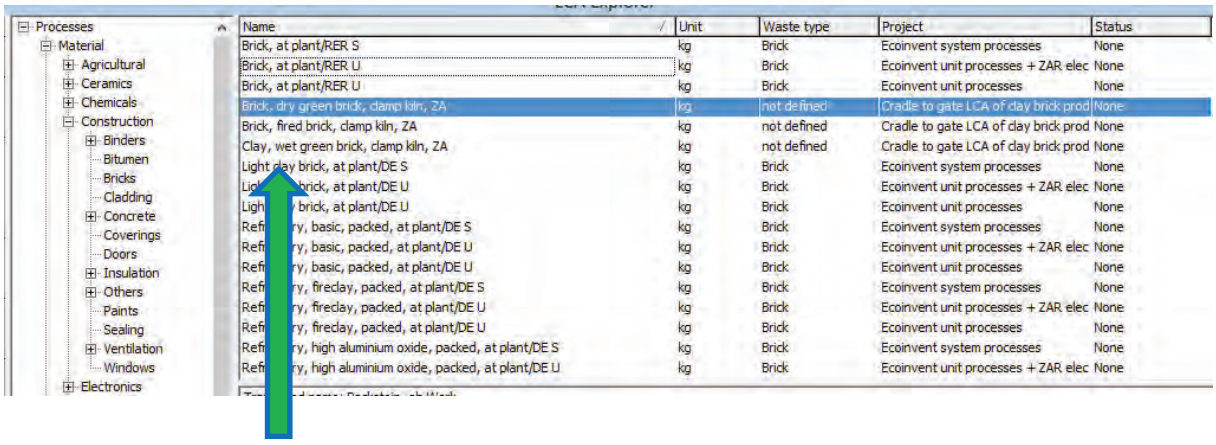
Known inputs from technosphere (materials/fuels)

Name	Amount	Unit	Distribution	SD
Heat, hardwood logs, at furnace 30kW/CH U	3,49012E-6*14 = 4,89E-5	MJ		
Heat, at hard coal industrial furnace 1-10MW/RER U	0,00108033*13,1 = 0,0142	MJ		
Excavation, hydraulic digger/RER U	0,220*0,110*0,075 = 0,00181	m3		
Diesel, low-sulphur, on location, ZA	0,000280291*0,832 = 0,000233	kg		
South African medium voltage electricity produc (at grid) (rolled up)	0,000200688	kWh	Undefined	
(Insert lin re)				

Heat, at hard coal industrial furnace has been inserted as a representation of the coal burnt in the drying process. If hard coal was inserted without the heat and industrial furnace factor, it would not be representative of the burning process. The quantity (kg) has been multiplied by the average calorific value for the clamp industry to calculate the MJ output for 1 kg dry green brick.

South African electricity process has been developed by The Green House, a sustainability consulting company in Cape Town, South Africa. It is necessary to use location specific electricity generation due to the variety of electricity generation options worldwide, and the impact that the difference may have on the environmental effects.

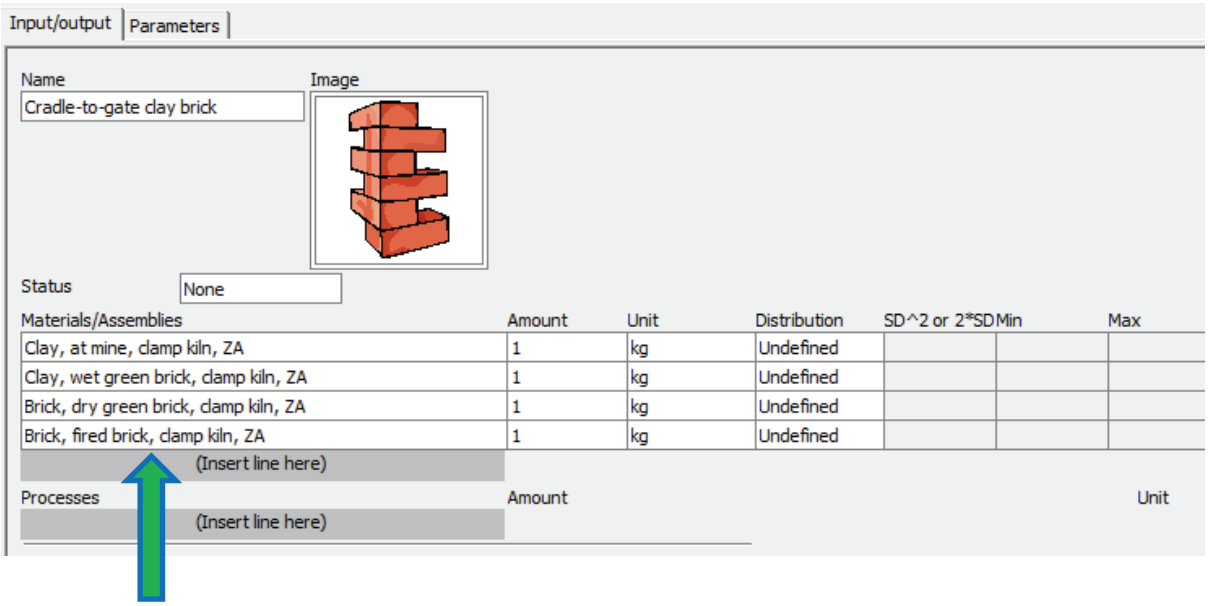
The following screen shot shows the list of material processes underneath the "Bricks" category. The unit processes created above will now form part of this inventory of the project.



Once the modelling of a unit process is completed it becomes part of the inventory of the project. The unit process which was created can become part of any other project provided the unit process is copied into another project.

Modelling an assembly

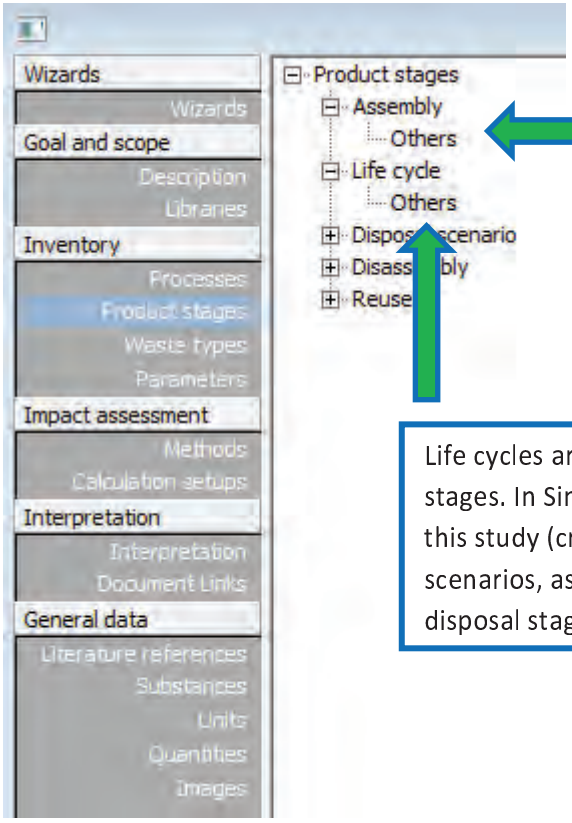
Once all unit processes for the specific life cycle have been modelled, it is necessary to build an assembly. The screen shot below shows this.



All unit processes for the clamp kiln industry which were created are added in the assembly. Equal quantities are not always the case, however in the clay brick production in South Africa, these unit processes all contribute equally to the final assembly.

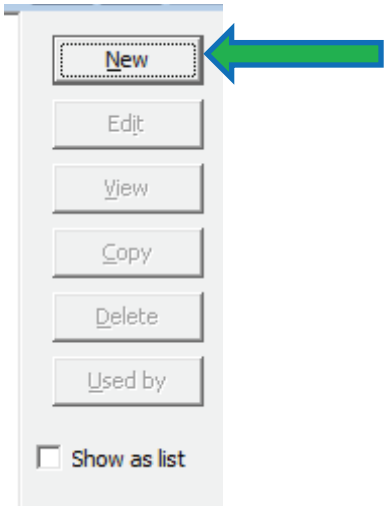
Modelling a life cycle

The next step in the process is to develop a life cycle of assemblies in order to establish the environmental impacts associated with the product being evaluated. The screen shots below show the steps necessary for developing a life cycle.



Assemblies have been created in this product stage of the inventory.

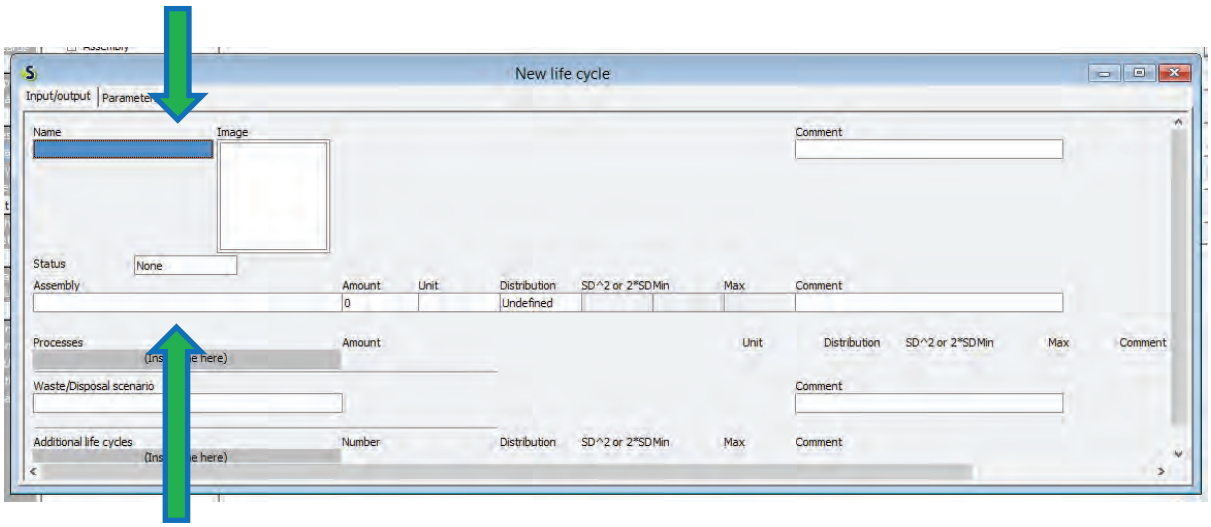
Life cycles are developed underneath this tab of the product stages. In SimaPro, a life cycle is a collection of assemblies. In this study (cradle to gate) is not necessary to establish disposal scenarios, as the system boundary does not cover any use or disposal stage of the product.



Once the selected product stage is highlighted, the LCA explorer shows the list of life cycles created, for a new life cycle to be created is it necessary to select “New”.

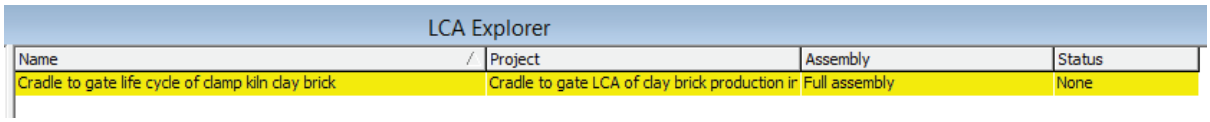
When a new life cycle is opened, the following screen opens.

The name of the life cycle needs to be defined, it is possible to insert a picture to represent the life cycle



Assemblies recently created are inserted here, it is also possible to insert processes, such as mixing, blasting or painting if necessary for the completion of the system boundary.

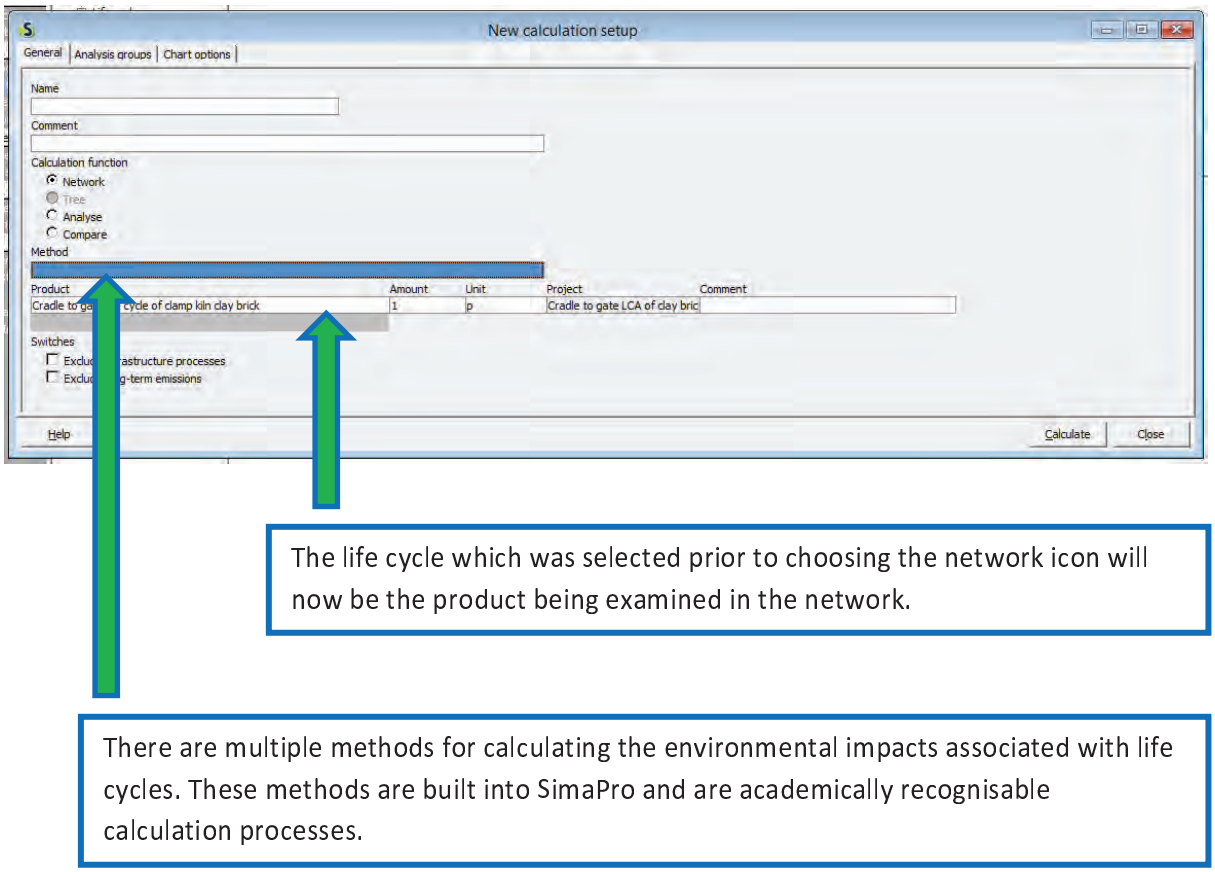
Once the life cycle has been created, it will form part of the list of life cycles for the project in the LCA explorer.



In order to establish the environmental impacts associated with this life cycle the network should be displayed.

Calculations

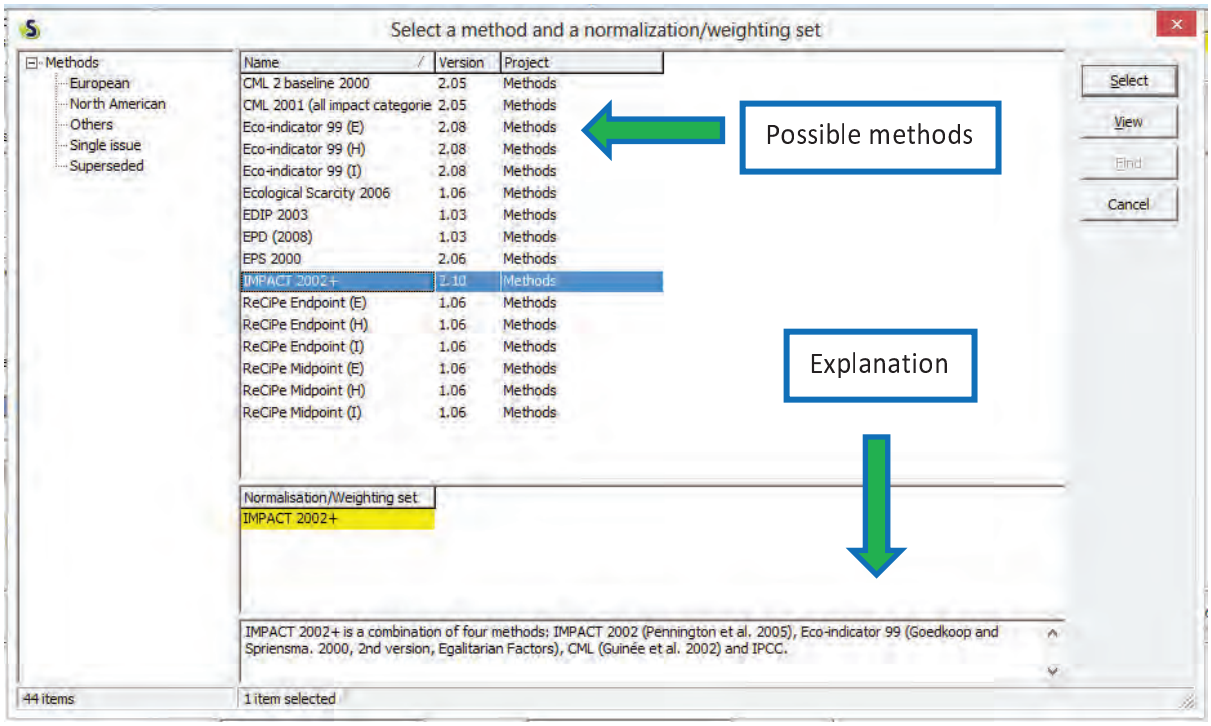
The screen shot which follows is the new calculation setup that needs to be populated when the network icon is chosen.



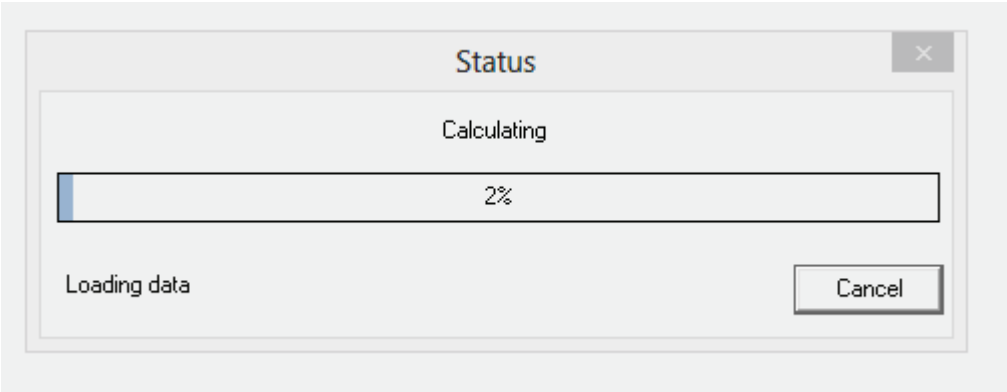
The life cycle which was selected prior to choosing the network icon will now be the product being examined in the network.

There are multiple methods for calculating the environmental impacts associated with life cycles. These methods are built into SimaPro and are academically recognisable calculation processes.

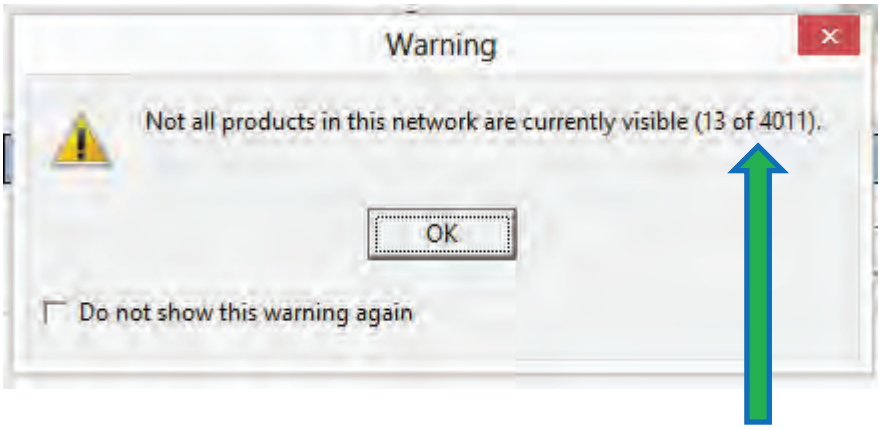
The method needs to be selected, a short explanation describes the different methods available in SimaPro.



After the calculation setup is populated, the calculation starts.



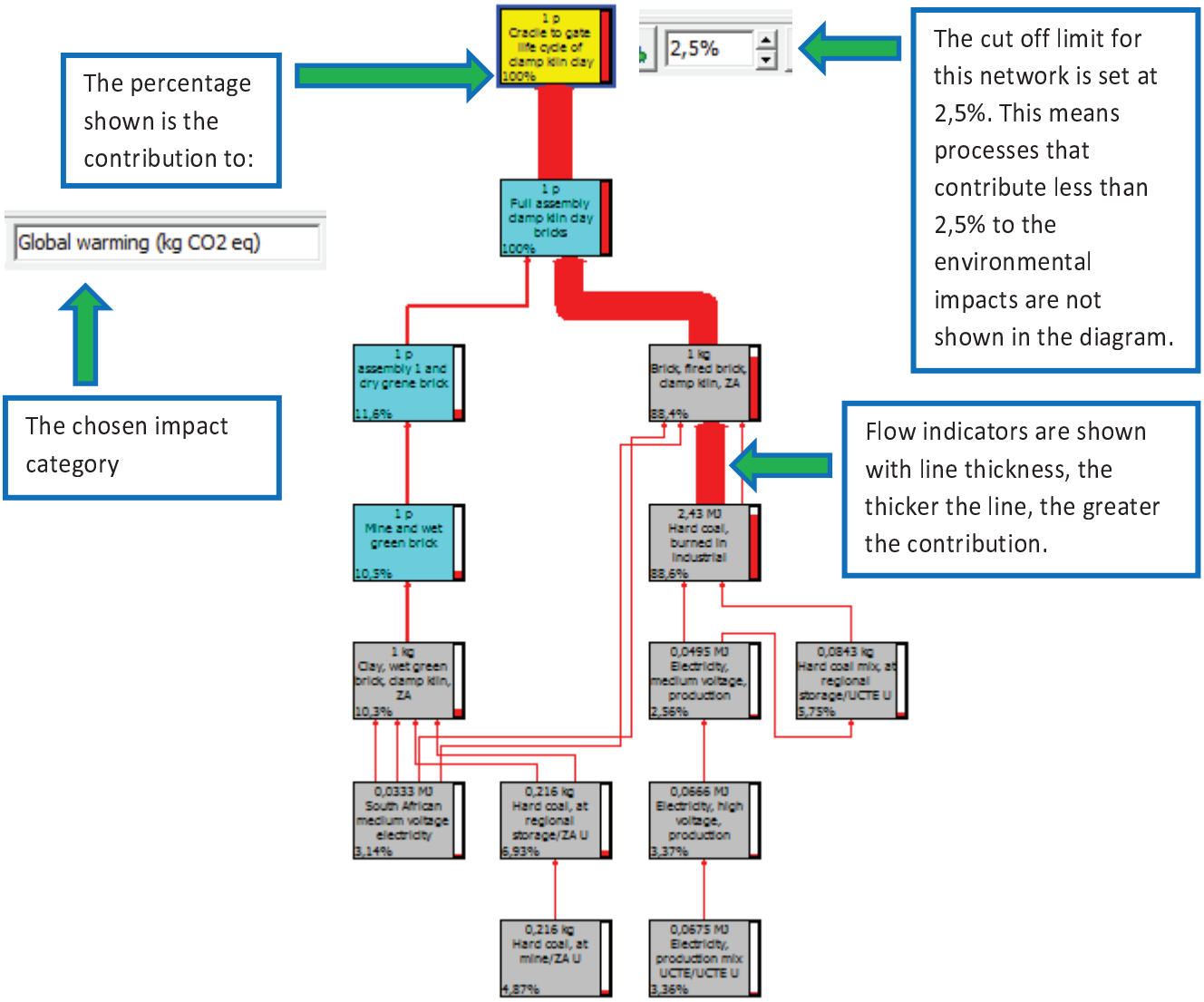
Once the calculation has been completed, the following screen is shown.



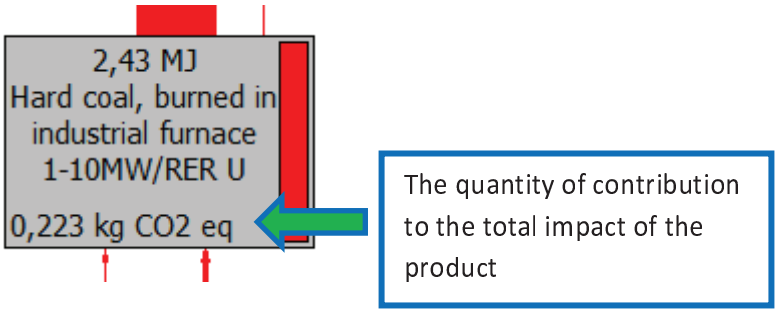
The network does not show all the products associated with the life cycle, as there is a cut off limit between 2 and 5% that hides products contributing less than the chosen limit to the environmental impacts of the life cycle.

Calculation results

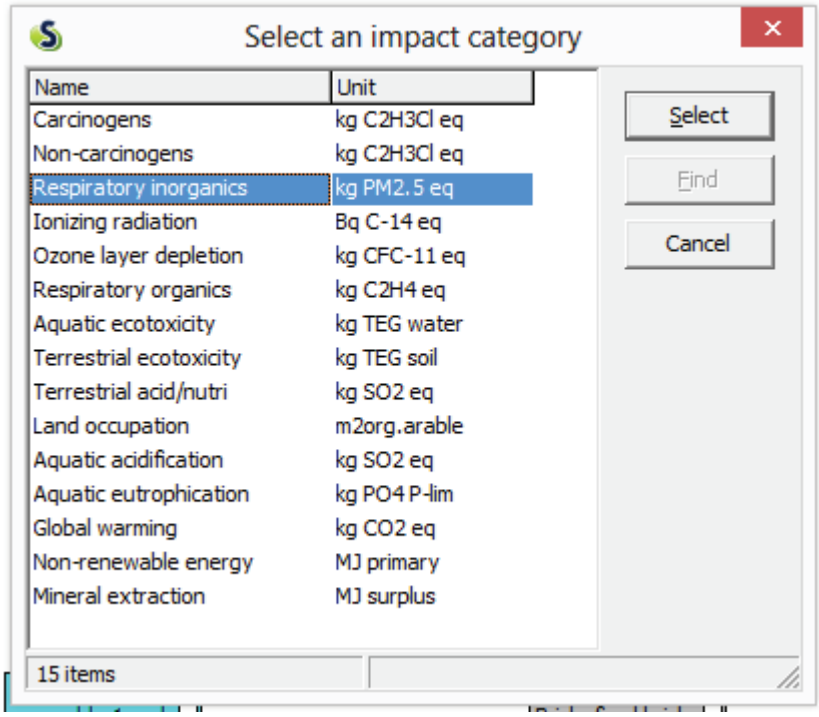
The network is shown in the following screen shot.



If quantities are preferred over percentages, the network diagram looks similar to this:



A number of impact categories have been calculated using the selected method (Impact 2002+) which can be selected to show the impact quantities or percentages of the life cycle and the stages in the life cycle.

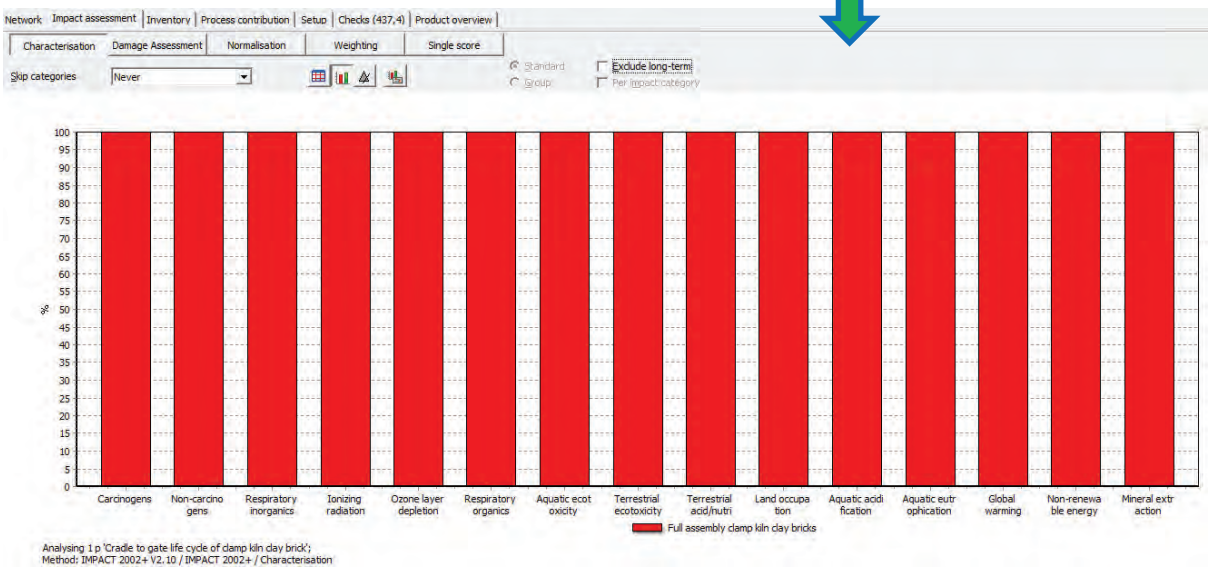


While still in the network, a number of tabs are available that show the results in different ways.

The impact assessment results can be viewed using characterization (a model of the inventory within the impact categories using science based conversions (EPA, 2013)), or using normalization (comparison between impact categories (ISO 14044, 2006:14).

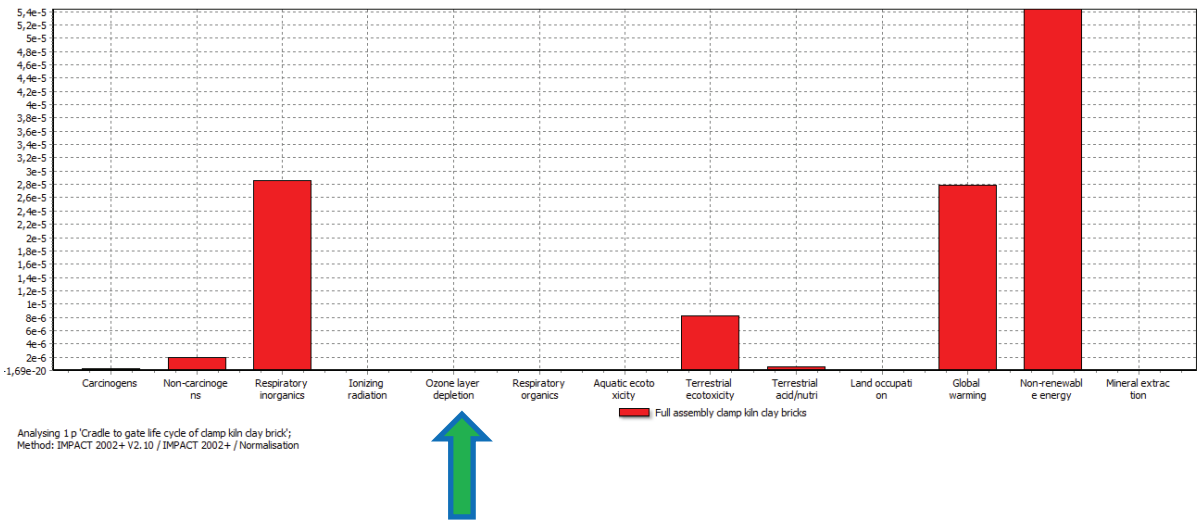
The characterization model is shown below.

The variation for viewing the characterization model extends from skipping categories, to viewing in a data set and excluding long term effects



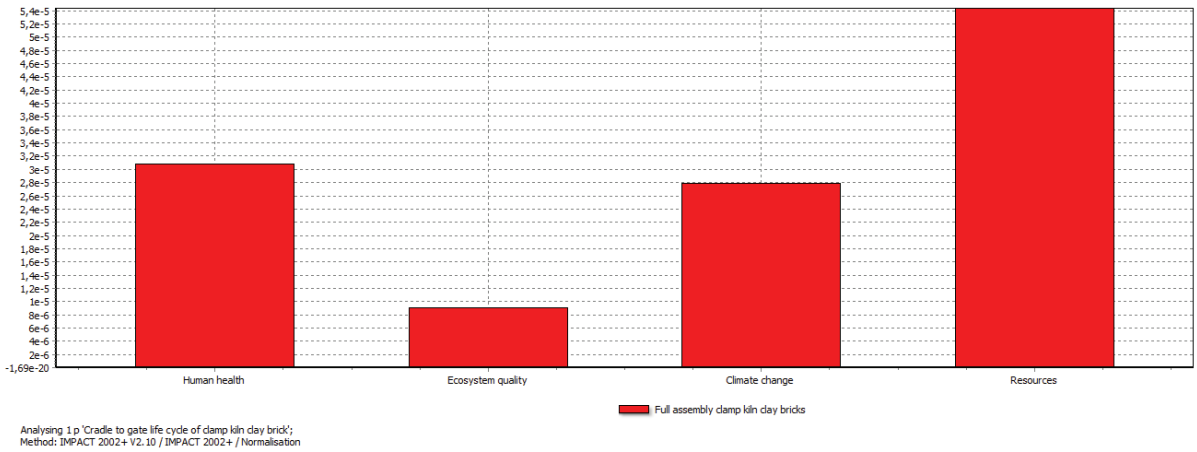
The title of the data always lists the product being examined, the method of impact assessment and the model shown.

The normalization model is often preferred as it shows the comparison between impact categories.



If impact categories are shown in the model, these are on the y-axis of the graph.

Sometimes it is more relevant to view the normalization results for damage categories: Human health, Eocosystem quality, Climate change and Resources.



The results of the calculation can be viewed in an inventory as well. The inventory is a populated list of substances that contribute to the environmental impacts and the quantity of the substance.

Network | Impact assessment | Inventory | Process contribution | Setup | Checks (437,4) | Product overview

Skip unused | Indicator: Inventory | Cut-off: 0% | Category | Standard | Group | Default units | Exclude long-term | Per impact category

No	Substance	Compartment	Unit	Total	Full assembly clamp kiln clay bricks
1	1-Butanol	Air	pg	1,41	1,41
2	1-Butanol	Water	ng	4,18	4,18
3	1-Pentanol	Air	pg	71,9	71,9
4	1-Pentanol	Water	pg	173	173
5	1-Pentene	Air	pg	54,4	54,4
6	1-Pentene	Water	pg	130	130
7	1-Propanol	Air	pg	985	985
8	1-Propanol	Water	pg	244	244
9	1,4-Butanediol	Air	pg	18,2	18,2
10	1,4-Butanediol	Water	pg	7,3	7,3
11	2-Aminopropanol	Air	pg	1,54	1,54
12	2-Aminopropanol	Water	pg	3,82	3,82
13	2-Butene, 2-methyl-	Air	pg	0,0121	0,0121
14	2-Methyl-1-propanol	Air	pg	125	125
15	2-Methyl-1-propanol	Water	pg	300	300
16	2-Methyl-2-butene	Water	pg	0,0289	0,0289
17	2-Nitrobenzoic acid	Air	pg	1,91	1,91
18	2-Propanol	Air	ng	239	239
19	2-Propanol	Water	pg	42	42

The results of the calculation can also be viewed with regard to process contribution. This is shown below.

Network | Impact assessment | Inventory | Process contribution | Setup | Checks (437,4) | Product overview

Indicator: Single score
Cut-off: 0%
Category
Standard
Group
Default units
Exclude long-term
Per impact category

No	Process	Project	Unit	Total	Full assembly clamp kiln clay
1	Hard coal, burned in industrial furnace 1-10MW/RER U	Ecoinvent unit processes + ZAR	Pt	4,57E-5	4,57E-5
2	Hard coal, at mine/ZA U	Ecoinvent unit processes	Pt	3,62E-5	3,62E-5
3	Blasting/RER U	Ecoinvent unit processes	Pt	7,85E-6	7,85E-6
4	Hard coal, at mine/EEU U	Ecoinvent unit processes + ZAR	Pt	6,58E-6	6,58E-6
5	Hard coal, at mine/WEU U	Ecoinvent unit processes + ZAR	Pt	3,75E-6	3,75E-6
6	South African medium voltage electricity production (at grid) (rolled up)	Cradle to gate LCA of clay brick	Pt	2,88E-6	2,88E-6
7	Hard coal, at mine/ZA U	Ecoinvent unit processes + ZAR	Pt	1,66E-6	1,66E-6
8	Operation, transoceanic freight ship/OCE U	Ecoinvent unit processes + ZAR	Pt	1,49E-6	1,49E-6
9	Disposal, hard coal ash, 0% water, to residual material landfill/PL U	Ecoinvent unit processes + ZAR	Pt	1,44E-6	1,44E-6
10	Blasting/RER U	Ecoinvent unit processes + ZAR	Pt	1,25E-6	1,25E-6
11	Hard coal, at mine/AU U	Ecoinvent unit processes + ZAR	Pt	1,01E-6	1,01E-6
12	Hard coal, at mine/RNA U	Ecoinvent unit processes + ZAR	Pt	9,74E-7	9,74E-7
13	Excavation, hydraulic digger/RER U	Ecoinvent unit processes + ZAR	Pt	9,29E-7	9,29E-7
14	Hard coal, at mine/RLA U	Ecoinvent unit processes + ZAR	Pt	7,44E-7	7,44E-7
15	Hard coal, at mine/CPA U	Ecoinvent unit processes + ZAR	Pt	3,92E-7	3,92E-7
16	Diesel, burned in building machine/GLO U	Ecoinvent unit processes	Pt	3,81E-7	3,81E-7
17	Operation, freight train/RER U	Ecoinvent unit processes	Pt	3,37E-7	3,37E-7
18	Hard coal, at mine/RU U	Ecoinvent unit processes + ZAR	Pt	3,22E-7	3,22E-7
19	Uranium natural, at underground mine/RNA U	Ecoinvent unit processes + ZAR	Pt	3,09E-7	3,09E-7
20	Crude oil, at production onshore/RME U	Ecoinvent unit processes + ZAR	Pt	3,04E-7	3,04E-7
21	Hard coal, burned in industrial furnace 1-10MW/RER U	Ecoinvent unit processes	Pt	2,93E-7	2,93E-7
22	Crude oil, at production offshore/NO U	Ecoinvent unit processes + ZAR	Pt	2,57E-7	2,57E-7
23	Lignite, at mine/RER U	Ecoinvent unit processes + ZAR	Pt	2,27E-7	2,27E-7

List of processes that contribute to the environmental impacts

Quantity of the contribution

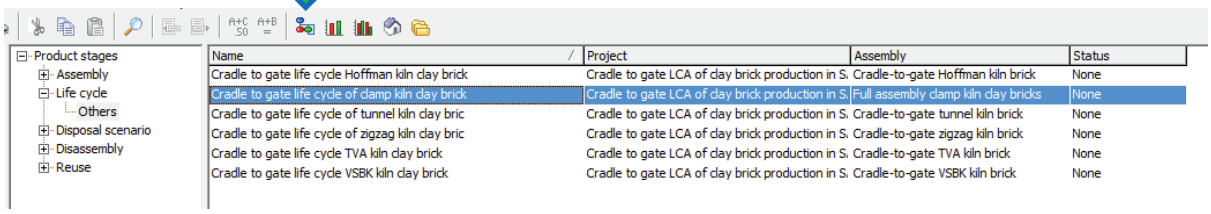
The environmental impacts associated with the cradle to gate production of clay bricks fired in clamp kilns will be presented in section 5.7.

The process shown in item 5.5 above is used for all similar life cycles, therefore it is not necessary to repeat the description of modelling process for clay bricks manufactured using other firing technologies such as tunnel kilns, VSBK kilns, zigzag kilns, Hoffman kilns and TVA kilns.

Modelling comparisons between life cycles

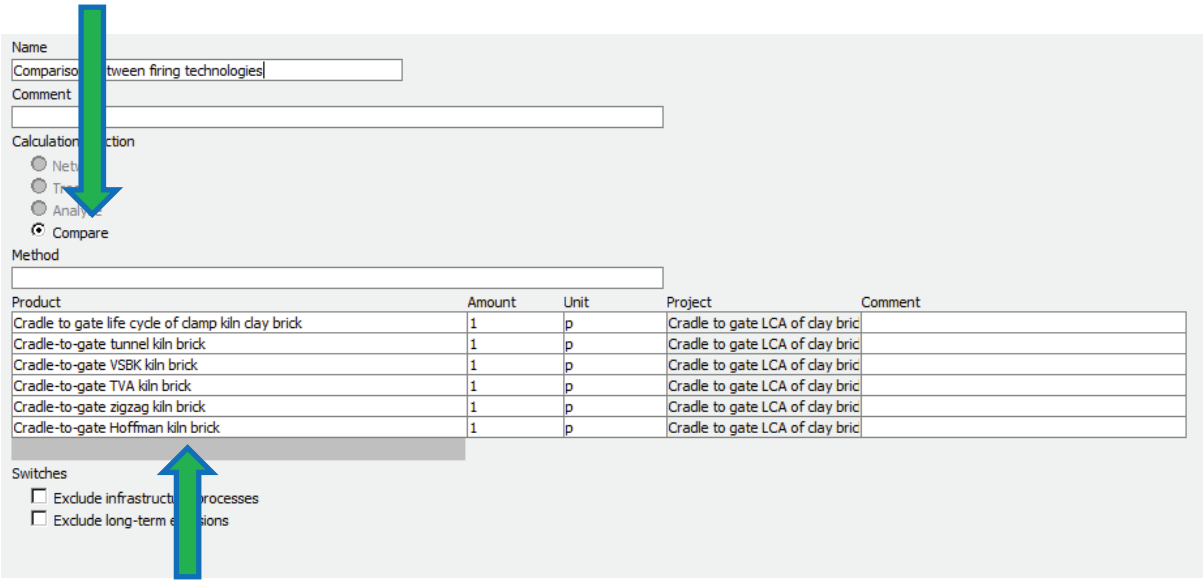
Modelling comparisons between life cycles is a similar process as followed in item 5.5.5, the only variation is that all life cycles to be compared need to be added to the calculation setup. No network tree is calculated, only numeric and graph data.

Once all life cycles have been modelled in SimaPro, they will appear in the LCA explorer underneath the life cycles tab. The next step is to set up a calculation using the network icon.



The setup of the calculation is explained below.

The “Compare” option needs to be chosen

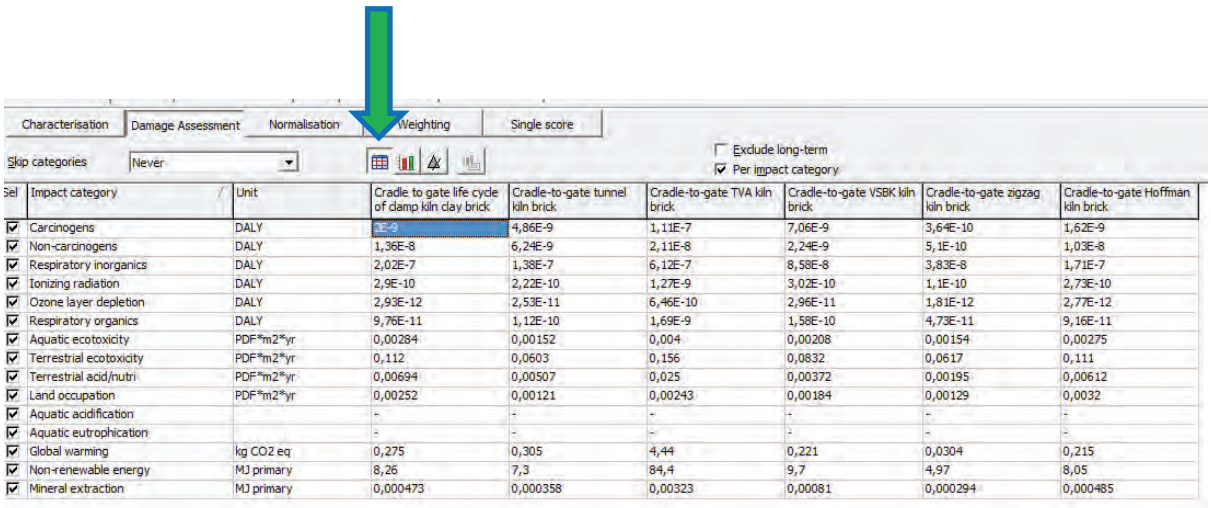


The life cycles to be compared are added in the products entry

The following screenshot shows the results from a comparison calculation. It can be seen that modelling of the TVA kiln unit process may be incorrect, as the variability is unlikely in this life cycle comparison.

The calculation can also be viewed in numeric format.

This icon is selected in order to show the results in a numerical format



Sel	Impact category	Unit	Cradle to gate life cycle of clamp kiln clay brick	Cradle-to-gate tunnel kiln brick	Cradle-to-gate TVA kiln brick	Cradle-to-gate VSBK kiln brick	Cradle-to-gate zigzag kiln brick	Cradle-to-gate Hoffman kiln brick
☑	Carcinogens	DALY	0E-9	4,86E-9	1,11E-7	7,06E-9	3,64E-10	1,62E-9
☑	Non-carcinogens	DALY	1,36E-8	6,24E-9	2,11E-8	2,24E-9	5,1E-10	1,03E-8
☑	Respiratory inorganics	DALY	2,02E-7	1,38E-7	6,12E-7	8,58E-8	3,83E-8	1,71E-7
☑	Ionizing radiation	DALY	2,9E-10	2,22E-10	1,27E-9	3,02E-10	1,1E-10	2,73E-10
☑	Ozone layer depletion	DALY	2,93E-12	2,53E-11	6,46E-10	2,96E-11	1,81E-12	2,77E-12
☑	Respiratory organics	DALY	9,76E-11	1,12E-10	1,69E-9	1,58E-10	4,73E-11	9,16E-11
☑	Aquatic ecotoxicity	PDF*m2*yr	0,00284	0,00152	0,004	0,00208	0,00154	0,00275
☑	Terrestrial ecotoxicity	PDF*m2*yr	0,112	0,0603	0,156	0,0832	0,0617	0,111
☑	Terrestrial acid/nutri	PDF*m2*yr	0,00694	0,00507	0,025	0,00372	0,00195	0,00612
☑	Land occupation	PDF*m2*yr	0,00252	0,00121	0,00243	0,00184	0,00129	0,0032
☑	Aquatic acidification		-	-	-	-	-	-
☑	Aquatic eutrophication		-	-	-	-	-	-
☑	Global warming	kg CO2 eq	0,275	0,305	4,44	0,221	0,0304	0,215
☑	Non-renewable energy	MJ primary	8,26	7,3	84,4	9,7	4,97	8,05
☑	Mineral extraction	MJ primary	0,000473	0,000358	0,00323	0,00081	0,000294	0,000485

Appendix 4.1 Clamp kiln unit processes

C0, Clamp, transport of fuels, at plant, ZA	1	kg	
Materials/fuels			
Transport, lorry 16-32t, EURO3/RER U	15.8	kgkm	coal transport
Transport, lorry 3.5-7.5t, EURO3/RER U	0.00000616	lkm	oil transport
C1, Clamp, clay extraction, extracted clay, ZA	1	kg	
Resources			
Clay, unspecified, in ground	1.34	kg	Volume per kg * density per kg
Transformation, from pasture and meadow	0.0032	m2	
Transformation, to mineral extraction site	0.0032	m2	
Transformation, from mineral extraction site	0.0032	m2	Transformation from mine to nat land
Transformation, to pasture and meadow	0.0016	m2	To land
Transformation, to water bodies, artificial	0.0016	m2	To water (collection)
Occupation, mineral extraction site	0.0868	m2a	Area * clamp industry years of operation
C2, Clamp, mining fuel, stockpiled clay, ZA	1	kg	
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0271	MJ	litres * density * CV (ecoinvent)
C3, Clamp, clay preparation, wet green brick, ZA rev1	1	kg	
Resources			
Water, process, drinking	0.024901779	kg	municipal water
Water, well, in ground	0.042498996	l	
Water, river	0.031656628	l	
Water, rain	0.010130127	l	
Materials/fuels			
Light fuel oil, at regional storage/RER U	3.6E-10	kg	refined oil additive litres x density
Sand, at mine/CH U	1.19E-08	kg	inerts additive
Bentonite, at mine/DE U	3.8E-09	kg	plasticizer additive
South African medium voltage electricity production (at grid) (rolled up)	0.003314145	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)	0.005438107	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U	0.0786	kg	fly ash internal body fuel and coal fines
C1, Clamp, clay extraction, extracted clay, ZA	0.78377479	kg	1 kg less the additions above
C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	1	kg	
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0103	MJ	Transport of wet green bricks
C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	1	kg	
Materials/fuels			
Heat, hardwood logs, at furnace 30kW/CH U	0.0000489	MJ	wood drying * CV
South African medium voltage electricity production (at grid) (rolled up)	0.000200688	kWh	electricity drying
C3, Clamp, clay preparation, wet green brick, ZA rev1	1150	g	
Coal emissions, ZA final	0.0309	MJ	
C6, Clamp, dry green brick transport, at firing location, ZA	1	kg	
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0104	MJ	Tranport of dry green bricks
C7, Clamp, brick firing, fired brick, ZA rev1	1	kg	
Materials/fuels			
South African medium voltage electricity production (at grid) (rolled up)	6.81522E-05	kWh	elec for firing
Heat, heavy fuel oil, at industrial furnace 1MW/RER U	0.000000563	MJ	heavy fuel oil
C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	1060	g	
Coal emissions, ZA final	0.927	MJ	emissions from burning small nuts
Coal emissions, ZA final	0.0136	MJ	emissions from burning coal fines
Hard coal, at regional storage/ZA U	0.0329	kg	coal fir firing
Coal emissions, ZA final	1.31	MJ	internal emissions
C8, Clamp, fired brick transport, at sales bay, ZA	1	kg	
Materials/fuels			
Diesel, burned in building machine/GLO U	0.00751	MJ	Transport of fired brick
C9, Clamp, factory overheads, additional water and electricity, ZA	1	kg	
Resources			
Water, fresh	0.017262079	l	Additional plant water
Water, rain	0.07119017	l	Dust settling and/or irrigation
Materials/fuels			
South African medium voltage electricity production (at grid) (rolled up)	0.000230328	kWh	

Appendix 4.2 Tunnel kiln unit processes

T0, Tunnel, transport of fuel, at plant, ZA		1	kg	
Materials/fuels				
Transport, lorry 16-32t, EURO3/RER U		10.5	kgkm	coal transport
Transport, lorry 3.5-7.5t, EURO3/RER U		4.12	lkm	oil transport
Transport, natural gas, pipeline, long distance/RER U		10.9	kgkm	gas transport
T1 Tunnel, clay extraction, extracted clay, ZA		1	kg	
Resources				
Clay, unspecified, in ground		1.34	kg	Volume per kg * density per kg
Occupation, mineral extraction site		0.174	m2a	
Transformation, from pasture and meadow		0.0059	m2	
Transformation, to mineral extraction site		0.0059	m2	
Transformation, from mineral extraction site		0.0059	m2	
Transformation, to water bodies, artificial		0.00295	m2	
Transformation, to pasture and meadow		0.00295	m2	
T2 Tunnel, mining fuel, stockpiled clay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0561	MJ	
T3 Tunnel, clay preparation, wet green brick, ZA rev1		1	kg	
Resources				
Water, process, drinking		0.099928	kg	municipal water
Water, well, in ground		0.03989	l	
Water, river		0.022541	l	
Water, rain		0.026964	l	
Materials/fuels				
Light fuel oil, at regional storage/RER U		3.6E-10	kg	refined oil additive litres x density
Brick, at plant/RER U		3E-09	kg	
Sand, at mine/CH U		1.43E-08	kg	inerts additive
Bentonite, at mine/DE U		2.87E-09	kg	plasticizer additive
South African medium voltage electricity production (at grid) (rolled up)		0.010625	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)		0.016983	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U		0.002023	kg	fly ash internal body fuel
Hard coal, at regional storage/ZA U		0.024394	kg	coal fines internal body fuel
Manganese oxide (Mn2O3), at plant/CN U		1.54E-09	kg	Colourant
Magnesium oxide, at plant/RER U		6.86E-11	kg	Magnesium
Magnesium oxide, at plant/RER U		4.57E-10	kg	Manganese
Barite, at plant/RER U		1.14E-10	kg	
T1 Tunnel, clay extraction, extracted clay, ZA		0.893	kg	1kg less the additives above
T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00223	MJ	
T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Materials/fuels				
Heat, natural gas, at industrial furnace >100kW/RER U		7.77E-05	GJ	natural gas for drying
Heat, at hard coal industrial furnace 1-10MW/RER U		0.053	MJ	coal for drying * CV
South African medium voltage electricity production (at grid) (rolled up)		0.006637	kWh	electricity drying
T3 Tunnel, clay preparation, wet green brick, ZA rev1		1	kg	
T6 Tunnel, dry green brick transport, at firing location, ZA		1	kg	
Electricity/heat				
Diesel, burned in building machine/GLO U		0.00115	MJ	
T7 Tunnel, brick firing, fired brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.006681	kWh	elec for firing
Hard coal, at regional storage/ZA U		0.000272	kg	coal fines
Hard coal, at regional storage/ZA U		0.006074	kg	peas
Heat, heavy fuel oil, at industrial furnace 1MW/RER U		0.00599	MJ	heavy fuel oil
Heat, natural gas, at industrial furnace >100kW/RER U		0.000966	GJ	natural gas firing
Hard coal, at regional storage/ZA U		0.000204	kg	small nuts
Hard coal, at regional storage/ZA U		0.006477	kg	grains
Heat, light fuel oil, at industrial furnace 1MW/RER U		0.00464	MJ	light fuel oil (conversion from poundsft3 to kgm3
T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Coal emissions, ZA final		0.372	MJ	Emissions from burning coals above
Coal emissions, ZA final		0.699	MJ	Emissions from burning internal fuels
T8 Tunnel, fired brick transport, at saled bay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00631	MJ	
T9 Tunnel, factory overheads, additional water and electricity, ZA rev1		1	kg	
Water, fresh		0.025771	l	Additional plant water
Water, rain		0.083965	l	Dust settling and/or irrigation
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.001887	kWh	

Appendix 4.3 TVA kiln unit processes

TVA0, transport of fuel, at plant, ZA		1	kg	
Materials/fuels				
Transport, lorry 16-32t, EURO3/RER U		4.49	kgkm	coal transport
Transport, natural gas, pipeline, long distance/RER U		0.182	kgkm	gas transport
TVA1, clay extraction, extracted clay, ZA		1	kg	
Resources				
Clay, unspecified, in ground		1.34	kg	Volume per kg * density per kg
Occupation, mineral extraction site		0.0465	m2a	m2 * area
Transformation, from pasture and meadow		0.0009	m2	
Transformation, to mineral extraction site		0.0009	m2	
Transformation, from mineral extraction site		0.0009	m2	
Transformation, to pasture and meadow		0.00045	m2	
Transformation, to water bodies, artificial		0.00045	m2	
TVA2, mining fuel, stockpiled clay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0393	MJ	
TVA3, clay preparation, wet green brick, ZA rev1		1	kg	
Water, process, drinking		0.046907892	kg	municipal water
Water, well, in ground		0.101567121	l	
Water, river		0.031478263	l	
Materials/fuels				
Brick, at plant/RER U		0.000000003	kg	
Sand, at mine/CH U		5.73926E-09	kg	inerts additive
South African medium voltage electricity production (at grid) (rolled up)		0.020382157	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)		0.026225985	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U		0.00782623	kg	fly ash internal body fuel
Hard coal, at regional storage/ZA U		0.034562122	kg	coal fines internal body fuel
TVA1, clay extraction, extracted clay, ZA		0.904911194	kg	1 kg less additional above
TVA4, wet green brick transport, wet green brick ready for drying, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00303	MJ	
Emissions to soil				
TVA5, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.014698955	kWh	electricity drying
TVA3, clay preparation, wet green brick, ZA rev1		1	kg	
TVA6, dry green brick transport, at firing location, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00392	MJ	
TVA7, brick firing, fired brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.01288751	kWh	elec for firing
Coal emissions, ZA final		2.39	MJ	
TVA5, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Hard coal, at regional storage/ZA U		0.041091026	kg	
TVA8, fired brick transport, at sales bay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0131	MJ	
TVA9, factory overheads, additional water and electricity, ZA		1	kg	
Resources				
Water, rain		0.0416049	l	
Water, fresh		0.022336147	l	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.005341836	kWh	

Appendix 4.4 Hoffman kiln unit processes

H0, Hoffman, transport of fuel, at plant, ZA		1	kg	
Materials/fuels				
Transport, lorry 16-32t, EURO3/RER U		11.6	kgkm	coal transport
H1, Hoffman, clay extraction, extracted clay, ZA		1	kg	
Resources				
Clay, unspecified, in ground		1.34	kg	Volume per kg * density per kg
Occupation, mineral extraction site		0.442	m2a	Ha * 10 000
Transformation, from pasture and meadow		0.0155	m2	
Transformation, to mineral extraction site		0.0155	m2	
Transformation, from mineral extraction site		0.0155	m2	
Transformation, to pasture and meadow		0.00775	m2	
Transformation, to water bodies, artificial		0.00775	m2	
H2, Hoffman, mining fuel, stockpiled clay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0469	MJ	
H3, Hoffman, clay preparation, wet green brick, ZA		1	kg	
Resources				
Water, process, drinking		0.021719	kg	municipal water
Water, well, in ground		0.01106	l	
Water, river		0.099538	l	
Materials/fuels				
Brick, at plant/RER U		3E-09	kg	
South African medium voltage electricity production (at grid) (rolled up)		0.00947	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)		0.00947	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U		0.229849	kg	coal fines internal body fuel
H1, Hoffman, clay extraction, extracted clay, ZA		0.770151	kg	
H3, Hoffman, clay preparation, wet green brick, ZA rev1		1	kg	
Resources				
Water, process, drinking		0.021719	kg	municipal water
Water, well, in ground		0.01106	l	
Water, river		0.099538	l	
Materials/fuels				
Brick, at plant/RER U		3E-09	kg	
South African medium voltage electricity production (at grid) (rolled up)		0.00947	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)		0.00947	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U		0.083582	kg	coal fines internal body fuel
H1, Hoffman, clay extraction, extracted clay, ZA		0.770151	kg	
H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00119	MJ	
H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.003474	kWh	electricity drying
Heat, mixed logs, at furnace 100kW/CH U		0.0916	MJ	m3 * energy density by volume
H3, Hoffman, clay preparation, wet green brick, ZA rev1		1	kg	
H6, Hoffman, dry green brick transport, at firing location, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00119	MJ	
H7, Hoffman, brick firing, fired brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.000371	kWh	elec for firing
Coal emissions, ZA final		4.57	MJ	coal fines int and ext
H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Hard coal, at regional storage/ZA U		0.076353	kg	external
H8, Hoffman, fired brick transport, at sales bay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.011	MJ	
H9, Hoffman, factory overheads, additional water and electricity, ZA		1	kg	
Resources				
Water, rain		0.015352	l	
Water, fresh		0.009696	l	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.000148	kWh	

Appendix 4.5 VSBK unit processes

V0, VSBK, transport of fuel, at plant, ZA		1	kg	
Materials/fuels				
Transport, lorry 16-32t, EURO3/RER U		34.4	kgkm	coal transport
V1, clay extraction, extracted clay, ZA		1	kg	
Resources				
Clay, unspecified, in ground		1.34	kg	Volume per kg * density per kg
Occupation, mineral extraction site		0.0782	m2a	Ha * 10 000
Transformation, from pasture and meadow		0.0023	m2	
Transformation, to mineral extraction site		0.0023	m2	
Transformation, from mineral extraction site		0.0023	m2	
Transformation, to pasture and meadow		0.00115	m2	
Transformation, to water bodies, artificial		0.00115	m2	
V2, VSBK, mining fuel, stockpiled clay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0145	MJ	
V3, VSBK, clay preparation, wet green brick, ZA rev1		1	kg	
Resources				
Water, process, drinking		0.010738	kg	municipal water
Water, well, in ground		0.073648	l	borehole
Water, rain		0.020838	l	rain collection
Materials/fuels				
Brick, at plant/RER U		3E-09	kg	
Sand, at mine/CH U		3.02E-08	kg	inerts additive
South African medium voltage electricity production (at grid) (rolled up)		0.00486	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)		0.008447	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U		0.072406	kg	fly ash internal body fuel
Hard coal, at regional storage/ZA U		0.008411	kg	coal fines internal body fuel
V1, clay extraction, extracted clay, ZA		0.777753	kg	
V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA		1	kg	
Diesel, burned in building machine/GLO U		0.0114	MJ	
Products				
V5, VSBK, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.002002	kWh	electricity drying
ZAR Tyre burning emissions/ZA U rev1		19.72	Nm3	
V3, VSBK, clay preparation, wet green brick, ZA rev1		0.991372	kg	
V6, VSBK, dry green brick transport, at firing location, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0111	MJ	
V7, VSBK, brick firing, fired brick, ZA rev1		1	kg	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.001673	kWh	elec for firing
V5, VSBK, drying of wet green brick, dry green brick, ZA rev1		1	kg	
Coal emissions, ZA final		2.38	MJ	emissions int and ext
Hard coal, at regional storage/ZA U		0.002503	kg	
V8, VSBK, fired brick transport, at sales bay, ZA		1	kg	
Materials/fuels				
Diesel, burned in building machine/GLO U		0.00585	MJ	
V9, VSBK, factory overheads, additional water and electricity, ZA		1	kg	
Resources				
Water, fresh		0.009476	l	
Water, rain		0.02239	l	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.001585	kWh	

Appendix 4.6 Zigzag kiln unit processes

Z0, Zigzag, transport of fuel, at plant, ZA	1	kg		
Materials/fuels				
Transport, lorry 16-32t, EURO3/RER U		105	kgkm	
Z1, Zigzag, clay extraction, extracted clay, ZA	1	kg		
Resources				
Clay, unspecified, in ground		1.34	kg	Volume per kg * density per kg
Occupation, mineral extraction site		0.179	m2a	area * years
Transformation, from pasture and meadow		0.0047	m2	
Transformation, to mineral extraction site		0.0047	m2	
Transformation, from mineral extraction site		0.0047	m2	
Transformation, to pasture and meadow		0.00235	m2	
Transformation, to water bodies, artificial		0.00235	m2	
Z2, Zigzag, mining fuel, stockpiled clay, ZA	1	kg		
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0203	MJ	
Z3, Zigzag, clay preparation, wet green brick, ZA rev1	1	kg		
Resources				
Water, process, drinking		0.076228	kg	municipal water
Water, well, in ground		0.114695	l	
Materials/fuels				
Brick, at plant/RER U		3E-09	kg	
Sand, at mine/CH U		1.43E-08	kg	inerts additive
South African medium voltage electricity production (at grid) (rolled up)		0.001694	kWh	clay preparation electricity
South African medium voltage electricity production (at grid) (rolled up)		0.00734	kWh	clay extrusion electricity
Hard coal, at regional storage/ZA U		0.066358	kg	coal fines internal body fuel
Z1, Zigzag, clay extraction, extracted clay, ZA		0.817516	kg	
Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	1	kg		
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0162	MJ	
Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	1	kg		
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.000903	kWh	
Z3, Zigzag, clay preparation, wet green brick, ZA rev1		1	kg	
Z6, Zigzag, dry green brick transport, at firing location, ZA	1	kg		
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0162	MJ	
Z7, Zigzag, brick firing, fired brick, ZA rev1	1	kg		
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.000903	kWh	elec for firing
Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1		1	kg	
Hard coal, at regional storage/ZA U		0	kg	
Coal emissions, ZA final		1.9	MJ	emissions from internal
Z8, Zigzag, fired brick transport, at sales bay, ZA	1	kg		
Materials/fuels				
Diesel, burned in building machine/GLO U		0.0162	MJ	
Z9, Zigzag, factory overheads, additional water and electricity, ZA	1	kg		
Resources				
Water, fresh		0.001757	l	
Water, rain		0.101637	l	
Materials/fuels				
South African medium voltage electricity production (at grid) (rolled up)		0.000452	kWh	

Appendix 5: Inventory of emitted substances for all firing technologies for the cradle to gate phase

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
1	1-Butanol	Air	pg	0.69902841936	0.833211885	0.39704246	1.718507222	0.74312936	1.543774394	0.98911562357
2	1-Butanol	Water	ng	6.71439796095	8.484482656	2.717837351	5.997509695	11.50952968	32.26039311	11.28069174204
3	1-Pentanol	Air	pg	37.02894831422	12.00315944	23.94736908	46.38747233	24.03827205	20.20139668	27.26776964830
4	1-Pentanol	Water	pg	88.86948522045	28.80758869	57.47369115	111.3299601	57.69186169	48.48336815	65.44265916076
5	1-Pentene	Air	pg	27.98206298136	9.070556217	18.09656557	35.05411852	18.16525901	15.26580576	20.60572800814
6	1-Pentene	Water	pg	67.15676454703	21.76927838	43.43163585	84.12967004	43.59650408	36.63784642	49.45361655282
7	1-Propanol	Air	pg	390.33558763298	180.6821256	250.6878563	531.4901043	270.5690196	282.6248162	317.73158494082
8	1-Propanol	Water	pg	124.66836512179	42.264333	80.23356143	165.3518541	82.62876071	74.80626773	94.99219034188
9	1,4-Butanediol	Air	pg	23.59608426074	30.71823823	9.98776629	24.36199155	38.8672552	107.0869614	39.10304949027
10	1,4-Butanediol	Water	pg	9.43850198513	12.28738418	3.995135416	9.744867113	15.54701456	42.83509446	15.64133295205
11	2-Aminopropanol	Air	pg	0.71428102350	0.382711741	0.430091619	1.638728502	0.601689007	0.941992548	0.78491574026
12	2-Aminopropanol	Water	pg	1.76757658404	0.953306036	1.06298248	4.086592159	1.494713058	2.354126832	1.95321619135
13	2-Butene, 2-methyl-	Air	pg	0.00620675206	0.002011957	0.004014032	0.007775418	0.00402927	0.003386136	0.00457059409
14	2-Methyl-1-propanol	Air	pg	64.26847317630	21.30246713	41.53031458	81.25281777	41.9093079	35.81778743	47.68019466441
15	2-Methyl-1-propanol	Water	pg	154.24114604634	51.12489229	99.6706931	195.0027457	100.5802659	85.96093998	114.43011383110
16	2-Methyl-2-butene	Water	pg	0.01489642733	0.004828768	0.009633821	0.018661282	0.009670392	0.008126848	0.01096958957
17	2-Nitrobenzoic acid	Air	pg	0.83874197440	0.546715084	0.484628035	2.399648177	0.795018878	1.460299175	1.08750855383
18	2-Propanol	Air	ng	396.59731632970	502.3456653	159.9733976	353.2390868	682.0962627	1.914558184	349.36104782919
19	2-Propanol	Water	pg	21.06508406307	7.931576245	13.39327619	31.59848493	14.68444554	15.53385018	17.36778619126
20	2,4-D	Soil	pg	1057.32783221078	5.08804477	679.9822155	1068.563148	1.395774538	3.470310587	469.30455421579
21	4-Methyl-2-pentanone	Water	pg	1.22719393122	1.450890956	0.635306579	1.329197599	1.735174567	4.403140027	1.79681727661
22	Acenaphthene	Air	pg	9.47474214544	7.501526514	6.690802927	11.81030442	6.817710813	7.655611355	8.32511636305
23	Acenaphthene	Water	pg	1135.44572945039	1386.554094	912.0362124	1200.759231	1.25766225	2.80042559	773.14222573442
24	Acenaphthylene	Water	pg	71.01099482468	86.7153603	57.03892059	75.09571378	78.65443955	175.1391562	90.60909754823
25	Acetaldehyde	Air	µg	3.33352358759	4.410321562	1.980952813	11.81127871	3.342405077	6.524437797	5.23381992366
26	Acetaldehyde	Water	ng	16.99020058623	17.56723015	7.945750186	17.19326252	24.43764372	62.89287573	24.50449381476
27	Acetic acid	Air	µg	8.82150684684	176.8875273	6.035551082	10.5249291	7.647729188	12.54949934	37.07779046986
28	Acetic acid	Water	ng	236.29469710461	267.0870861	145.5308283	272.7295851	263.4431594	573.4566183	293.09032903650
29	Acetone	Air	µg	1.93389319318	2.624475344	1189.543563	2.222971599	1.889321804	3.585354226	200.29992977949
30	Acetone	Water	pg	505.66858505406	293.408419	299.766331	1.262598269	446.8848691	750.5620978	382.92548335730
31	Acetonitrile	Air	ng	3.14687298606	15.16141689	2025.021104	3.180922521	4.152139122	10.32064521	343.49718342311
32	Acetonitrile	Water	pg	4.12749738363	2.628501412	2.396228362	11.56339901	3.861915913	6.984324287	5.26031106144
33	Acetyl chloride	Water	pg	69.81310922782	22.63034731	45.14954793	87.45736003	45.32093568	38.08702836	51.40972142173
34	Acidity, unspecified	Water	ng	89.77621098479	305.9342851	53.92860662	97.82529115	120.2585723	298.9054145	161.10473010553
35	Aclonifen	Soil	ng	7.17015875734	4.684217913	4.145668249	20.66527587	6.815124621	12.55446026	9.33915094440
36	Acrolein	Air	ng	2.06531813471	2.259328122	2.405451836	3.673045155	1.948620904	3.005622953	2.55956451748
37	Acrylate, ion	Water	ng	2.42929131603	3.076546554	980.1293139	2.164072986	4.17710884	11.72348342	167.28330282998
38	Acrylic acid	Air	pg	1026.42422427451	1.299902528	414.1242633	914.364173	1.764912118	4.953406461	393.82181361549
39	Actinides, radioactive, unspecified	Air	µBq	1.33887759896	1.853775206	2.497111914	1.933018661	1.315471126	1617.719612	271.10964445051
40	Actinides, radioactive, unspecified	Water	µBq	206.80100086669	272.4088892	378.6597701	293.6916169	188.8443775	198.3787428	256.46406624232
41	Aerosols, radioactive, unspecified	Air	µBq	30.44095997593	40.61623089	57.41821704	43.0312356	27.63407637	27.68824472	37.80482743016
42	Aldehydes, unspecified	Air	ng	81.54242210833	112.9223375	119.5425833	109.52426	81.96953266	124.8259617	105.05451622135
43	Aldrin	Soil	pg	26.41704000369	33.44378437	10.66391809	23.54170624	45.40084716	127.3953514	44.47710787367
44	Aluminium	Air	mg	67.50968358092	30.20786087	61.51382867	103.390553	54.41139731	43.29377344	60.05451614214
45	Aluminium	Water	mg	148.09281880121	199.4564473	361.4342059	218.261516	137.2341237	99.91254448	194.06527603925
46	Aluminium	Soil	µg	86.93517086397	255.7896225	68.38574004	474.5737078	89.86996835	190.7256981	194.37998460449
47	Aluminium, 24% in bauxite, 11% in crude ore, in grour	Raw	mg	23.77098527669	11.98501487	18.26987471	32.30734879	18.23544997	22.34320645	21.15198001300
48	Ammonia	Air	mg	17.17600230702	7.275978042	14.34273099	21.94521184	11.84087064	9.361572523	13.65706105693
49	Ammonium carbonate	Air	pg	1284.10503562273	3.348391137	810.046154	2.181891162	1.203041607	2.201959759	350.51441222124
50	Ammonium, ion	Water	µg	214.56774793403	123.5852478	196.0890527	270.421851	156.9363927	158.6520243	186.70871940984
51	Anhydrite, in ground	Raw	ng	65.41127376397	102.8642773	34.31987844	69.2776167	95.88076977	249.2654769	102.83654881168
52	Aniline	Air	pg	133.02220757644	52.43349445	85.8705488	169.2769397	88.22407275	80.16267297	101.49832270496
53	Aniline	Water	pg	319.60813307477	126.0662462	206.2956356	407.2514496	212.0685907	192.9861137	244.04602812731
54	Anthranilic acid	Air	pg	0.61173583169	0.398705779	0.353490633	1.749290352	0.57974139	1.064648852	0.79293547296
55	Antimony	Air	µg	4.22504450052	2.142092551	4.377223317	8.369149505	4.388694957	3.58841773	4.51510376013
56	Antimony	Water	µg	78.21389922315	49.69393636	89.66975256	101.9761194	57.34759549	47.58350943	70.74746874768
57	Antimony	Soil	pg	3.02155936571	3.28683629	1.568081689	3.118839896	4.067832581	10.0548742	4.18633733727
58	Antimony-122	Water	nBq	132.25888218068	127.16531	73.11814357	218.5173114	147.1751042	317.0668013	169.21692543577
59	Antimony-124	Air	nBq	0.32805363279	0.315419586	0.181361525	0.542008194	0.365051683	0.786449381	0.41972400041
60	Antimony-124	Water	µBq	38.37048336790	53.92069238	74.71411921	56.91971142	37.51300455	43.95534264	50.89889225991
61	Antimony-125	Air	nBq	3.42351530779	3.291668414	1.892659909	5.65631093	3.809621054	8.207260106	4.38017262014
62	Antimony-125	Water	µBq	39.44601620985	64.88210414	96.66508499	60.84547209	41.27861213	45.15523614	58.04542094910
63	AOX, Adsorbable Organic Halogen as Cl	Water	ng	459.98125543716	431.2352869	465.6133693	562.6182704	409.2879452	624.9659272	492.28367574896
64	Argon-41	Air	mBq	12.28008037568	9.171584233	8.131942685	15.21771401	8.728580895	9.7966035	10.55441761726
65	Arsenic	Air	µg	62.11967751271	31.56236241	64.73409732	123.4460333	64.49572787	52.13830993	66.41603472303
66	Arsenic	Soil	ng	34.37128235430	102.1652198	27.01656309	159.6127625	35.8224572	76.57293552	72.59353673391
67	Arsenic, ion	Water	µg	753.79415968112	260.6764256	488.7188899	936.5962727	487.5531462	404.1251782	555.24401206371
68	Arsine	Air	pg	0.01196433227	0.015152084	0.004827166	0.010658124	0.020572386	0.057738508	0.02015209998
69	Atrazine	Soil	pg	6.93026739737	8.773669157	2.797580817	6.175950063	11.91049449	33.42099813	11.66816000848
70	Barite	Water	µg	665.52498053403	5.935392567	536.7854265	726.3030499	660.3856351	1346.108446	656.84048845472
71	Barite, 15% in crude ore, in ground	Raw	mg	14.24592348138	52.3044203	11.34548347	15.27431121	14.90836496	31.90445769	23.33049352038
72	Barium	Air	µg	207.97435268881	107.2475543	218.6902188	414.5056728	216.232542	172.3855127	222.83930890458
73	Barium	Water	mg	5.66704267360	2.059125131	3.768302736	7.016928961	3.733630645	3.287823485	4.25547560528
74	Barium	Soil	µg	41.38911646536	126.5305074	32.86982218	44.27102661	43.56929478	93.75066206	63.73007157720
75	Barium-140	Air	nBq	222.69457666880	214.1181324	123.1147108	367.9346096	247.8101809	533.8700577	284.92371136285
76	Barium-140	Water	nBq	579.36412835698	557.051577	320.2962919	957.221849	644.7051006	1.388920939	510.00464462753
77	Basalt, in ground	Raw	µg	690.42657687253	662.4559858	408.3083518	868.5754905	737.5019667	1.545825141	561.46903279370
78	Benomyl	Soil	pg	6.72955447126	32.42252903	4.330486131	6.802369041	8.879305429	22.0705902	13.53913905059
79	Bentazone	Soil	ng	3.65931759751	2.390608301	2.115757446	10.54660157	3.478124586	6.407216201	4.76627095074
80	Benzal chloride	Air	pg	0.00020678093	0.000244474	0.000107049	0.000223968	0.000292375	0.000741925	0.00030276188
81	Benzaldehyde	Air	pg	772.17757634589	889.318683	935.0456417	1.518960784	773.3174914	1285.513305	776.14860964066
82	Benzene	Air	µg	655.95431511372	878.6275782	808.4633839	1.382196157	685.5298488	578.8683722	601.47094906530
83	Benzene	Water	µg	14.09034531743	17.53557329	11.10569005	14.99721908	15.66370258	34.84623858	18.03979481817
84	Benzene, 1-methyl-2-nitro-	Air	pg	0.72430005621	0.4721186	0.418503101	2.072228895	0.68654271	1.261048912	0.93912371243
85	Benzene, 1,2-dichloro-	Air	pg	76.56846358732	29.58119161	48.51469265	119.4060218	54.05444425	59.17520809	64.55000366947
86	Benzene, 1,2-dichloro-	Water	ng	3.39000219749	3.822567325	1494.0628	3.338658759	5.275826613	14.14778227	254.00627280901
87	Benzene, chloro-	Water	ng	66.40812820622	77.54726218	28.57460407	63.35391489	106.406315	289.3679389	105.27636053937
88	Benzene, ethyl-	Air	µg	4.03474160726	4.86742327	3.139807136	8.17974281	4.63662141	10.60418048	5.91041945214
89	Benzene, ethyl-	Water	µg	4.38156913729	5.350566929	3.519443329	4.633606368	4.85320459	10.8066102	5.59083342495
90	Benzene, hexachloro-	Air	ng	3.50290444854	4.462977958	2.310203764	4.062237518	3.369462625	6.419911103	4.02128290271
91	Benzene, pentachloro-	Air	pg	33.43506335329	39.38003687	20.54307526	85.21310035	37.58071261	81.2661249	49.56968555523
92	Benzo(a)pyrene	Air	ng	397.54302804665	253.0934647	373.6389676	733.0094657	366.8028657	361.1856071	414.21223313459
93	Beryllium	Air	µg	2.89857725576	1.445260111	3.021239197	5.782956554	3.014020992	2.404642325	3.09444940576
94	Beryllium	Water	µg	291.03498947833	109.7311492	215.1830559	364.7601416	191.4927719	154.5357436	221.12297528457
95	BOD5, Biological Oxygen Demand	Water	mg	37.99940418095	48.55704026	31.89598831	41.33161652	39.08055871	81.91405229	46.79644338134
96	Borate	Water	ng	6.79646848189	2.218555561	4.392166355	8.589953129	4.426171857	3.764188313	5.03125061631
97	Borax, in ground	Raw	ng	48.95372653484	45.15061132	29.54368113	63.15807037	49.02026399	96.24319666	55.34492500118
98	Boron	Air	mg	1.33894293995	737.0487881	1.50840235	2.649426029	1.394448872	1.112055722	124.17534400753
99	Boron	Water	µg	277.70934632141	522.620453	738.4413889	416.4919597	317.4501848	391.9001328	444.10224425290
100	Boron	Soil	ng	996.99887668052	2.986340449	763.9208322	1181.712204	1.025853885	2.149087129	491.46553239956
101	Boron trifluoride	Air	pg	0.00016374034	0.000207367	6.6062E-05	0.000145864	0.000281558	0.000790193	0.00027579723
102	Bromate	Water	ng	988.49510827076	1.681604902	1.584280351	1.289906616	1.14508639	2.031552824	166.03792322566
103	Bromide	Water	ng	351.55005464433	120.2354917	227.0962626	445.8081098	230.0364992	199.135317	262.31028913795
104	Bromine	Air	µg	31.31796155773	35.55864621	65.9990194	67.79339184	34.80375213	26.83619604	43.71816119746
105	Bromine	Water	µg	148.50574781261	226.0012299	211.6944018	172.5921899	171.1058058	338.5651048	211.41074665613
106	Bromine, 0.0023% in water	Raw	ng	417.90693898275	141.305853	269.9816752	529.6816831	273.1591525	235.5111576	311.25774338946
107	Butadiene	Air	pg	36.50712210538	23.51206355	20.88527254	41.42936614	36.44890204	70.96293823	38.29094410024
108	Butane	Air	µg	195.74054452095	1.285150367	164.8043956	210.2183615	218.5930358	479.9442032	211.76428183173
109	Butene	Air	µg	3.99063647533	4.835339802	3.112459399	4.166864727	4.604750435	10.56233168	5.21206375351
110	Butene	Water	ng	2.71010844967	2.673335958	1.471837931	2.843372035	3.485158214	8.334835135	3.58644128725
111	Butyl acetate	Water	ng	8.72654943565	11.02732327	3.531938539	7.791206946	14.96016861	41.93406215	14.66187482562
112	Butyrolactone	Air	pg	6.20121608894	7.817636227	2.519081092	5.550865641	10.59389646	29.65127586	10.38899522717
113	Butyrolactone	Water	pg	14.88318970100	18.76266865	6.045904719	13.32232015	25.4258147	71.16435863	24.93404275894
114	Cadmium	Air	µg	4.02672360358	2.421758524	4.073423637	7.816724817	4.157944993	3.727833001	4.37073476274
115	Cadmium	Soil	ng	8.29736901008	9.066782269	3.377309514	268.966274	13.37449808	37.04647951	56.68811873669
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	Raw	µg	8.50964531799	9.383746587	3.494838911	8.416449086	14.04016394	38.6675933	13.75207285710
117	Cadmium, ion	Water	µg	133.46096651521	45.72711028	86.47202853	166.5468579	86.98120172	74.1534253	98.89026503865
118	Calcite, in ground	Raw	mg	425.12631517786	362.7805355	266.3512734	502.8963806	386.1513405	677.3359682	436.77363558846
119	Calcium	Air	mg	2.91356785513	1.457264102	3.030720579	6.567846351	3.024907301	2.418489109	3.23546588292
120	Calcium	Soil	µg	375.28310188315	1042.311336	288.7935859	5.609482778	376.0326227	781.8730059	478.31718917655
121	Calcium, ion	Water	g	3.32704109348	1.100188295	2.169347792	4.147688355	2.147118839	1.75910566	2.44174833891
122	Carbetamide	Soil	ng	2.32511325461	1281.950229	1.60814248	5.034764474	1.92723242	2.834475758	215.94665948639
123	Carbofuran	Soil	ng	3.68939798228	17.77526489	2374.137377	3.729317701	4.867973307	12.09993787	402.71654476213
124	Carbon	Soil	µg	266.79596020130	769.844471	211.8206126	508.1114697	275.4075178	579.5705331	435.25842740881
125	Carbon-14	Air	mBq	129.32582220285	167.862837	227.9588672	185.218706	119.4276852	133.8161028	160.60167005777
126	Carbon dioxide, biogenic	Air	mg	137.80286298854	107.109387	92.46340116	12.83044742	96.69476764	116.5282382	93.90485072331
127	Carbon dioxide, fossil	Air	g	241.20418922155	230.3466798	308.9685792	470.4740969	256.805667	218.2168046	287.66933611338
128	Carbon dioxide, in air	Raw	g	1.15735281802	450.9309532	750.5251685	14.20341263	752.310191	649.4907427	436.43630346955

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
129	Carbon dioxide, land transformation	Air	µg	306.00640943180	419.5379508	201.6196448	367.2704069	245.3573518	357.6607688	316.24208876194
130	Carbon disulfide	Air	µg	13.44548061396	13.84921008	8.059130721	17.31251092	13.12324833	24.96997384	15.12659241867
131	Carbon disulfide	Water	ng	4.27277443129	1.375172883	2.765370668	5.303792659	2.764794956	2.29508742	3.12949883613
	Carbon monoxide		ng	0.00000000000	0.00000000000	0.00000000000	0.00000000000	41.412	0.00000000000	6.90200000000
132	Carbon monoxide, biogenic	Air	µg	128.63092457584	192.5332438	337.5865655	44.56725046	110.3785708	90.01152522	150.61801338984
133	Carbon monoxide, fossil	Air	g	11.48521678042	5.428684079	11.98115986	22.92306759	11.95672049	9.566806473	12.22360921179
134	Carbon, in organic matter, in soil	Raw	µg	4.66018754453	22.45246201	2.998843032	4.71061132	6.148880843	15.28378885	9.37579559974
135	Carbonate	Water	µg	3.63375515425	5.025165298	4.888405651	5.058426622	3.988548465	7.026852221	4.93685890182
136	Carboxylic acids, unspecified	Water	µg	781.90169050784	1015.173329	632.7326905	829.6557475	856.2109524	1.890090995	686.26075012931
137	Cerium-141	Air	nBq	53.98620306336	51.90707906	29.84579094	89.19567251	60.0747937	129.422179	69.07195304343
138	Cerium-141	Water	nBq	231.63924872408	222.7183261	128.059693	382.7129417	257.7636375	555.3132948	296.36785697474
139	Cerium-144	Water	nBq	70.51856321311	67.80274262	38.98555882	116.5103363	78.47168158	169.0555288	90.22406855514
140	Cerium, 24% in bastnasite, 2.4% in crude ore, in ground	Raw	pg	0.00000000000	-1.89886E-11	-3.5277E-11	-1.01719E-11	-8.18404E-12	-5.00884E-12	-0.00000000001
141	Cesium	Water	ng	182.54754468707	222.9186643	146.629616	193.0481076	202.1965029	450.2291938	232.92827154495
142	Cesium-134	Air	nBq	2.58559198069	2.486015307	1.42942147	4.271899164	2.87719632	6.198490151	3.30810239869
143	Cesium-134	Water	µBq	35.08954842022	62.32834007	98.0173742	53.86207109	36.72436687	33.8600673	53.31362799191
144	Cesium-136	Water	nBq	41.11144450652	39.5281549	22.72809548	67.9240757	45.74801351	98.55726882	52.59950881973
145	Cesium-137	Air	nBq	45.83414000789	44.06896932	25.33899558	75.72688414	51.00333694	109.879079	58.64190082641
146	Cesium-137	Water	mBq	23.83859487778	31.41233771	43.63701833	33.87863312	21.79181404	22.96293943	29.58688958508
147	Chloramine	Air	pg	131.00887971320	42.78388274	84.65947284	165.6745538	85.3364043	72.62828161	97.01524582601
148	Chloramine	Water	ng	1.16950987449	382.0951703	755.7159356	1.479789509	761.9456379	648.9563652	425.22706806755
149	Chlorate	Water	µg	7.85613107237	13.50076812	12.41814897	10.27542339	9.039598068	16.02016632	11.51837265730
150	Chloride	Water	g	1.69666630199	816.1083057	1.415511115	2.12795191	1.181778971	1090.172539	318.78379215651
151	Chloride	Soil	mg	5.57280259905	12.06395772	1.823111093	4.407075219	11.44426484	34.33940042	11.60843531523
152	Chlorinated solvents, unspecified	Water	ng	5.35449367379	8.773907383	5.411065913	7.832737463	5.846151827	11.29691119	7.41921124227
153	Chlorine	Air	µg	3.26349576002	6.381395488	2.173102303	27.30623197	3.810219009	8.578381298	8.58547097168
154	Chlorine	Water	µg	3.11747263929	1.861094518	3.3949689	4.036759828	2.247638551	1.842056841	2.74999854617
155	Chloroacetic acid	Air	ng	3.51639195593	1.55102102	2.202323311	4.802841943	2.601268458	3.192870088	2.97778612940
156	Chloroacetic acid	Water	ng	96.18754041977	57.95855334	56.57534978	249.1771084	86.84003755	150.1215225	116.14335201306
157	Chloroacetyl chloride	Water	pg	2.35738944891	1.27140423	1.417684324	5.45019908	1.993470856	3.139643417	2.60496522602
158	Chloroform	Air	ng	2.53695098063	2.692789415	2.171960225	3.099601202	2.922788913	6.074314741	3.24973424619
159	Chloroform	Water	pg	173.33938369303	184.3710694	79.0283214	169.3383247	258.0480486	676.5303734	256.77592021204
160	Chlorosilane, trimethyl-	Air	pg	359.51026538345	350.5681334	209.0583973	445.4922702	396.0246925	852.6409119	435.54911178602
161	Chlorosulfonic acid	Air	pg	6.01872701705	3.83288759	3.494186149	16.86177837	5.631455661	10.18456	7.67059913141
162	Chlorosulfonic acid	Water	pg	15.00919629760	9.55826017	8.713624374	42.04904581	14.04343816	25.39773752	19.12855038874
163	Chlorothalonil	Soil	µg	1.01536853449	429.6660382	847.1262221	1.283567426	686.3526511	558.7498214	420.69894480530
164	Chromium	Air	µg	30.86633450075	18.65130633	28.96094629	55.12443284	29.19108546	27.42884932	31.70382579055
165	Chromium	Soil	ng	474.80794532043	1322.461583	357.8684576	4.081796607	512.1127132	1126.436287	632.96146369305
166	Chromium-51	Air	nBq	3.45942630889	3.326196408	1.912512986	5.715642864	3.849582116	8.293350253	4.42611848923
167	Chromium-51	Water	µBq	63.10822913718	82.67871151	92.47021675	102.8365278	70.07350838	120.4208825	88.59801267511
168	Chromium VI	Air	ng	512.86978741728	497.7449195	461.5476777	826.4006506	443.0425944	445.2893747	531.14916738072
169	Chromium VI	Water	mg	1.62098602644	677.1529196	1.207082111	2.028400067	1.086675605	939.3718588	270.41132038088
170	Chromium VI	Soil	ng	952.97887159281	2.572678734	599.3536154	1.671444518	869.2096359	1.540434287	404.55444674352
171	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	Raw	mg	2.83855609151	1.954806691	2.027882993	3.78227668	2.104690439	2.677054695	2.56421126499
172	Chromium, ion	Water	ng	888.44084956420	1272.497646	870.7661168	1021.684692	953.928708	1.921220479	834.87320557598
173	Chrysotile, in ground	Raw	ng	190.44509561447	322.1646098	301.2426906	247.7192795	221.675427	397.384837	280.10532325971
174	Cinnabar, in ground	Raw	ng	17.33296276545	29.47983809	27.73556964	23.44004875	20.03138986	35.47514676	25.58249264438
175	Clay, bentonite, in ground	Raw	mg	5.66235068570	9.121515447	4.158570357	6.696416404	5.686563096	11.19569472	7.08685178512
176	Clay, unspecified, in ground	Raw	oz	92.70734867647	42.3386831	42.77516079	36.4078605	36.44885239	38.64833795	48.22104056952
177	Coal, brown, in ground	Raw	g	1.33514558050	975.8344201	887.3589318	1.651118352	944.5419681	1045.893696	642.76921334505
178	Coal, hard, unspecified, in ground	Raw	g	176.12505466671	83.2170156	161.0014882	224.5934113	120.4688944	94.98832178	143.39903099223
179	Cobalt	Air	µg	10.88210674048	5.741465266	11.22186585	21.31057897	11.19792352	9.218988462	11.59548813466
180	Cobalt	Water	mg	3.66604406416	1.22894391	2.422382488	4.560214246	2.369704492	1.935530141	2.69713655678
181	Cobalt	Soil	ng	3.17618647891	2.106368397	1.946423406	333.5516122	2.026424586	2.343826606	57.52514027356
182	Cobalt-57	Water	nBq	1305.03233048645	1254.772745	721.4754866	2.156166388	1.452214521	3.128579492	548.00292048718
183	Cobalt-58	Air	nBq	4.81739411190	4.631865967	2.663253375	7.959268915	5.360702198	11.54883299	6.16355292568
184	Cobalt-58	Water	µBq	377.25361314150	490.3456233	587.2769053	588.0839433	393.4652301	604.1596897	506.76416747402
185	Cobalt-60	Air	nBq	42.55719477121	40.91822623	23.52736562	70.31273538	47.3568162	102.0231941	54.44925539185
186	Cobalt-60	Water	µBq	311.14800357034	410.300004	489.247207	490.972885	330.4677981	518.5570189	425.11548610593
187	Cobalt, in ground	Raw	ng	72.81762222788	85.25824999	58.69261759	75.88983929	82.97852523	189.2778978	94.15245869341
188	COD, Chemical Oxygen Demand	Water	mg	40.20612795970	51.72659741	33.46023171	44.3887712	41.28379659	86.23753502	49.55050998083
189	Colemanite, in ground	Raw	µg	7.26943285247	10.51773873	4.171935315	8.052232177	10.43410171	26.49272266	11.15636057358
190	Copper	Air	µg	49.11249857611	40.36525011	45.06137361	87.66402919	55.95249052	77.71332443	59.31149440540
191	Copper	Soil	ng	1013.79772169999	2.107653791	530.7548953	4.375656192	1.330069775	3.252746246	259.26979049701
192	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	Raw	µg	127.66566839710	135.5485926	75.53949389	166.5561156	123.1357628	231.1483754	143.26566810347
193	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	Raw	µg	704.48742187879	747.2783588	417.4174585	920.5076238	677.0069993	1265.595472	788.71555578340
194	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	Raw	µg	186.87535484332	198.2262627	110.7259452	244.1778003	179.58578	335.7172823	209.21807089122
195	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	Raw	µg	931.48104579605	989.0869124	550.962575	1.215007678	898.9631013	1.688629553	562.23287863346
196	Copper, ion	Water	mg	2.26339924289	788.2039725	1.507006769	2.824777188	1.474411524	1.233281833	132.91780816845
197	Cumene	Air	ng	822.16152411336	1055.081448	553.4690236	913.4308266	946.2041694	2.100170386	715.40786035112
198	Cumene	Water	ng	1975.63341462357	2.535333264	1329.962036	2.194948434	2.273706187	5.04666787	552.94101771944
199	Cyanide	Air	ng	189.21293053074	194.7510657	128.2160903	257.2664436	171.6593874	300.0166589	206.85376274620
200	Cyanide	Water	ng	1826.50735148078	2168.97722	1155.76602	2.089875327	2.013800763	4.365761264	859.95333806917
201	Cyanoacetic acid	Air	pg	4.92911068542	3.138990405	2.861606845	13.80916072	4.611949923	8.340770514	6.28193151496
202	Cypermethrin	Soil	pg	601.45877398892	2.550434458	395.1952088	673.8887003	749.5110757	1.786614853	404.06513468372
203	Diatomite, in ground	Raw	ng	2.28624227445	4.677565593	762.4726106	1.839790564	4.651898819	13.88746303	131.63592848348
204	Dichromate	Water	ng	24.86680328384	67.03778497	15.63962531	43.589871	22.6797036	40.18994433	35.66728874803
205	Diethylamine	Air	pg	59.47337099185	23.49286432	38.37501277	76.0878546	39.51441451	36.11998413	45.51058355458
206	Diethylamine	Water	pg	142.73859421214	56.38385037	92.10164972	182.6139728	94.83624382	86.68942428	109.22728919588
207	Dimethyl malonate	Air	pg	6.18109218752	3.936286058	3.588447641	17.31665265	5.783373499	10.45930527	7.87752621689
208	Dimethylamine	Water	pg	96.27120811205	47.4381643	59.61577287	182.0099919	74.46516088	100.4701977	93.37841596190
209	Dinitrogen monoxide	Air	mg	5.13051465919	4.340668162	7.521574266	9.651833419	5.273480941	4.659488432	6.09625997990
	Dioxins (unspe)		mg	0.00000000000	0.00000000000	0.00000000000	0.00000000000	1.195335657	0.00000000000	0.19922260950
210	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	Air	ng	1.14709087905	544.6097907	1.200688916	2.295231102	3.1552	955.9273428	251.38922407312
211	Dipropylamine	Air	pg	37.58916284622	14.78772545	24.27270002	47.65680819	24.89839593	22.52505032	28.62164046027
212	Dipropylamine	Water	pg	90.21451913964	35.49075473	58.25481968	114.3770452	59.75650657	54.06046297	68.69235138384
213	DOC, Dissolved Organic Carbon	Water	mg	12.52751996359	16.19278481	10.36604481	13.96452915	12.90491647	26.99834735	15.49235709340
214	Dolomite, in ground	Raw	µg	876.17204723890	1059.982639	591.3509655	1075.312869	812.0520489	1485.985836	983.47606748189
215	Energy, gross calorific value, in biomass	Raw	kJ	12.48585529615	4.786254601	8.096392906	157.1152225	8.102697951	6.950886076	32.92288488103
216	Energy, gross calorific value, in biomass, primary forest	Raw	J	0.32308733980	1.556612517	0.207907501	0.326583173	0.426297337	1.059613745	0.65001693556
217	Energy, kinetic (in wind), converted	Raw	J	541.02454451744	417.4477521	358.8752614	668.107515	382.2368756	422.3809011	465.01214163936
218	Energy, potential (in hydropower reservoir), converted	Raw	kJ	7.42538364551	15.07169432	21.74049073	11.78369246	8.156548627	8.11830276	12.04935209037
219	Energy, solar, converted	Raw	J	8.26714068184	6.293482208	5.397799782	10.52185405	6.145641644	7.669056849	7.38249586938
220	Ethane	Air	mg	1.89260504894	6.747367563	1.957557876	3.642812769	1.943356619	1.671476823	2.97586278325
221	Ethane, 1,1-difluoro-, HFC-152a	Air	ng	3.02831162633	2.294544219	1.95814949	3.844795873	2.241550212	2.782295534	2.69160782578
222	Ethane, 1,1,1-trichloro-, HCFC-140	Air	pg	12.92487678767	17.89508355	24.10335924	18.66053127	12.69969985	15.62102247	16.98409552908
223	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	Air	µg	6.62835958102	14.08786357	1.990276797	5.040860315	14.03018427	42.47418502	14.04195492503
224	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	Air	pg	48.71369780439	61.69287317	19.65417732	43.39537023	83.76205032	235.0867677	82.05082275616
225	Ethane, 1,2-dichloro-	Air	ng	97.55002090176	135.4305149	65.20857633	125.9278882	94.54608449	177.775595	116.07311329742
226	Ethane, 1,2-dichloro-	Water	ng	12.97100695290	16.25446236	16.32122579	17.1771196	11.1124305	13.77706048	14.60221761380
227	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	Air	ng	55.79647439351	77.8621615	108.0373022	81.69355779	53.4872251	60.16343202	72.84002550615
228	Ethane, hexafluoro-, HFC-116	Air	ng	568.87673635701	287.5901807	436.4087954	771.9760595	439.4657787	546.6040002	508.48692513966
229	Ethanol	Air	µg	2.27140409992	3.469265741	1.589293048	2.805982796	1.661003765	1.960272919	2.29287039476
230	Ethanol	Water	ng	17.17125155211	20.46062459	7.298870397	17.5402442	27.90401464	76.38407045	27.79317930335
231	Ethene	Air	mg	3.47123964901	1.838516239	3.615017224	6.90821525	3.607194803	2.895571406	3.72262576197
232	Ethene	Water	ng	596.51016004000	919.0820726	386.3589287	646.6048319	747.550696	1.786539135	549.64887139725
233	Ethene, chloro-	Air	ng	48.89056482610	65.04739544	30.74882966	66.91296511	42.71109037	71.00733019	54.21969593319
234	Ethene, chloro-	Water	pg	676.92554461975	814.6918448	445.016232	941.3760975	540.4635643	768.4866942	697.82666289138
235	Ethene, tetrachloro-	Air	pg	30.49480940095	40.60105222	53.50857326	43.49045922	29.46881296	36.72750781	39.04853581340
236	Ethyl acetate	Air	µg	1.84943258028	2.337480637	748.4171101	1651.009239	3.171030863	8.889144073	402.61223958025
237	Ethyl acetate	Water	pg	153.90422368465	61.49905059	99.09861513	194.4124468	103.1616409	97.09508454	118.19517694427
238	Ethyl cellulose	Air	ng	3.72605205981	4.718988465	1503.240741	3.319129353	6.407195032	17.98284706	256.56582550074
239	Ethylamine	Air	pg	43.79615078141	14.5224843	28.25655753	56.34538438	28.73049502	25.09116621	32.79037303726
240	Ethylamine	Water	pg	105.11137673801	34.85416747	67.81613454	135.2297168	68.95359261	60.21915603	78.69735736576
241	Ethylene diamine	Air	pg	918.35683171196	335.3755398	629.0537728	1.139572779	615.6311834	557.775049	509.55532492430
242	Ethylene diamine	Water	ng	2.20926699929	807.5433168	1.513942284	2.741433315	1.481404971	1.343022279	136.13873111248
243	Ethylene oxide	Air	ng	9.28789473041	17.14227473	5.697325374	9.702985174	12.11777195	29.6525495	13.93346690884
244	Ethylene oxide	Water	pg	1492.79394145617	1.661734818	692.0471846	1.84062314	2.268408066	5.999920507	366.10196875689
245	Ethyne	Air	µg	576.22728165563	303.5873202	600.8133415	1.148813232	598.6817945	477.1345897	426.26552347590
246	Feldspar, in ground	Raw	ng	2.53079115430	1.650574782	1.528636107	115.3399513	1.705008755	1.946388727	20.78355847222
247	Fenpiclonil	Soil	ng	40.21135663051	17.072843	33.48517864	51.23280156	27.2493064	22.42486593	31.94605869348

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
248	Fluoride	Water	mg	2.97906562858	1.613879638	2.322494211	3.708883304	2.276874983	2.756754193	2.60965865958
249	Fluoride	Soil	µg	4.78334907763	14.39242331	3.692259248	5.557251548	4.944670112	10.4165537	7.29775116550
250	Fluorine	Air	µg	3.14713853536	2.424688386	2.012026196	10.62374876	2.414929782	3.239762286	3.97704899025
251	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	Raw	µg	10.82222008571	31.73975058	8.426698095	12.07423214	10.98058261	22.3729202	16.06940061754
252	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	Raw	µg	5.66600433647	14.54619389	4.305809654	7.242523539	5.60194469	11.04298452	8.06757677093
253	Fluorspar, 92%, in ground	Raw	µg	399.37888028874	1001.473436	411.9354827	482.7484794	388.5313619	690.555552	562.43719872776
254	Fluosilicic acid	Air	ng	660.85338164749	331.0813771	508.4068343	898.6270158	506.8065667	619.8180861	587.59887694854
255	Fluosilicic acid	Water	µg	1.18953608625	595.9464751	915.1322941	1.617528627	912.2518188	1115.672555	590.30170127271
256	Formaldehyde	Air	µg	247.98026303558	262.7029201	291.946721	502.6015454	260.1361918	215.3971341	296.79412925496
257	Formaldehyde	Water	ng	131.87106854483	185.4897591	88.25379716	151.2806781	147.6887989	319.2532576	170.63955991453
258	Formamide	Air	pg	67.72298545437	21.95281693	43.79782349	84.83896846	43.96407567	36.94673239	49.87056706575
259	Formamide	Water	pg	162.53991111107	52.68829179	105.1178473	203.619434	105.516856	88.67472034	119.69284341670
260	Formate	Water	ng	2.30683157805	1112.865848	1.414795822	4.683408303	1.832128345	2.597725847	187.61678965561
261	Formic acid	Air	ng	23.37228019719	104.3314217	14.48662599	23.35295687	31.74842108	80.16722153	46.24315456297
262	Formic acid	Water	pg	47.18247739094	15.29448707	30.51386165	59.10715344	30.62968985	25.7407214	34.74473180110
263	Furan	Air	ng	5.97651478172	28.79442465	3.845907042	6.041182773	7.885706706	19.60087612	12.02410201248
264	Gadolinium, 0.15% in bastnasite, 0.015% in crude ore, in ground	Raw	pg	0.00000000000	-7.03669E-15	-1.30728E-14	-3.76945E-15	-3.0328E-15	-1.85615E-15	0.00000000000
265	Gallium, 0.014% in bauxite, in ground	Raw	pg	23.32956579835	17.67986145	15.08390728	29.62457019	17.27332567	21.45352753	20.74079298484
266	Gas, mine, off-gas, process, coal mining/m3	Raw	cm3	713.03878447113	356.8089985	649.6398058	908.8882816	488.2649488	388.0594536	584.11671212177
267	Gas, natural, in ground	Raw	cm3	636.83317555198	34.22369983	477.5521219	752.1573378	568.4609579	964.8454241	572.34545285791
268	Glutaraldehyde	Water	ng	82.16357772652	732.7645143	66.26980568	89.66704307	81.52909061	166.1862276	203.09670982101
269	Glyphosate	Soil	µg	2.57608712788	1112.036022	1.625435068	3.134249	1.858204955	2.149369418	187.22989457361
270	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	Raw	ng	3.65001761985	4.622571385	1472.623009	3.251488452	6.276216555	17.61495973	251.33971047427
271	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	Raw	ng	6.69334088644	8.476793608	2.700471257	5.962524806	11.50922028	32.30201666	11.27406124997
272	Gold, Au 1.4E-4%, in ore, in ground	Raw	ng	8.01417945609	10.14957201	3.233372078	7.139146902	13.78040627	38.67637442	13.49884185480
273	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	Raw	ng	12.24081332293	15.50240003	4.938634589	10.9042934	21.04811635	59.07408055	20.61805637155
274	Gold, Au 4.3E-4%, in ore, in ground	Raw	ng	3.03376947069	3.842122809	1223.99375	2.702525697	5.216575952	14.6409504	208.90494905852
275	Gold, Au 4.9E-5%, in ore, in ground	Raw	ng	7.26626519470	9.202374631	2.931621313	6.47289405	12.49436544	35.06694557	12.23907769991
276	Gold, Au 6.7E-4%, in ore, in ground	Raw	ng	11.24935879994	14.24677068	4.538625919	10.02109139	19.34330722	54.28932784	18.94808030778
277	Gold, Au 7.1E-4%, in ore, in ground	Raw	ng	12.68481780593	16.06471034	5.117771068	11.29981904	21.81158335	61.21684283	21.36592407213
278	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	Raw	pg	760.10099518335	962.631272	306.6676198	677.1089519	1.306996008	3.668242142	451.91401283876
279	Granite, in ground	Raw	pg	100.44345510062	54.59243802	81.81567734	126.1139151	70.35894683	65.94506756	83.21158331990
280	Gravel, in ground	Raw	g	8.53612016089	6.57329629	4.621364042	9.818193415	9.482479605	20.41413505	9.90759809322
281	Gypsum, in ground	Raw	ng	566.12055462416	1.817984182	403.8327744	698.2503655	518.918103	897.7776445	514.45290436608
282	Heat, waste	Air	Wh	721.19893889842	823.6043238	843.9059336	5.142645401	758.3187673	668.3560859	636.75444914241
283	Heat, waste	Water	kJ	7.33583410175	7.217269684	6.633539528	8.871836214	6.317390233	9.669719088	7.67426480804
284	Heat, waste	Soil	J	93.24394922964	500.2597334	60.97979279	217.4099862	96.14042375	194.9616055	193.83258182235
285	Helium	Air	µg	9.99289934970	12.73425594	6.511341078	9.72949468	14.02073368	36.15670277	14.85757124909
286	Helium, 0.08% in natural gas, in ground	Raw	pg	0.00006752316	0.000258565	0.000480363	0.00013851	0.000111441	6.82047E-05	0.00018743441
287	Heptane	Air	µg	39.89523534125	48.34337632	31.11857321	41.65689139	46.03321281	105.5891882	52.10607955206
288	Hexane	Air	µg	95.98678803857	112.6344364	75.0145116	103.1742738	106.3043592	234.6212812	121.28927503530
289	Hydrocarbons, aliphatic, alkanes, cyclic	Air	ng	12.44311034091	21.52098523	8.333258078	14.47139207	15.27077002	35.62404067	17.94392606713
290	Hydrocarbons, aliphatic, alkanes, unspecified	Air	µg	669.08174550577	809.601693	816.1405232	1.399531341	704.7449876	628.4769714	604.90757534993
291	Hydrocarbons, aliphatic, alkanes, unspecified	Water	µg	23.73118081639	28.97942636	19.06185009	25.09625399	26.28554538	58.52979522	30.28067531052
292	Hydrocarbons, aliphatic, unsaturated	Air	µg	608.16438342703	400.0560174	773.6082973	1.613437722	643.3337747	507.4570698	489.03883004921
293	Hydrocarbons, aliphatic, unsaturated	Water	ng	2190.61298587240	2.675043481	1759.582052	2316.648804	2.426389306	5.402788375	1046.22467713174
294	Hydrocarbons, aromatic	Air	µg	17.61489219186	194.9775677	11.71751666	20.52039645	17.08966742	32.65701745	49.09617630759
295	Hydrocarbons, aromatic	Water	µg	97.42142794866	126.448841	78.24488652	103.052363	107.8137733	239.9180915	125.48323055445
296	Hydrocarbons, chlorinated	Air	ng	226.70171747067	132.2972138	165.9092377	304.2035904	190.4553931	283.2334497	217.13343369233
297	Hydrocarbons, unspecified	Water	µg	14.33668459567	112.7505556	11.53202435	15.98073997	14.33218816	29.12456095	33.00945894489
298	Hydrogen	Air	µg	15.28178508165	32.62452904	17.24271582	19.58027711	15.34864037	26.9731981	21.17519092056
299	Hydrogen-3, Tritium	Air	mBq	733.15431636777	991.2694782	1.400023379	1044.991076	674.4694289	692.0909472	689.56254502226
300	Hydrogen-3, Tritium	Water	Bq	54.71485606556	72.50667276	101.0515745	77.83230885	50.10861852	52.58570622	68.13328948670
301	Hydrogen chloride	Air	mg	35.49977531901	19.81521045	37.60814189	70.5190539	44.37766984	29.41351023	39.53889360545
302	Hydrogen fluoride	Air	mg	4.24503688113	2.505504436	5.153706686	8.438852551	4.78933691	3.546118964	4.77975940473
303	Hydrogen peroxide	Air	ng	2.76568131852	3.499597329	1117.267971	2.465946049	4.749813704	13.32408244	190.67884868403
304	Hydrogen peroxide	Water	ng	80.98963888400	56.11363428	58.65857481	93.79197177	79.42869974	145.0712355	85.67562582263
305	Hydrogen sulfide	Air	mg	2.30741235192	1.919545305	2.401303325	4.597299405	2.399869435	1.926652184	2.59201366770
306	Hydrogen sulfide	Water	µg	5.88000368567	13.83778306	17.07382579	32.85757338	6.36224826	6.31467148	13.72101760921
307	Hydroxide	Water	ng	79.28815572900	98.77206425	32.73717705	71.79367271	133.3079832	370.5601931	131.07654099748
308	Hypochlorite	Water	µg	2.28168094139	1.668955677	1.518444631	2.833723278	1.623329283	1.820756118	1.95781498809
309	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	Raw	ng	142.98316649498	157.2707011	58.99522711	141.742544	234.8555447	645.5111466	230.22638834587
310	Iodide	Water	µg	18.62546943421	23.23727097	14.90708016	19.76528919	20.47416529	45.28149456	23.71512826768
311	Iodine	Air	µg	31.41742311921	26.88077384	51.64984786	61.37729879	33.98755693	26.53397659	38.64114619006
312	Iodine-129	Air	µBq	127.31876546931	167.7108104	233.1250539	180.8136999	116.2636201	122.1335315	157.89424689250
313	Iodine-131	Air	mBq	4.83256766724	3.600157296	3.204868576	5.971008885	3.417816972	3.787047283	4.13557777995
314	Iodine-131	Water	µBq	7.39488682735	10.44545402	14.20550882	11.15461598	7.40637875	9.251056726	9.97631685263
315	Iodine-133	Air	nBq	427.54260665213	480.4503689	455.4191992	674.7133364	452.4567603	820.3902184	551.82874830999
316	Iodine-133	Water	nBq	363.71192531800	349.7046016	201.0748945	600.9226055	404.7315358	871.9337017	465.34654405893
317	Iodine-135	Air	nBq	349.78019445445	486.7747333	668.4882733	509.2151036	338.6833567	394.8472798	457.96482353966
318	Iodine, 0.03% in water	Raw	ng	90.90138447384	31.68816766	58.71520614	115.340757	59.58537357	51.91508811	68.02432948670
319	Iron	Air	mg	10.19875243826	5.095482791	10.61811054	20.32605337	10.59629354	8.465996487	10.88344819570
320	Iron	Soil	mg	4.77531357641	2.052282569	3.140979752	6.314526823	3.167324147	2.882102894	3.72208829356
321	Iron-59	Water	nBq	99.99218374114	96.14127104	55.27978713	165.2064708	111.2693516	239.7132149	127.93371320025
322	Iron, 46% in ore, 25% in crude ore, in ground	Raw	mg	370.17393155160	473.6263124	241.1881793	439.276225	371.2985577	739.6662666	439.20491208044
323	Iron, ion	Water	mg	345.65665700909	116.3299433	226.2774456	429.827974	223.3583071	183.3328234	254.13052506471
324	Isocyanic acid	Air	ng	505.61699113737	182.9804944	327.6817354	628.3677629	329.9122084	283.0255824	376.26412912047
325	Isoprene	Air	pg	277.33413494319	1336.176602	178.4652464	280.3349252	365.9283125	909.5591899	557.96640188357
326	Isopropylamine	Air	pg	3.80463131061	1.43254564	2.41900217	5.707095285	2.652202797	2.805612688	3.13684831501
327	Isopropylamine	Water	pg	9.13131885375	3.438177044	5.805736664	13.69728874	6.365420337	6.73358713	7.52858812830
328	Kaolinite, 24% in crude ore, in ground	Raw	mg	2.23225535690	983.6239951	1.850475693	2.810890464	1.54149782	1.360772756	165.56998120095
329	Kieserite, 25% in crude ore, in ground	Raw	µg	5.85003004316	3.384109345	4.600714254	7.143621912	4.714176346	6.308079324	5.33345520412
330	Krypton-85	Air	mBq	38.54378858679	28.82138567	25.50644398	47.83023051	27.46087344	31.0045488	33.19454516443
331	Krypton-85m	Air	mBq	3.81677417440	3.536807928	2.177829459	6.050181666	3.998169232	8.15898055	4.62312383491
332	Krypton-87	Air	µBq	1176.16640931455	1029.991152	701.6380142	1.749144083	1.119867872	2.067805778	485.45539880740
333	Krypton-88	Air	µBq	1304.72147228104	1175.560202	761.5158262	2.003806919	1.304062076	2.539696326	541.27417766773
334	Krypton-89	Air	µBq	431.29946927046	408.1190961	241.7880092	699.9481093	467.635719	984.9960836	538.96441442594
335	Lactic acid	Air	pg	29.44511065052	11.58382657	19.01378614	37.33152568	19.5039238	17.6447978	22.42049510751
336	Lactic acid	Water	pg	70.66876049653	27.80137566	45.63340708	89.59627175	46.80974184	42.34779886	53.80955928091
337	Lanthanum-140	Air	nBq	19.03282986892	18.29983491	10.52213027	31.44592441	21.17936182	45.62777475	24.35130933836
338	Lanthanum-140	Water	nBq	617.07067777369	593.3059664	341.1420214	1019.520378	686.6642133	1.479315587	543.19709542992
339	Lanthanum, 7.2% in bastnasite, 0.72% in crude ore, in ground	Raw	pg	0.00000000000	6.39978E-12	1.18895E-11	3.42827E-12	2.75829E-12	1.68814E-12	0.00000000000
340	Lead	Air	µg	252.50698148541	127.3552107	261.9100199	504.0442759	262.7916844	215.4054581	270.66893841060
341	Lead	Water	µg	108.15245319698	46.41947088	75.56498605	138.4519941	73.25879758	68.37549471	85.03719941746
342	Lead	Soil	ng	232.10566378202	292.4583991	77.43759933	1.379615698	463.1591141	1.376954795	177.98622447154
343	Lead-210	Air	mBq	107.31395418345	53.87008933	112.3563975	213.9174411	111.5458362	88.9534024	114.65952012869
344	Lead-210	Water	µBq	363.38698699464	542.6468944	257.4105754	444.9900765	297.0079498	449.697836	392.52338650536
345	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	Raw	µg	439.70451930533	959.2654601	141.9702165	357.8553374	895.5833215	2.678285732	466.17619009359
346	Linuron	Soil	ng	55.24599052852	36.09538351	31.94131822	159.2142138	52.5148928	96.74971045	71.96025155598
347	Lithium, 0.15% in brine, in ground	Raw	ng	1.95923691671	635.0986107	1.267078099	2.454405406	1.271887898	1.068875189	107.18668237219
348	Lithium, ion	Water	ng	317.74183985978	373.0003588	164.8919583	344.6782381	446.8957978	1.130616811	274.72313493264
349	m-Xylene	Air	ng	117.21732202659	88.62327218	71.81752989	15.85345913	77.71835632	89.42716741	76.77618449374
350	m-Xylene	Water	pg	183.98114652760	67.1861756	117.8530602	228.6766633	126.1614311	127.1263739	141.83080843075
351	Magnesite, 60% in crude ore, in ground	Raw	mg	5.17560513284	6.544143715	3.409119474	5.974942415	4.969621117	9.448347476	5.92029655504
352	Magnesium	Air	mg	8.70145294121	4.333777217	9.076569015	17.41984206	9.052091478	7.212899715	9.29943873699
353	Magnesium	Water	g	1.83903451455	615.7813114	1.220142199	2.288922406	1.188635077	967.5938821	264.98532127382
354	Magnesium	Soil	µg	71.19614207365	205.8266364	55.49640464	664.8117704	72.79645426	153.5598921	203.94788330547
355	Magnesium, 0.13% in water	Raw	ng	213.38582619575	101.2332384	135.673125	736.4160802	152.6411218	173.6513224	252.16678566129
356	Mancozeb	Soil	µg	1.31875452113	558.0476541	1.100242419	1.667089621	891.4306781	725.7008937	363.21088541304
357	Manganese	Air	µg	74.32622269185	37.32849291	77.0192481	169.2383746	76.89522982	62.36908433	82.86277540898
358	Manganese	Water	mg	146.65659913995	47.87820704	95.15588935	183.2221521	94.45558759	76.98595159	107.39239779514
359	Manganese	Soil	µg	6.14222589098	12.07462075	4.220022271	373.2915856	5.200053803	9.461980664	68.39841483324
360	Manganese-54	Air	nBq	1.77160932151	1.70338086	0.979418415	2.927042021	1.971412295	4.247113626	2.26666275644
361	Manganese-54	Water	µBq	23.86127011044	32.98108592	41.54561814	37.52101656	25.30152019	37.49047193	33.11683047496
362	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	Raw	mg	1.70166660626	981.1274313	1220.598921	2.22922237	1.219023816	1450.517681	609.56565778567
363	Mercury	Air	µg	8.47869220229	5.34897183	9.850546283	16.50886604	8.884242631	7.569088137	9.44006785453
364	Mercury	Water	µg	50.99465813483	16.71821992	33.09551299	63.33125149	32.83523049	26.73877445	37.28560790952
365	Mercury	Soil	pg	420.55387063076	208.035328	333.3345292	2.435414764	307.0114141	332.8598149	267.37172859638
366	Metaldehyde	Soil	pg	697.76668070216	351.3896703	519.6908002	1.276643961	538.6111502	676.7698761	464.25080358387

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
	Metals (unspe)		pg	0.00000000000	0.00000000000	0.00000000000	0.00000000000	0	0.00000000000	0.00000000000
367	Metamorphous rock, graphite containing, in ground	Raw	µg	35.00249099251	17.74792412	26.90588983	47.57769801	26.85272832	32.88260948	31.16155679090
368	Methane, biogenic	Air	µg	385.61439927498	921.4317461	1.526013686	2.482502079	463.5248509	368.0878264	357.11122307245
369	Methane, bromo-, Halon 1001	Air	pg	0.00004730074	5.59229E-05	2.44871E-05	5.12323E-05	6.68803E-05	0.000169714	0.00006925620
370	Methane, bromochlorodifluoro-, Halon 1211	Air	ng	24.54745106523	1.996490133	22.79071875	30.33304214	18.63905863	23.66336195	20.32835377999
371	Methane, bromotrifluoro-, Halon 1301	Air	ng	111.37381181735	135.560995	83.19782782	114.3789164	135.5013149	321.9950795	150.33465756391
372	Methane, chlorodifluoro-, HCFC-22	Air	ng	110.44269439357	6.783416317	93.72494926	135.9843029	83.98878436	107.6211647	89.75755197507
373	Methane, dichloro-, HCC-30	Air	pg	408.63046313831	417.9305952	505.7784453	592.5535715	373.7645824	520.5856663	469.87388728658
374	Methane, dichloro-, HCC-30	Water	ng	2095.70817379202	6.406534458	1664.313942	2241.693486	2.20602742	4.74669125	1002.51247578643
375	Methane, dichlorodifluoro-, CFC-12	Air	pg	284.00072229422	6.179759584	170.8779912	309.6156071	331.6562867	740.0074866	307.05630891443
376	Methane, dichlorofluoro-, HCFC-21	Air	pg	0.36968892011	0.43732463	0.161851467	0.348775715	0.583595975	1.576201554	0.57957304345
377	Methane, fossil	Air	mg	522.32988182553	440.5232699	479.3876622	688.703072	374.9624241	315.3431095	470.20823656775
378	Methane, monochloro-, R-40	Air	pg	349.24584852914	480.4048823	642.4575237	502.709746	343.5512428	428.3966588	457.79431702047
379	Methane, tetrachloro-, CFC-10	Air	ng	6.94554919814	18.46585475	20.54943697	9.950566523	9.401763285	14.67695138	13.33168701902
380	Methane, tetrafluoro-, CFC-14	Air	µg	5.08919960779	2.549672415	3.915179781	6.920266813	3.902886042	4.773185615	4.52506504557
381	Methane, trichlorofluoro-, CFC-11	Air	pg	0.60017020639	0.709973167	0.262757207	0.566218736	0.94743688	2.558878993	0.94090586483
382	Methane, trifluoro-, HFC-23	Air	pg	117.62829218599	139.1487451	51.49819358	110.9740906	185.6896278	501.5186745	184.40960395868
383	Methanesulfonic acid	Air	pg	4.98100956623	3.172041026	2.89173686	13.9545582	4.660509414	8.428591004	6.34807434550
384	Methanol	Air	µg	6.12399127852	8.649366276	4.440233509	7.38716679	5.202591743	8.085042338	6.64806532246
385	Methanol	Water	ng	399.19160414972	23.67172437	287.9351288	477.3862385	356.7188866	599.0187596	357.32039034471
386	Methyl acetate	Air	pg	0.19422123799	0.126598707	0.11222171	0.555668694	0.184096592	0.338150559	0.25182625020
387	Methyl acetate	Water	pg	0.46612246369	0.303831378	0.269327188	1.333580485	0.441823765	0.811546558	0.60437197282
388	Methyl acrylate	Air	pg	1164.57269308699	1.474858996	469.8620558	1037.430239	2.002455182	5.620095433	446.82706617602
389	Methyl acrylate	Water	ng	22.75026881182	28.81180266	9.17889295	20.26650373	39.11854871	109.790211	38.31937130259
390	Methyl amine	Air	pg	4.20699021538	5.384858219	2.069056295	6.970805686	5.785060797	14.52877009	6.49092355112
391	Methyl amine	Water	pg	10.09674621129	12.92344678	4.96573236	16.73008707	13.88403185	34.86865241	15.57811611366
392	Methyl borate	Air	pg	13.74819024879	4.468233442	8.888744736	17.27655176	8.935776558	7.543617101	10.14351897356
393	Methyl ethyl ketone	Air	µg	1.84936041807	2.337449682	748.3712632	1650.918559	3.170979831	8.889087909	402.58945001583
394	Methyl formate	Air	pg	22.42106018618	11.52339766	13.40136142	26.45287694	19.38957259	31.56550471	20.79229558388
395	Methyl formate	Water	pg	8.95143843910	4.600629242	5.35039203	10.56111074	7.741139986	12.60228867	8.30116651729
396	Methyl lactate	Air	pg	32.32586526488	12.71712195	20.87399625	40.98381337	21.41207925	19.37104881	24.61398748220
397	Metolachlor	Soil	ng	399.82424805383	261.2025714	231.1718257	1.152342461	380.0267427	700.0650615	328.90713195159
398	Metribuzin	Soil	ng	46.43419144817	19.64921555	38.74024068	58.6992935	31.38784525	25.55239335	36.74386329846
399	Molybdenum	Air	µg	6.44795338544	3.538058968	6.684461401	12.68673893	6.653541759	5.426691837	6.90624104768
400	Molybdenum	Water	µg	889.34258282465	294.9018714	578.1323114	1.10488203	573.4747006	468.9708084	467.65452612115
401	Molybdenum	Soil	pg	904.50527448107	573.9732297	606.4342053	68.87420155	610.7344254	715.9348892	580.07603759494
402	Molybdenum-99	Water	nBq	212.75272276773	204.5591606	117.6184456	351.5087397	236.7470798	510.0362572	272.20373428458
403	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	Raw	µg	17.31036759606	18.38089786	10.23892515	22.5793425	16.70606371	31.38099081	19.43276460575
404	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	Raw	µg	2.45462245111	2.603717505	1.45439398	3.207294568	2.358873312	4.409672842	2.74809577630
405	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	Raw	µg	18.55982221350	10.75627393	13.37271934	24.30288196	13.33987527	15.96510928	16.04944699996
406	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	Raw	µg	8.99449390918	9.540824252	5.329348219	11.75251674	8.643639542	16.15840174	10.06987073442
407	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	Raw	µg	37.43320681198	21.67745433	26.97912593	49.02657769	26.88070813	32.10319996	32.35004547557
408	Monoethanolamine	Air	ng	88.36799881511	92.01470488	59.09214597	102.9879775	115.1143688	271.7088435	121.54767324131
409	Napropamide	Soil	ng	1.23450770993	621.6881185	919.4510326	2.258673072	952.9254338	1197.359595	615.81956006328
410	Neodymium, 4% in bastnasite, 0.4% in crude ore, in ground	Raw	pg	0.00000000000	-9.08541E-12	-1.68789E-11	-4.86692E-12	-3.91579E-12	-2.39656E-12	-0.00000000001
411	Nickel	Air	µg	74.24730040155	43.65420963	75.89703973	144.2132031	76.40533571	65.83931807	80.04273443203
412	Nickel	Soil	ng	83.61959655672	100.4730468	30.79986662	1.080681208	155.3760602	451.3643907	137.11894033635
413	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	Raw	µg	25.50923474425	11.94308845	20.93612067	32.09051523	17.8066836	16.46886051	20.79241719833
414	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	Raw	mg	9.09023149014	7.772260602	6.394338694	11.82297521	7.207906024	10.49514467	8.79714278102
415	Nickel, ion	Water	mg	16.97320684219	5.743001319	11.31890784	21.12090051	10.98086013	8.943680229	12.51342614424
416	Niobium-95	Air	nBq	0.21030545475	0.202206142	0.116265495	0.347465379	0.234023808	0.504169374	0.26907260871
417	Niobium-95	Water	µBq	4.39613090771	9.208624265	14.88920924	7.286107312	5.184692299	5.109029384	7.67896556820
418	Nitrate	Air	µg	2.49665552883	1.24053544	1.975525902	3.177079293	1.730407719	1.607150242	2.03789235444
419	Nitrate	Water	mg	191.92032988960	62.38165308	124.5235134	238.438639	123.4906183	100.2855781	140.17338862558
420	Nitrite	Water	µg	1.57974809710	1.326921068	1.586984183	1.993986926	1.295176492	1622.385923	271.69478990654
421	Nitrobenzene	Air	pg	178.33754554284	70.50108789	115.073207	228.1145462	118.4907237	108.3199584	136.47284479760
422	Nitrobenzene	Water	pg	714.68604395333	282.5324496	461.1547995	914.1669082	474.8504659	434.0912192	546.91364771707
423	Nitrogen	Water	µg	55.90583270169	39.72672208	42.95428599	69.06916233	41.80686848	50.78145257	50.04072069232
424	Nitrogen oxides	Air	mg	383.18828202664	441.9317045	621.5396525	614.107582	569.0174	435.0304465	510.80251125431
425	Nitrogen, organic bound	Water	µg	20.15466548305	27.34223128	14.97497479	22.84152504	20.32350364	41.06025161	24.44952530713
426	NMVOC, non-methane volatile organic compounds, unspecified origin	Air	mg	33.80144585845	42.15161121	28.81190038	42.94374839	28.50651939	42.23662982	36.40864250828
427	Noble gases, radioactive, unspecified	Air	Bq	1223.55723754076	1611.931531	2240.809241	1737.695822	1117.365933	1173.692586	1517.50872507970
428	o-Xylene	Water	pg	6.45891541864	7.636268174	3.343718832	6.995776829	9.132497712	23.17442117	9.45693302239
429	Occupation, arable, non-irrigated	Raw	mm2a	5.18448390430	2.608973085	3.863516099	9.471676474	3.99968844	5.018596154	5.02448902615
430	Occupation, construction site	Raw	mm2a	1.04534163175	6.310604787	4.056840233	1.68677617	1.372601811	1.555650741	2.67130256230
431	Occupation, dump site	Raw	mm2a	308.14432883623	170.1385367	299.2532701	395.1539679	214.5306218	171.6835081	259.81737224585
432	Occupation, dump site, benthos	Raw	mm2a	1.06812651223	9.525938688	0.861507475	1.165671562	1.05987818	2.160420964	2.64025723016
433	Occupation, forest, intensive	Raw	mm2a	27.39582197062	13.39979694	22.25409323	34.21980321	20.0186342	21.22916921	23.08621979443
434	Occupation, forest, intensive, normal	Raw	cm2a	51.56671491984	17.68307162	33.41715095	138.5308017	33.19807517	27.12636777	50.25369702332
435	Occupation, forest, intensive, short-cycle	Raw	mm2a	0.08104493258	0.390468892	0.052152629	0.081921848	0.106934673	0.265799096	0.16305367856
436	Occupation, industrial area	Raw	mm2a	262.35575650650	107.200753	171.3906136	330.3807965	172.2647232	151.860854	199.24224945829
437	Occupation, industrial area, benthos	Raw	mm2a	0.00867355686	0.126689298	0.007435315	0.009423288	0.008808043	0.018301018	0.02988841964
438	Occupation, industrial area, built up	Raw	mm2a	2.73339439093	2.675957585	1.781023023	3.282197185	2.489045359	4.42660326	2.89803680028
439	Occupation, industrial area, vegetation	Raw	mm2a	3.38216298201	2.031484817	2.109901294	4.060865584	2.832228247	4.420375994	3.13950315302
440	Occupation, mineral extraction site	Raw	cm2a	1701.31997693089	0.155760633	424.5082475	0.340685533	605.5008597	0.146214041	455.32862406667
441	Occupation, permanent crop, fruit, intensive	Raw	mm2a	0.11394546144	0.56555831	0.072479635	0.113529891	0.153273022	0.385827232	0.23410225867
442	Occupation, shrub land, sclerophyllous	Raw	mm2a	0.73531878865	2.280245253	3.79579362	1.325417831	1.085007917	1.007880265	1.70494394585
443	Occupation, traffic area, rail embankment	Raw	mm2a	36.29842753307	12.04904209	23.51671062	45.02961893	23.52912524	19.67783863	26.68346050704
444	Occupation, traffic area, rail network	Raw	mm2a	40.13768465415	13.32346014	26.00405525	49.79236753	26.01778292	21.75914871	29.50574986691
445	Occupation, traffic area, road embankment	Raw	mm2a	55.45538741366	27.3163325	34.40289492	140.0876431	42.54182038	56.44566981	59.37495802695
446	Occupation, traffic area, road network	Raw	mm2a	27.51515917966	53.33583146	10.48869422	22.85962422	52.50011987	153.7863153	53.41429071518
447	Occupation, urban, discontinuously built	Raw	mm2a	0.00963081561	0.004320604	0.00584063	0.86415981	0.00642219	0.007016064	0.14956501897
448	Occupation, water bodies, artificial	Raw	mm2a	37.06771353016	119.3280961	211.7049539	69.55767749	54.19932068	38.11145219	88.32820231371
449	Occupation, water courses, artificial	Raw	mm2a	5.57825361674	5.142495571	3.526857787	6.772611638	5.478646549	10.50480528	6.16727840663
450	Oil, crude, in ground	Raw	mg	2997.22676576017	3.637058416	2.343668911	3.136778463	3.441209539	7.864792017	502.94171218415
451	Oils, biogenic	Soil	µg	53.31069795103	18.15920814	34.56844148	146.2232123	34.50844452	28.73635619	52.58439343782
452	Oils, unspecified	Water	mg	11.52857100081	14.70674342	9.70875887	12.43736293	11.89517571	25.02591571	14.21708794130
453	Oils, unspecified	Soil	mg	12.03177847504	14.52785584	10.20693901	13.01774883	12.27697063	25.5840685	14.60756021337
454	Olivine, in ground	Raw	ng	27.84849164115	43.63769921	14.00851487	31.08468872	41.75023567	109.8463276	44.69599295006
455	Orbencarb	Soil	ng	250.74924677500	106.1077151	209.2011466	316.9820161	169.4974823	137.9854625	198.42051155922
456	Ozone	Air	µg	88.27824181657	228.4434318	394.3464627	152.9670085	112.8279135	85.90773049	177.12846479909
457	PAH, polycyclic aromatic hydrocarbons	Air	µg	7.43034081880	18.543244	7.740016139	10.39945737	5.941033455	8.802384938	9.80941278713
458	PAH, polycyclic aromatic hydrocarbons	Water	ng	1130.52140742387	1340.58167	908.2445965	1219.381955	1.207620145	2.607441548	767.09078171663
459	Paraffins	Air	pg	0.00000155707	5.96247E-06	1.10771E-05	3.19401E-06	2.56981E-06	1.57279E-06	0.00000432220
460	Paraffins	Water	pg	0.00000451876	1.73036E-05	3.21466E-05	9.26929E-06	7.45782E-06	4.56437E-06	0.00001254342
461	Particulates, < 2.5 um	Air	mg	22.23394052707	19.65743882	25.35903985	40.21885773	21.19984862	23.25758286	25.32111806901
462	Particulates, > 10 um	Air	mg	380.07500210775	150.3890475	297.8849191	534.899795	280.2136954	227.7084549	311.86181901380
463	Particulates, > 2.5 um, and < 10um	Air	mg	25.87025976447	15.25535086	26.46556505	49.35401602	26.64813791	23.89031903	27.91394143996
464	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	Raw	ng	4.10974922603	4.971997019	3.108379097	4.368722275	4.779158017	10.99834122	5.38939114296
465	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	Raw	ng	9.87646693119	11.94860806	7.47000527	10.49882747	11.48517756	26.43099022	12.95167925163
466	Peat, in ground	Raw	µg	133.25657545331	343.3493803	95.02409556	159.9652633	117.1799722	187.1585053	172.65563203858
467	Pentane	Air	µg	257.83055231245	1.66127039	300.0891317	291.1171624	295.6205141	614.8384232	293.52617568748
468	Phenol	Air	µg	114.50163139377	53.75541888	119.43848	228.8024659	119.2833039	95.26362807	121.84082136210
469	Phenol	Water	µg	17.47897597485	21.42510225	14.11834843	18.5631547	19.14098944	42.22204312	22.15810231806
470	Phenol, 2,4-dichloro-	Air	pg	1.13288531195	1.996315846	0.671467502	2.680231639	1.186045373	2.438670514	1.68426936449
471	Phenol, pentachloro-	Air	ng	26.12172963104	19.33930352	17.32697494	33.32238888	18.45594478	20.39748416	22.49397098454
472	Phosphate	Water	mg	638.26342081866	209.1964432	416.6150376	793.0067033	411.1842645	334.1420469	467.06798605076
473	Phosphine	Air	pg	0.88722678946	1.123617634	0.357963232	0.790363631	1.525565459	4.281655606	1.49439872554
474	Phosphorus	Air	µg	145.42354922147	72.52370167	151.5624725	329.3671682	151.1666121	120.5405643	161.76401132820
475	Phosphorus	Water	ng	1703.47521898841	2118.572246	1294.724345	2.050411205	1.772130782	3.643373148	854.03962082100
476	Phosphorus	Soil	µg	5.51330168732	13.60091852	4.055818589	185.5891342	5.186268977	10.3205643	37.37766771137
477	Phosphorus, 18% in apatite, 12% in crude ore, in ground	Raw	µg	24.75296129718	59.51415915	18.42291301	31.51722426	24.37569811	47.75049922	34.38890917518
478	Phosphorus, 18% in apatite, 4% in crude ore, in ground	Raw	µg	43.28888033380	126.9590023	33.7067924	48.29692855	43.92233045	89.49168076	64.27760247037
479	Pirimicarb	Soil	pg	346.14755933761	226.1359411	200.1368442	997.6396684	329.0078831	606.0808308	450.85812115376
480	Platinum	Air	pg	1.49362060332	1.160208444	0.969102686	1.922881584	1.131592009	1.470321904	1.35795453851
481	Plutonium-238	Air	nBq	0.01736834024	0.022878469	0.03180203	0.024665915	0.015860239	0.01666099	0.02153933068

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
482	Plutonium-alpha	Air	nBq	0.03981471215	0.052445981	0.072902111	0.056543475	0.036357583	0.038193203	0.04937617753
483	Polonium-210	Air	mBq	196.12159130058	98.41604037	205.3076249	390.9697963	203.8610747	162.5583786	209.53908436597
484	Polonium-210	Water	µBq	431.40245174547	735.8760178	310.232361	526.1760267	365.6542814	588.4328468	492.96233089773
485	Polychlorinated biphenyls	Air	ng	5.97946249047	7.630819446	3.928166658	6.962696338	5.830305901	11.27567465	6.93452091326
486	Potassium	Air	mg	2.92235676201	1.463168475	3.035811494	8.875718873	3.029674927	2.422224762	3.62482588206
487	Potassium	Soil	µg	36.61534892252	93.8422759	27.28429049	1.038472105	35.11028153	70.88275545	44.12890406715
488	Potassium-40	Air	mBq	31.20259944946	15.93374155	33.19392027	62.2297852	32.49499459	25.87376018	33.48813353709
489	Potassium-40	Water	µBq	309.20893679185	264.1734177	209.0776838	383.2220326	224.402013	264.3088586	275.73215707665
490	Potassium, ion	Water	g	1.26393988363	429.677589	851.8315605	1.57658394	818.7045447	664.8407086	461.31582109121
491	Praseodymium, 0.42% in bastnasite, 0.042% in crude ore, in ground	Raw	pg	0.00000000000	-7.73224E-14	-1.4365E-13	-4.14205E-14	-3.33258E-14	-2.03962E-14	0.00000000000
492	Propanal	Air	pg	1058.13090025015	1012.596353	1119.117156	1.897751756	968.0147613	1478.314477	939.67856642061
493	Propanal	Water	pg	128.65506545001	41.70431069	83.20383325	161.1706818	83.51965558	70.18860418	94.74035849765
494	Propane	Air	mg	1.36583264151	2.765696499	1.391724457	2.531090289	1.430799588	1450.905955	243.39851636163
495	Propene	Air	µg	587.13696701652	321.3768484	620.1302955	1.162016517	612.1766221	503.2347378	440.86958121708
496	Propene	Water	ng	1354.66870147375	1.896526282	692.4611474	1300.893767	2.122007023	5.708144375	559.62504898920
497	Propionic acid	Air	ng	272.96513006759	22.16979321	194.2863561	336.2514019	203.6843075	255.004534	214.06025381374
498	Propionic acid	Water	pg	6.75214609541	6.964957476	4.033838111	15.83408872	6.26858636	11.27010848	8.52062087332
499	Propylamine	Air	pg	21.44649129846	6.952010941	13.86987927	26.86677758	13.92252859	11.70028034	15.79299467046
500	Propylamine	Water	pg	51.47099281076	16.68463939	33.28733041	64.47954733	33.41369091	28.08036456	37.90276090166
501	Propylene oxide	Air	ng	325.26073065731	502.0181321	102.397281	251.0774905	675.4968053	2.033216292	309.71394263452
502	Propylene oxide	Water	ng	782.62354890123	1.207937879	246.3787739	604.1231336	1.625356005	4.892265945	273.47516936411
503	Protactinium-234	Air	µBq	17.73737820966	23.29145806	31.88641166	25.39494489	16.38868644	18.06044245	22.12655361618
504	Protactinium-234	Water	µBq	326.97107419033	429.2480137	587.6938494	468.1127025	302.0214165	332.6410824	407.78135643616
505	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	Raw	pg	142.67019729296	149.4028533	105.2493425	165.9471171	134.961535	254.9135578	158.85743382423
506	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	Raw	pg	511.46062524727	535.5965672	377.3098765	594.9064	483.8257052	913.8436221	569.49046604166
507	Radioactive species, alpha emitters	Water	nBq	397.11961156462	1106.946921	312.9859866	463.1737378	401.3831538	808.1422564	581.62527779149
508	Radioactive species, Nuclides, unspecified	Water	mBq	123.98134738359	163.1952941	226.6676116	176.0151223	113.2098794	119.0916822	153.69348949293
509	Radioactive species, other beta emitters	Air	mBq	3.66752326900	7.5028755	1223.32296	2.951588902	7.461688721	22.27486709	211.19691725960
510	Radium-224	Water	mBq	9.12737723850	11.14593322	7.331480804	9.652405384	10.10982515	22.5114597	11.64641358302
511	Radium-226	Air	mBq	28.26168758903	14.6481322	30.01485512	56.01716821	29.3104873	23.53395496	30.29771423000
512	Radium-226	Water	mBq	218.27035308390	285.3481732	377.4862642	306.9636602	204.2834016	243.3343992	272.61437524023
513	Radium-228	Air	mBq	149.18319752380	74.3099505	155.7019349	297.8907695	155.2123484	123.6303818	159.32143045927
514	Radium-228	Water	mBq	18.25529978571	22.29251114	14.66324391	19.3054014	20.22042133	45.02487597	23.29362558984
515	Radon-220	Air	mBq	7.67029490922	5.10754939	5.993892771	11.24843947	6.201786699	6.139971836	7.06032251276
516	Radon-222	Air	Bq	2345.10072367230	3077.383231	4213.514748	3357.106604	2165.78938	2385.144348	2924.00650575271
517	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	Raw	pg	86.19783727322	99.26843559	70.14531937	96.28628501	87.01730508	178.4824256	102.89960132050
518	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	Raw	pg	269.98130903582	310.919906	219.7030542	301.5794657	272.5479778	559.0270004	322.29311886607
519	Rhenium, in crude ore, in ground	Raw	pg	117.98245428419	139.0633291	94.06645586	134.6434014	130.7204878	290.9384816	151.23576834099
520	Rubidium	Water	ng	1827.73576796659	2237.842056	1482.376179	1935.117651	2.025695491	4.504575073	1248.26698744443
521	Ruthenium-103	Air	nBq	0.04620548633	0.044426014	0.025544291	0.07634042	0.051416564	0.110769315	0.05911701510
522	Ruthenium-103	Water	nBq	44.89273977340	43.1638244	24.81855085	74.17150847	49.95576512	107.6222418	57.43743840089
523	Samarium, 0.3% in bastnasite, 0.03% in crude ore, in ground	Raw	pg	0.00000000000	-5.14049E-13	-9.55E-13	-2.75368E-13	-2.21554E-13	-1.35596E-13	0.00000000000
524	Sand, unspecified, in ground	Raw	µg	11.96496954431	10.50064887	7.529240717	14.80028669	10.04706258	15.73585233	11.76301012261
525	Scandium	Air	µg	3.06751433723	1.574487534	3.129220641	6.002111592	3.143178111	2.576227593	3.24878996798
526	Scandium	Water	µg	384.69658492629	232.4290826	437.8063186	501.43242	277.3309873	217.1362948	341.80528137509
527	Selenium	Air	µg	21.82004939020	13.62369173	27.13369273	43.24987042	23.0496335	18.39031072	24.54454141469
528	Selenium	Water	µg	599.69367268631	221.370351	432.6409401	750.2937827	393.350191	319.3771637	452.78768352159
529	Shale, in ground	Raw	ng	185.00939256651	291.1525842	97.01506124	195.9084055	271.3288401	705.5988383	291.00218699267
530	Silicon	Air	mg	36.26694716766	18.0603838	37.83402212	72.41393758	37.73101542	30.06226835	38.72809574080
531	Silicon	Water	g	1.92458820094	1.212424373	2.262169303	2.516909303	1.402814803	1.109216514	1.73802041634
532	Silicon	Soil	µg	22.29384558407	34.66790554	15.04243445	1.538793554	17.58693922	29.00987617	20.02329908421
533	Silicon tetrafluoride	Air	pg	316.19395403647	954.6227246	247.9771295	351.8269987	323.483405	664.9855588	476.51496178134
534	Silver	Air	ng	7.84656753673	5.996050232	5.020539403	10.16119915	5.993496067	7.945940955	7.16063222374
535	Silver-110	Air	nBq	0.45793174848	0.440295818	0.253163484	0.756592018	0.509577517	1.097808724	0.58589488470
536	Silver-110	Water	µBq	284.54350834364	351.7809523	393.4058744	446.2956603	298.4173334	488.0768096	377.08668969767
537	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	Raw	ng	83.07682892491	103.9324177	34.13601745	74.96976858	140.3612252	390.9950266	137.91188074099
538	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	Raw	ng	59.28580592266	74.13838953	24.37052807	53.51564599	100.1245842	278.8612619	98.38270259143
539	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	Raw	ng	5.47112016754	6.843129609	2.248356908	4.937616984	9.242489546	25.74479834	9.08125192633
540	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	Raw	ng	12.49540758068	15.62891892	5.134987906	11.27694781	21.10878041	58.7981509	20.74053225519
541	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	Raw	ng	12.24759331600	15.31895953	5.033148636	11.05329857	20.69014204	57.63204078	20.32919714565
542	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	Raw	ng	8.08162778804	10.10828219	3.321145091	7.29356723	13.65248026	38.02875281	13.41430922892
543	Silver, ion	Water	µg	4.06916318215	1.594900591	2.648376113	5.028525673	2.761332015	2.712934034	3.13587193466
544	Sodium	Air	mg	1.45902290295	734.1928446	1.519223738	3.076776157	1.516192283	1.21357019	123.82960498165
545	Sodium	Soil	µg	183.03819983230	542.6857044	136.7640066	190.4514427	211.0432865	486.0812464	291.67731440041
546	Sodium-24	Water	µBq	1.60974381384	1547.749138	889.9325127	2.659608826	1.791291516	3.859070282	407.93356092429
547	Sodium chlorate	Air	ng	5.65740571469	12.55728372	6.156639752	6.905844994	5.376538312	8.987093846	7.60680105664
548	Sodium chloride, in ground	Raw	mg	18.67861187038	35.08867522	15.8422553	19.64085263	29.34078434	75.37266922	32.32730809592
549	Sodium dichromate	Air	ng	6.95333121307	18.18920678	4.417405628	12.04989686	6.315274406	11.10124812	9.83772716949
550	Sodium formate	Air	ng	4.46510802202	1.930748796	3.708446346	5.640784968	3.045964775	2.578195282	3.56154136469
551	Sodium formate	Water	ng	10.72714971562	4.638506178	8.909316177	13.55164188	7.317744587	6.193956838	8.55638589633
552	Sodium hydroxide	Air	ng	10.30294093573	13.04350177	4.159022577	9.181490359	17.70693737	49.68600791	17.34665015411
553	Sodium nitrate, in ground	Raw	pg	8.19066059988	26.49365627	3.686031719	8.32086914	12.62791627	33.71022887	15.50489381007
554	Sodium sulphate, various forms, in ground	Raw	µg	76.92241689818	251.5897425	61.77939529	84.80931476	79.08341994	163.604067	119.63139274314
555	Sodium, ion	Water	g	2.03985383813	739.6336306	1.365908062	2.526015523	1.349102367	1.197750101	124.68537674077
556	Solids, inorganic	Water	mg	12.94182637267	7.234418293	10.29858372	16.26489764	8.960227653	8.321500192	10.67024231216
557	Solved solids	Water	mg	15.59397114045	5.80786525	10.68426211	19.46443365	10.16216432	8.38352446	11.68270348817
558	Stibnite, in ground	Raw	pg	237.58988365309	486.0999541	79.23734985	191.1939216	483.4326226	1.443206943	246.49948979849
559	Strontium	Air	µg	310.99812503064	158.7913402	324.4409455	620.1786484	323.2144401	257.6384157	332.54365250100
560	Strontium	Water	mg	64.84717866490	23.12998853	45.21494752	80.86173264	42.36101288	34.76313971	48.52966665757
561	Strontium	Soil	ng	835.78907669487	2.540136233	663.7945548	893.812803	880.4297119	1.895482922	546.37696091309
562	Strontium-89	Water	µBq	6.44707605776	10.07459655	13.27453973	10.65856206	7.391431879	11.18173522	9.83799024996
563	Strontium-90	Water	mBq	134.08758569678	101.3550171	92.03274299	166.0697593	95.28601782	105.1807016	115.66863741831
564	Styrene	Air	ng	13.53144654026	11.78446769	8.344699685	15.37261018	14.33623879	29.89779471	15.54454293251
565	Sulfate	Air	µg	76.95280862904	91.12558692	62.24546416	97.33351999	68.55423175	110.2717383	84.41389161706
566	Sulfate	Water	g	14.79933808632	4.866511897	9.676103716	18.39051996	9.53823634	7.755279414	10.83766490208
567	Sulfide	Water	ng	404.90949306119	414.6715319	331.3826467	470.510064	378.5420208	681.8737441	446.98158345832
568	Sulfite	Water	µg	6.20689513705	4.550428799	4.135696545	7.710116405	4.416800437	4.953318489	5.32887596864
569	Sulfur	Water	µg	31.28768623043	47.044012	26.24627324	33.92876575	32.0349484	66.92597448	39.57794334888
570	Sulfur	Soil	µg	52.21288700308	153.4284288	41.19511272	224.7472431	54.02989616	114.5528597	106.69440459077
	Sulfar oxides		µg	0.00000000000	0.00000000000	0.00000000000	0.00000000000	0	0.00000000000	0.00000000000
571	Sulfur dioxide	Air	g	1.12248679112	891.6747184	1.691754267	2.225193341	2.547348287	961.5635034	310.13750074583
572	Sulfur hexafluoride	Air	µg	1.14406087744	3.553829257	6.181630031	2.10979227	1.623226367	1173.131994	197.95742207756
573	Sulfur trioxide	Air	ng	1.43807816636	569.3181242	927.6708151	1.845562819	956.539876	877.6856009	555.74967620378
574	Sulfur, in ground	Raw	µg	3.41174864560	4.122054122	2.026050128	4.91109535	3.990980985	8.94520493	4.56785569353
575	Sulfuric acid	Air	ng	2.16320007741	2.73493524	874.9810377	1.930475513	3.710671719	10.40384998	149.32069504380
576	Sulfuric acid	Soil	pg	1.33084016241	1.685426418	0.536944836	1.185545423	2.288348163	6.422483348	2.24159805827
577	Suspended solids, unspecified	Water	µg	2801.89445442162	21.49942069	2304.537059	3.102063729	2.790322914	5.636249875	856.57659510580
578	Sylvite, 25 % in sylvinite, in ground	Raw	µg	65.80965317370	48.75083164	50.04394033	95.22300352	54.01887149	76.20821429	65.00908574120
579	t-Butyl methyl ether	Air	ng	28.85969027886	14.83236041	17.88745746	110.4712578	22.4271449	30.5357052	37.50226935000
580	t-Butyl methyl ether	Water	ng	363.93156239728	439.2111493	308.7100167	395.0297146	371.1877607	773.1106674	441.86347849695
581	t-Butylamine	Air	pg	7.48429505566	3.610596121	4.590168213	15.19491634	5.944173915	8.428106699	7.54204272405
582	t-Butylamine	Water	pg	17.96260944379	8.66557046	11.01658968	36.46838354	14.26625163	20.22777509	18.10119664049
583	Talc, in ground	Raw	µg	233.38438370176	98.0578878	194.867003	295.2058041	157.1836498	126.1277379	184.13774437862
584	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	Raw	ng	65.18407853708	81.72583229	26.69403443	58.68240098	110.4929818	308.2291715	108.50141659709
585	Tebutam	Soil	ng	2.92521021019	1.473112253	2.178672139	5.352006697	2.257990928	2.837186421	2.83736310812
586	Technetium-99m	Water	µBq	4.90313581538	4.711027009	2.712325578	8.094622204	5.449973087	11.72994833	6.26683866967
587	Teflubenzuron	Soil	ng	3.09561275956	1.309947689	2.582682686	3.913286226	2.092523011	1.703492887	2.44959087632
588	Tellurium-123m	Water	µBq	4.28802346605	7.011218475	10.66788796	6.457517143	4.337268272	4.2493331	6.16854140175
589	Tellurium-132	Water	nBq	12.31880294080	11.8443795	6.810340354	20.35305044	13.70812362	29.53210687	15.76113395352
590	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	Raw	ng	8.89301916845	11.12094387	3.655640174	8.027480757	15.01893802	41.82988664	14.75765143823
591	Terpenes	Air	ng	2.62239415500	12.63451407	1687.517586	2650.768767	3.460115935	8.600537674	727.60065260274
592	Thallium	Air	µg	3.62802568463	1.806779816	3.784121635	7.242768154	3.774437261	3.008860044	3.87416543254
593	Thallium	Water	µg	18.39191739811	14.34116559	26.49605043	24.66823803	14.20189282	11.10167959	18.20015731045
594	Thiram	Soil	pg	11.93903068744	57.52142597	7.682797876	12.0682124	15.75294478	39.15585422	24.02004432183
595	Thorium	Air	µg	3.30878493947	1.678013956	3.451535893	6.604096059	3.441094484	2.741456569	3.53749698343
596	Thorium-228	Air	mBq	12.64802588645	6.320145069	13.22133856	25.24069385	13.15533735	10.48162174	13.51119374417

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
597	Thorium-228	Water	mBq	36.51109607557	44.58823855	29.32715529	38.61151577	40.44090324	90.04907921	46.58799802256
598	Thorium-230	Air	µBq	66.12437194265	87.75990666	118.2056619	94.5049548	61.1353683	67.9263659	82.60943824572
599	Thorium-230	Water	mBq	44.61201194074	58.56670197	80.18508932	63.8694095	41.20787464	45.38562958	55.63778615982
600	Thorium-232	Air	mBq	8.07624310473	4.057786947	8.465148596	16.10052177	8.395923765	6.692917786	8.63142366117
601	Thorium-232	Water	µBq	54.73198223691	40.97120721	36.71602853	67.96656222	38.89199564	43.32204483	47.09997011211
602	Thorium-234	Air	µBq	17.74109259320	23.29703255	31.89447685	25.4004521	16.39233344	18.06431953	22.13161784550
603	Thorium-234	Water	µBq	327.01077987322	429.3076014	587.7800576	468.171572	302.0604016	332.6825294	407.83549032899
604	Tin	Air	µg	1.69850842448	914.1940143	1.688308104	3.213413457	1.712638128	1.502856814	154.00162320789
605	Tin	Soil	ng	1.62448465198	914.4248279	1.329418613	2.004842794	1.258605068	1532.143929	408.79768467357
606	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	Raw	µg	6.12709850775	5.13319576	3.240178825	6.56927166	7.348838777	16.826995	7.54092975515
607	Tin, ion	Water	µg	31.24763500639	34.23276972	58.43639429	43.62370097	27.20206798	23.7462468	36.41480246139
608	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	Raw	µg	609.41059816206	941.2024762	352.090738	684.2627378	739.0473341	1.714953816	554.62147300378
609	TiO2, 95% in rutile, 0.40% in crude ore, in ground	Raw	ng	4.79334228207	5.28768124	2.006687138	4.772354789	7.837476888	21.48867187	7.69770236788
610	Titanium	Air	µg	872.88293760399	435.5160188	909.3899576	1.740795652	907.3758581	724.359399	641.87749444298
611	Titanium	Soil	ng	193.56840709199	133.5130173	108.2899167	25.51060518	116.8206462	133.2234234	118.48766932505
612	Titanium, ion	Water	mg	4.14056358097	8.30333001	14.85790303	6.750879902	4.639278287	3.393453931	7.01423478971
613	TOC, Total Organic Carbon	Water	mg	12.57102137536	16.2313844	10.39906407	14.0139789	611.32	27.08409485	115.26992393191
	TOC, Total Organic Carbon	Water	mg	0.00000000000	0.00000000000	0.00000000000	0.00000000000	12.94865781	0.00000000000	2.15810963428
614	Toluene	Air	µg	164.94738196413	363.5880145	232.6513532	335.3411255	177.4345177	184.2828313	243.04087068450
615	Toluene	Water	µg	23.02853840163	28.15205723	18.54825164	24.37151647	25.4330174	56.51288508	29.34104436993
616	Toluene, 2-chloro-	Air	pg	53.89264036937	21.52356941	34.70978431	70.45691248	36.07538349	33.80572488	41.74400248870
617	Toluene, 2-chloro-	Water	pg	111.98199138611	44.48118457	72.18412115	144.9565096	74.6999131	69.20356563	86.25121423756
618	Transformation, from arable	Raw	mm2	0.01153334109	0.007010223	0.00855551	0.015560832	0.008834877	0.011007483	0.01041704449
619	Transformation, from arable, non-irrigated	Raw	mm2	9.53671486545	4.802697047	7.10282786	17.44840688	7.361564013	9.250167848	9.25039641832
620	Transformation, from arable, non-irrigated, fallow	Raw	mm2	0.00288457854	0.001454294	0.002217037	0.003920457	0.00221283	0.002711239	0.00256673930
621	Transformation, from dump site, inert material landfill	Raw	mm2	0.02880836248	0.034967972	0.015346609	0.032311188	0.034056144	0.077186249	0.03711275424
622	Transformation, from dump site, residual material landfill	Raw	mm2	0.11752573524	0.419844557	0.742091385	0.229207816	0.182175343	0.123477508	0.30238705753
623	Transformation, from dump site, sanitary landfill	Raw	mm2	0.00045250607	0.000461205	0.000485146	0.002410991	0.000357757	0.000414064	0.00076361149
624	Transformation, from dump site, slag compartment	Raw	mm2	0.00008911256	0.000103566	4.82381E-05	0.000786839	0.000120859	0.000300667	0.00024154666
625	Transformation, from forest	Raw	mm2	3.60903920566	12.3304712	2.865785396	3.865627879	3.78758486	8.126908382	5.76423615350
626	Transformation, from forest, extensive	Raw	mm2	34.92011063054	12.03673523	22.66305843	100.6126094	22.51007774	18.46506538	35.20127613859
627	Transformation, from forest, intensive, clear-cutting	Raw	mm2	0.00289447478	0.01394538	0.001862602	0.002925793	0.003819113	0.009492867	0.00582337163
628	Transformation, from industrial area	Raw	mm2	0.01095317986	0.169743075	0.013462972	0.014509481	0.009526029	0.012439772	0.03843908488
629	Transformation, from industrial area, benthos	Raw	mm2	0.00001432529	0.001443198	1.56924E-05	1.7586E-05	1.06623E-05	1.35641E-05	0.00025250470
630	Transformation, from industrial area, built up	Raw	mm2	0.00001493138	4.50794E-05	1.171E-05	1.66141E-05	1.52756E-05	3.14021E-05	0.00002250210
631	Transformation, from industrial area, vegetation	Raw	mm2	0.00002547118	7.69002E-05	1.99759E-05	2.83416E-05	2.60584E-05	5.35683E-05	0.00003838593
632	Transformation, from mineral extraction site	Raw	cm2	62.57453211815	52.68801016	814.488055	119.3746178	17.73484604	38.42453914	184.21410002902
633	Transformation, from pasture and meadow	Raw	cm2	62.57554264436	52.69374963	815.2150564	119.3768848	17.73668128	38.42617444	184.33734818777
634	Transformation, from pasture and meadow, intensive	Raw	mm2	0.00778279506	0.003919353	0.005796561	0.014239514	0.006007596	0.0075486	0.00754906965
635	Transformation, from sea and ocean	Raw	mm2	1.06879985094	9.529521159	0.861969015	1.1663945	1.060629735	2.162082781	2.64156617357
636	Transformation, from shrub land, sclerophyllous	Raw	mm2	0.17028656582	0.472796778	0.773593703	0.295633956	0.235021717	0.226395083	0.36228796711
637	Transformation, from tropical rain forest	Raw	mm2	0.00289447478	0.01394538	0.001862602	0.002925793	0.003819113	0.009492867	0.00582337163
638	Transformation, from unknown	Raw	mm2	14.04449874114	6.74098299	11.78532601	18.11329103	9.751986288	8.722241495	11.52638775919
639	Transformation, to arable	Raw	mm2	0.09467120349	1.815985535	0.063759994	0.117736988	0.068921227	0.081714207	0.37379819263
640	Transformation, to arable, non-irrigated	Raw	mm2	9.54449824217	4.806617519	7.108624488	17.46264644	7.367573083	9.257721182	9.25794682536
641	Transformation, to arable, non-irrigated, fallow	Raw	mm2	0.00355780454	0.001895482	0.002661682	0.004751824	0.002789974	0.003624373	0.00321352304
642	Transformation, to dump site	Raw	mm2	2.62499860309	1.349221876	2.389358516	3.345861813	1.800114011	1.440425895	2.15833011915
643	Transformation, to dump site, benthos	Raw	mm2	1.06812651223	9.525938688	0.861507475	1.165671562	1.05987818	2.160420964	2.64025723016
644	Transformation, to dump site, inert material landfill	Raw	mm2	0.02880836248	0.034967972	0.015346609	0.032311188	0.034056144	0.077186249	0.03711275424
645	Transformation, to dump site, residual material landfill	Raw	mm2	0.11752644805	0.41984487	0.742091831	0.229208773	0.182175878	0.123478183	0.30238766367
646	Transformation, to dump site, sanitary landfill	Raw	mm2	0.00045250607	0.000461205	0.000485146	0.002410991	0.000357757	0.000414064	0.00076361149
647	Transformation, to dump site, slag compartment	Raw	mm2	0.00008911256	0.000103566	4.82381E-05	0.000786839	0.000120859	0.000300667	0.00024154666
648	Transformation, to forest	Raw	mm2	0.17442521125	0.482293304	0.774653677	0.297434068	0.243543378	0.251956664	0.37071771710
649	Transformation, to forest, intensive	Raw	mm2	0.18250594690	0.089273293	0.148250725	0.227964398	0.133365861	0.141446691	0.15380115252
650	Transformation, to forest, intensive, clear-cutting	Raw	mm2	0.00289447478	0.01394538	0.001862602	0.002925793	0.003819113	0.009492867	0.00582337163
651	Transformation, to forest, intensive, normal	Raw	mm2	34.39404887352	11.82115478	22.29139524	99.39838406	22.15375198	18.13616882	34.69915062622
652	Transformation, to forest, intensive, short-cycle	Raw	mm2	0.00289447478	0.01394538	0.001862602	0.002925793	0.003819113	0.009492867	0.00582337163
653	Transformation, to heterogeneous, agricultural	Raw	mm2	0.17039919907	0.65010856	0.134829341	0.18169904	0.181625358	0.394592802	0.28554238328
654	Transformation, to industrial area	Raw	mm2	7.41443180355	2.728869335	4.806670468	9.607656461	4.77399775	3.889507699	5.53685558616
655	Transformation, to industrial area, benthos	Raw	mm2	0.00067334048	0.003582474	0.000461541	0.000722941	0.000751557	0.001661822	0.00130894581
656	Transformation, to industrial area, built up	Raw	mm2	0.06081987786	0.062453447	0.052048228	0.073901791	0.057193581	0.098999416	0.06756939014
657	Transformation, to industrial area, vegetation	Raw	mm2	0.06422296040	0.042207877	0.040228927	0.076495018	0.055846521	0.092485584	0.06191448118
658	Transformation, to mineral extraction site	Raw	cm2	62.64086345526	52.80322503	820.0676151	119.4519141	17.79379962	38.523537	185.21349239176
659	Transformation, to pasture and meadow	Raw	cm2	31.28676857414	26.3450998	407.2117566	59.68669991	886.7009387	19.21163967	238.40715054214
660	Transformation, to permanent crop, fruit, intensive	Raw	mm2	0.00160402564	0.007961441	0.001020306	0.001598176	0.002157645	0.005431342	0.00329548910
661	Transformation, to sea and ocean	Raw	mm2	0.00001432529	0.001443198	1.56924E-05	1.7586E-05	1.06623E-05	1.35641E-05	0.00025250470
662	Transformation, to shrub land, sclerophyllous	Raw	mm2	0.14687571613	0.455377298	0.757971377	0.264716833	0.216710102	0.201378488	0.34050496912
663	Transformation, to traffic area, rail embankment	Raw	mm2	0.08446364870	0.028037194	0.054721577	0.104780459	0.054750465	0.045788817	0.06209036005
664	Transformation, to traffic area, rail network	Raw	mm2	0.09284021066	0.030817743	0.060148511	0.115171912	0.060180264	0.050329858	0.06824808297
665	Transformation, to traffic area, road embankment	Raw	mm2	0.35124438214	0.141567693	0.224155069	0.990444794	0.243359637	0.253280351	0.36734198754
666	Transformation, to traffic area, road network	Raw	mm2	0.11067920743	0.156978186	0.06437954	0.113107625	0.148407554	0.371065362	0.16076957897
667	Transformation, to unknown	Raw	mm2	0.01549496471	0.017791494	0.015550785	0.018985183	0.01652632	0.03115247	0.01925020271
668	Transformation, to urban, discontinuously built	Raw	mm2	0.00019183963	8.60636E-05	0.000116342	0.017213506	0.000127926	0.000139755	0.00297923868
669	Transformation, to water bodies, artificial	Raw	cm2	31.28966596274	26.35169	408.6172462	59.69178403	887.1081682	19.21529878	238.71230886143
670	Transformation, to water courses, artificial	Raw	mm2	0.06190898028	0.054471766	0.039655017	0.076722649	0.057878155	0.104668066	0.06588410559
671	Tributyltin compounds	Water	ng	239.33596367998	364.8855735	184.2312159	266.0048849	240.9611119	488.4697973	297.31475785818
672	Triethylene glycol	Water	ng	269.01822907500	19.57460561	206.9678731	333.2384866	203.1964647	253.428994	214.23744217351
673	Trimethylamine	Air	pg	0.34450010759	0.224492687	0.199095581	0.984251258	0.326380514	0.599152252	0.44631206660
674	Trimethylamine	Water	pg	0.82680025866	0.538782449	0.477829395	2.36220302	0.783313235	1.437965405	1.07114896049
675	Tungsten	Air	ng	19.91170239283	15.22579763	12.73005259	25.81946863	15.24046453	20.28842562	18.20265190025
676	Tungsten	Water	µg	32.76572771135	36.16736719	60.49736403	45.68624064	28.72257796	26.08560123	38.32081312694
677	Ulexite, in ground	Raw	ng	1016.86987611688	796.9218426	658.9760767	1.24376923	750.3127311	925.109003	691.57221646177
678	Uranium	Air	µg	4.13709995164	2.108023084	4.315533774	8.256583826	4.302013543	3.426882251	4.42435607179
679	Uranium-234	Air	µBq	206.78464773216	272.4244126	371.0319364	295.8841346	191.0670452	211.0405795	258.03879268437
680	Uranium-234	Water	µBq	392.36529019683	515.0976182	705.2326199	561.7352442	362.4257012	399.1693021	489.33762932421
681	Uranium-235	Air	µBq	10.00531485125	13.13498906	17.98343141	14.32424862	9.241855298	10.17881717	12.47810940147
682	Uranium-235	Water	µBq	647.40272485306	849.9110556	1.163633796	926.8631451	598.0024006	658.6293442	613.66205070614
683	Uranium-238	Air	mBq	23.25810036977	11.8217571	24.48502981	46.26102476	24.15446812	19.31328342	24.88227726202
684	Uranium-238	Water	mBq	1.16830442634	1.570533415	1.903160682	1.635075325	1.060485928	1230.751133	206.34811538499
685	Uranium alpha	Air	µBq	963.46223893090	1.263912062	1.729855704	1.379113574	889.6685283	980.0876127	472.93187686999
686	Uranium alpha	Water	mBq	18.83706031260	24.72813304	33.85512702	26.96802808	17.39933314	19.16359154	23.49187885422
687	Uranium, in ground	Raw	µg	72.21075138479	94.83666413	129.6378614	103.3393188	66.77436754	73.8288623	90.10463758903
688	Urea	Water	pg	148.27461828714	48.20722805	95.86213023	186.4498997	96.3865122	81.41382616	109.43236910822
689	Vanadium	Air	µg	94.41448932064	66.26483065	94.88910862	179.1996331	95.30344204	81.62240484	101.94898476214
690	Vanadium	Soil	ng	5.54054146164	3.821565588	3.099600409	730.1948541	3.343776763	3.813275928	124.96893570371
691	Vanadium, ion	Water	µg	976.30539550905	987.72576	1.793357163	1.358261774	815.9584838	626.5690707	568.28505481429
692	Vermiculite, in ground	Raw	µg	5.64774761245	2.024907671	3.652086253	6.998379605	3.684725496	3.15614318	4.19399830284
	VOC, volatile organic compounds		µg	0.00000000000	0.00000000000	0.00000000000	0.00000000000	0	0.00000000000	0.00000000000
693	VOC, volatile organic compounds, unspecified origin	Water	µg	64.70748842755	79.09784298	52.80150303	68.73399253	71.52184652	158.4004513	82.54385413830
694	Volume occupied, final repository for low-active radioactive waste	Raw	mm3	0.14657647169	0.187101549	0.252252323	0.208513284	0.133835058	0.149036382	0.17955251134
695	Volume occupied, final repository for radioactive waste	Raw	mm3	0.03714792374	0.048987511	0.067699458	0.052987736	0.034142142	0.036646218	0.04626849815
696	Volume occupied, reservoir	Raw	cm3y	205.88455567892	596.2698187	937.0803069	365.1856059	271.7484521	224.2385385	433.40121297961
697	Volume occupied, underground deposit	Raw	mm3	0.25068558488	0.962670356	0.190161388	0.321053316	0.208130216	0.307843243	0.37342401713
698	Water	Air	mg	65.92780884041	27.5744832	55.10699594	83.42732424	44.29507292	35.18037378	51.91867648651
699	Water, cooling, unspecified natural origin/m3	Raw	cm3	147.53680428243	164.385214	192.6091063	191.8200684	126.2752307	152.5358969	162.52705342730
700	Water, fresh	Raw	cm3	17.26207900000	25.7709	22.336147	9.69603	9.475906	1.757482	14.38309066667
701	Water, lake	Raw	cm3	6.19068385588	3.070055922	5.588908017	7.870498166	4.28290039	3.567313761	5.09506001859
702	Water, process, drinking	Raw	g	30.35526860098	99.927737	46.907892	21.719107	10.64534161	76.22812	47.63057770229
703	Water, rain	Raw	cm3	83.53879481300	110.928886	41.6049	15.352	43.04783321	101.637	66.01823567132
704	Water, river	Raw	cm3	103.98841767643	136.5143459	218.4597634	199.5472893	68.66340813	61.81220218	131.49757109924
705	Water, salt, ocean	Raw	cm3	5.59765133319	32.34988914	9.35370917	7.587718969	5.123732835	6.089530368	11.01703863596
706	Water, salt, sole	Raw	mm3	2415.41429829216	2.829174626	1929.997348	2602.21391	2.557001256	5.471561488	1159.74721550091
707	Water, turbine use, unspecified natural origin	Raw	dm3	45.77267437631	55.11650153	73.81997868	65.27243152	41.5610185	48.25146837	54.96567883017
708	Water, unspecified natural origin/m3	Raw	cm3	25.83053296668	29.98231768	17.04877035	29.30523777	27.84327665	58.89868101	31.48480273790
709	Water, well, in ground	Raw	cm3	120.85837394144	77.7716622	162.8383585	98.58226975	121.1741441	156.743097	122.99465090260
710	Wood, hard, standing	Raw	mm3	889.13709094104	313.2815126	573.109908	5.010303526	570.1521035	470.1348266	470.13762419224

No	Substance	Compartment	Unit	Clamp Kiln Inventory	Tunnel Kiln Inventory	TVA Kiln Inventory	Hoffman Kiln Inventory	VSBK Kiln Inventory	Zigzag kiln Inventory	Average kiln Inventory
711	Wood, primary forest, standing	Raw	mm3	0.02996939203	0.144390462	0.019285383	0.030293664	0.039543091	0.098289147	0.06029519002
712	Wood, soft, standing	Raw	mm3	103.88406441635	76.25746233	71.48173542	10.13585186	75.95884855	89.1628479	71.14680174714
713	Wood, unspecified, standing/m3	Raw	mm3	0.00032080627	0.000496034	0.000191224	0.000902697	0.000399499	0.000947235	0.00054291593
714	Xenon-131m	Air	mBq	5.69293930063	5.048992406	3.363705793	8.588631113	5.539522672	10.48253805	6.45272155531
715	Xenon-133	Air	mBq	192.40692004902	172.9989397	112.4842846	294.8069873	191.634264	371.8407768	222.69536205164
716	Xenon-133m	Air	µBq	540.68108786190	430.3726226	344.5101205	721.1213805	434.0512725	629.2548438	516.66522130886
717	Xenon-135	Air	mBq	78.02532861501	69.98557111	45.7012185	119.2249245	77.39473761	149.5273709	89.97652519423
718	Xenon-135m	Air	mBq	47.41496010558	42.80831507	27.62985067	72.98827977	47.55434697	92.94524144	55.22349900504
719	Xenon-137	Air	µBq	1181.36912318116	1117.721215	662.3585555	1.916924866	1.28060767	2.696842197	494.55721139537
720	Xenon-138	Air	mBq	9.49241260303	8.841274824	5.393311438	15.13382142	10.02810444	20.62805271	11.58616290472
721	Xylene	Air	µg	262.04222918121	484.7120293	867.1698783	490.1555348	325.4126429	262.8596661	448.72533010047
722	Xylene	Water	µg	18.59939795999	22.79038267	14.99412901	19.699021	20.49559175	45.46042074	23.67315718501
723	Zinc	Air	µg	376.10469931145	190.6708675	387.1180738	778.4369763	392.72095	334.9849622	410.00608819550
724	Zinc	Soil	µg	16.28017680787	23.24821433	5.70670426	45.1623132	32.40765267	96.31072436	36.51929760441
725	Zinc-65	Air	nBq	8.84607626495	8.505394957	4.890474378	14.61543279	9.843741111	21.20687139	11.31799848072
726	Zinc-65	Water	µBq	21.82448446985	20.98397692	12.06547162	36.05827898	24.2858606	52.32026284	27.92305590354
727	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	Raw	µg	915.66944674973	779.1830888	526.039218	1078.785795	1.098082674	2.50030347	550.54598912092
728	Zinc, ion	Water	mg	21.42374975973	7.489043817	13.88300878	26.63385063	14.00860775	12.08182336	15.92001401633
729	Zirconium	Air	ng	6.52642774388	8.331342402	4.25144033	7.746184181	6.549926473	13.0518702	7.74286522184
730	Zirconium-95	Air	nBq	8.64670371194	8.313700665	4.78025304	14.28603068	9.621883223	20.72891167	11.06291383197
731	Zirconium-95	Water	nBq	252.73363576499	243.0003232	139.7215367	417.5649582	281.2370599	605.8832809	323.35679912257
732	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	Raw	ng	87.65035798365	110.8884234	35.41879367	78.16696644	150.4907532	422.1050765	147.45339520040

Appendix 5.1: Inventory of emitted substances for the clamp kiln firing technology for the cradle to gate phase

No	Substance	Unit	C0, Clamp, transport of fuels, at plant, ZA	C1, Clamp, clay extraction, extracted clay, ZA	C2, Clamp, mining fuel, stockpiled clay, ZA	C3, Clamp, clay preparation, wet green brick, ZA rev1	C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	C6, Clamp, dry green brick transport, at firing location, ZA	C7, Clamp, brick firing, fired brick, ZA rev1	C8, Clamp, fired brick transport, at sales bay, ZA	C9, Clamp, factory overheads, additional water and electricity, ZA
1	1-Butanol	pg	0.18970577304	x	0.01453238351	0.29272325711	0.00553106042	0.33694236120	0.00555171911	0.47968521674	0.00402226348	0.00000000305
2	1-Butanol	ng	4.68208699816	x	0.08005322039	1.14133930927	0.03046844990	1.31256632775	0.03058225051	1.86904965321	0.02215707731	0.00000031148
3	1-Pentanol	pg	0.18056509363	x	0.00906855324	22.49042728297	0.00345151336	25.86415473507	0.00346440487	36.82988876096	0.00250998816	x
4	1-Pentanol	pg	0.43335807000	x	0.02176455460	53.97702997409	0.00828364228	62.07397653854	0.00831458195	88.39174039262	0.00602397901	x
5	1-Pentene	pg	0.13644946674	x	0.00685292965	16.99558274297	0.00260824165	19.54504360187	0.00261798351	27.83163761048	0.00189674933	x
6	1-Pentene	pg	0.32748015543	x	0.01644701755	40.78928376565	0.00625977478	46.90797261030	0.00628315523	66.79574224941	0.00455219462	x
7	1-Propanol	pg	12.66893042380	x	2.60614365153	227.36779840351	0.99190459643	261.49210614113	0.99560939108	372.35167160494	0.72132671357	0.00000125163
8	1-Propanol	pg	1.71352117845	x	0.04513804874	75.02495488454	0.01717965086	86.28242553125	0.01724381739	122.86278914712	0.01249327923	x
9	1,4-Butanediol	pg	15.41295232939	x	0.34425279100	4.56774330766	0.13102344743	5.25390378955	0.13151282410	7.48105982275	0.09528205946	0.00000098661
10	1,4-Butanediol	pg	6.16522553549	x	0.13770211197	1.82711053997	0.05240975789	2.10157671815	0.05260550997	2.99244557582	0.03811309934	0.00000039464
11	2-Aminopropanol	pg	0.09337435788	x	0.00138673104	0.37726688333	0.00052779320	0.43411773131	0.00052976452	0.61807855837	0.00038381850	x
12	2-Aminopropanol	pg	0.23481863197	x	0.00347909723	0.93123599951	0.00132415284	1.07157767349	0.00132909860	1.52566266118	0.00096294223	x
13	2-Butene, 2-methyl-	pg	0.00003026615	x	0.00000152006	0.00376982095	0.00000057854	0.00433532148	0.00000058070	0.00617338589	0.00000042072	x
14	2-Methyl-1-propanol	pg	0.43392555759	x	0.02748250895	38.94661265971	0.01045990958	44.78915129881	0.01049897767	63.77849963189	0.00760659062	x
15	2-Methyl-1-propanol	pg	1.04140412218	x	0.06595751749	93.46993379149	0.02510359117	107.49173601532	0.02519735387	153.06522778364	0.01825567800	x
16	2-Methyl-2-butene	pg	0.00007263985	x	0.00000364820	0.00904770536	0.00000138851	0.01040492688	0.00000139370	0.01481634732	0.00000100975	x
17	2-Nitrobenzoic acid	pg	0.16728285400	x	0.00242213081	0.40671172469	0.00092186886	0.46818943102	0.00092531207	0.66651941290	0.00067039576	x
18	2-Propanol	ng	278.03748917094	x	4.70461899645	66.53989504746	1.79058940374	76.52230602517	1.79727731107	108.96518163661	1.30214132952	0.00001848137
19	2-Propanol	pg	0.75973410018	x	0.01722369877	12.37697536505	0.00655538154	14.23543043689	0.00657986609	20.27022385255	0.00476716394	x
20	2,4-D	pg	438.99186676703	x	158.21560787015	180.81321834723	60.21724419589	207.97511116012	60.44215748335	295.63794692887	43.79081114490	0.03219782060
21	4-Methyl-2-pentanone	pg	0.60998781276	x	0.02068953569	0.35227233239	0.00787448748	0.40528197615	0.00790389894	0.57487219205	0.00572643598	0.00013956832
22	Acenaphthene	pg	0.39151587203	x	0.22635195334	5.27794553956	0.08615010258	6.07114054964	0.08647187591	8.62002742025	0.06264954371	0.00157537762
23	Acenaphthene	pg	291.18583470435	x	288.26949633283	157.38712205827	109.71606966328	181.09336170933	110.12586260955	256.25999736374	79.78704024642	0.10142853022
24	Acenaphthylene	pg	18.21081822491	x	18.02842990677	9.84302092881	6.86166416056	11.32561372281	6.88729269047	16.02654959448	4.98989688763	0.00634335985
25	Acetaldehyde	µg	0.77174776569	x	0.05175117235	1.49856969887	0.01969662175	1.72794907138	0.01977018924	2.45604650212	0.01432365520	0.00018768124
26	Acetaldehyde	ng	8.80000404168	x	0.15530180995	4.80788143655	0.05910824564	5.52927483897	0.05932901678	7.87347257146	0.04298433209	0.00000056863
27	Acetic acid	µg	1.17444164109	x	0.52915173805	4.01802283196	0.20139643526	4.62165807679	0.20214865723	6.56700349919	0.14645826755	0.00090660846
28	Acetic acid	ng	69.68717123635	x	16.48996124776	81.28929469135	6.27611925653	93.50024717203	6.29956075793	132.96697686548	4.56408055127	0.01082718930
29	Acetone	µg	0.40988748742	x	0.05024923963	0.86910427460	0.01912498251	0.99960544592	0.01919641492	1.42139516604	0.01390795126	0.00013195140
30	Acetone	pg	79.72080012426	x	1.17190815635	258.50983797130	0.44603108742	297.50696295945	0.44769702746	423.55745604000	0.32435996325	0.00033265531
31	Acetonitrile	ng	1.30509355085	x	0.47159322115	0.53815957462	0.17948952408	0.61900246744	0.18015992306	0.87991352339	0.13052725937	0.00009598415
32	Acetonitrile	pg	0.79042080908	x	0.01118705853	2.02244137201	0.00425782162	2.32803957791	0.00427372471	3.31426162304	0.00309634665	x
33	Acetyl chloride	pg	0.34043251564	x	0.01709755664	42.40267947432	0.00650737154	48.76338939181	0.00653167677	69.43780785684	0.00473225040	x
34	Acidity, unspecified	ng	39.13600980187	x	8.55934605907	20.31684818558	3.25770787557	23.37934526800	3.26987551621	33.17722991573	2.36905013255	0.00699168380
35	Aclonifen	ng	1.44162024099	x	0.02029840968	3.47046526200	0.00772562397	3.99513238791	0.00775447942	5.68711840295	0.00561818039	0.00002341994
36	Acrolein	ng	0.27931252889	x	0.09934751227	0.99526779515	0.03781190419	1.14828598684	0.03795313284	1.57994721718	0.02749733864	0.00344850070
37	Acrylate, ion	ng	1.70244518441	x	0.02882919754	0.40794756739	0.01097246253	0.46914847167	0.01101344502	0.66805158717	0.00797932620	0.00000011317
38	Acrylic acid	pg	719.31717453511	x	12.18091379664	172.36601817797	4.63608534263	198.22462605839	4.65340126615	282.26517626503	3.37142525204	0.00004781692
39	Actinides, radioactive, unspecified	µBq	0.12528883279	x	0.02261366968	0.75695489806	0.00860681754	0.87516526706	0.00863896427	1.16219661749	0.00625899651	0.00527370068
40	Actinides, radioactive, unspecified	µBq	10.99510712475	x	3.82272929934	121.33697532450	1.45494004550	140.22546696165	1.46037429200	187.22827564663	1.05805248331	0.78152197516
41	Aerosols, radioactive, unspecified	µBq	1.35003363210	x	0.56987830459	18.05785186735	0.21689706529	20.87187431908	0.21770718260	27.80865351950	0.15773053966	0.12005973220
42	Aldehydes, unspecified	ng	11.80382059775	x	3.56408085991	39.95302302094	1.35649782196	46.13833476719	1.36156438368	62.25370030480	0.98646393957	0.21629420066
43	Aldrin	pg	18.49823635217	x	0.31376442987	4.44488598658	0.11941950322	5.11171498575	0.11986553879	7.27890943845	0.08684351106	0.00000123012
44	Aluminium	mg	0.02977459746	x	0.01022478125	26.48231168834	0.00389157655	30.80734967722	0.00390611171	67.43331896713	0.00283000818	0.02573753864
45	Aluminium	mg	0.48669944148	x	0.20475862672	96.94976326281	0.07793163009	112.22963422801	0.07822270716	146.34282105451	0.05667295707	0.84571238418
46	Aluminium	µg	18.58862718560	x	21.67936436912	14.46309181463	8.25121867432	17.06731511741	8.28203723373	24.13269089004	6.00040010976	0.00083240141
47	Aluminium, 24% in bauxite, 11% in crude ore, in grou	mg	1.59063143185	x	0.06127981933	13.55774504535	0.02332324791	15.60197335573	0.02341036096	22.04459066676	0.01696098780	0.01078876206
48	Ammonia	mg	0.03803505739	x	0.02173941502	10.52359743592	0.00827407410	12.11115862400	0.00830497802	17.08342676897	0.00601702089	0.01020499265
49	Ammonium carbonate	pg	235.09086750852	x	67.14111391107	556.85494127939	25.55407084290	640.79060582894	25.64951609547	912.06989272320	18.58327303430	0.01630150727
50	Ammonium, ion	µg	6.18809486418	x	3.96606543134	123.79514131782	1.50949412508	142.52001076863	1.51513213278	200.11345350756	1.09772496298	0.17778291012
51	Anhydrite, in ground	ng	34.44856925518	x	2.95153286388	15.27881042082	1.12336056859	17.58073793830	1.12755635539	24.93733616813	0.81692331098	0.00599524183
52	Aniline	pg	1.81647363089	x	0.32705369420	79.71367339035	0.12447742947	91.67240003652	0.12494235655	130.53873876048	0.09052170484	x
53	Aniline	pg	4.42670666065	x	0.78592521288	191.48711811990	0.29912504273	220.21439674574	0.30024228410	313.57860601458	0.21752785983	x
54	Anthranilic acid	pg	0.12193858060	x	0.00176894323	0.29667430585	0.00067326408	0.34151863522	0.00067577875	0.48618965810	0.00048960693	x
55	Antimony	µg	0.01856447210	x	0.00186092692	0.05569924769	0.00070827330	0.11966392690	0.00071091872	4.20263328000	0.00051506612	0.00005156336
56	Antimony	µg	0.67194327287	x	0.11365775760	48.25153915755	0.04325841828	55.59806042335	0.04341998983	77.18554589672	0.03145811886	0.12461576898
57	Antimony	pg	1.37224878813	x	0.05869419406	0.93558860012	0.02233915265	1.07612229705	0.02242259009	1.52942497733	0.01624534015	0.00018432330
58	Antimony-122	nBq	40.33910019643	x	1.17244439402	54.67342246873	0.44623518078	62.91863900084	0.44790188312	89.52527658157	0.32450838275	0.00341556201
59	Antimony-124	nBq	0.10005670806	x	0.00290811954	0.13561142031	0.00110683735	0.15606277445	0.00111097143	0.22205761708	0.00080490740	0.00000847193
60	Antimony-124	µBq	3.16659017923	x	0.62141184167	22.06554586503	0.23651085452	25.51804004938	0.23739422995	33.77582440024	0.17199395792	0.16075790438
61	Antimony-125	nBq	1.04417582158	x	0.03034867094	1.41521911989	0.01155077779	1.62864618477	0.01159392030	2.31735782046	0.00839988504	0.00008841167
62	Antimony-125	µBq	3.02000543060	x	0.56604451386	23.44667567394	0.21543791523	27.16523533386	0.21624258257	35.04315619610	0.15666942560	0.22846014587
63	AOX, Adsorbable Organic Halogen as Cl	ng	52.14612695898	x	38.13172414493	205.63630810921	14.51302671940	236.91625587223	14.56723332739	329.58056903741	10.55407335053	0.48850189851
64	Argon-41	mBq	0.49202096538	x	0.30072013462	6.82624415409	0.11445481280	7.85058810630	0.11488230510	11.17448559970	0.08323311966	0.00028343841
65	Arsenic	µg	0.15039340881	x	0.03887631683	0.69627303259	0.01479642050	1.62309044761	0.01485168559	61.88860322591	0.01076016122	0.00139629384
66	Arsenic	ng	7.51497458084	x	8.66476293649	5.51952555628	3.29782979486	6.48743099345	3.31014729212	9.18521384944	2.39822734606	0.00012655450
67	Arsenic, ion	µg	2.38474354974	x	0.70278626646	457.98774703555	0.26748215801	526.68768526409	0.26848121223	749.97518522054	0.19451671731	0.00096455682
68	Arsine	pg	0.00838459366	x	0.00014198465	0.00200915379	0.00005403970	0.00231057005	0.00005424154	0.00329017375	0.00003929842	0.00000000056
69	Atrazine	pg	4.85284207882	x	0.08231321758	1.16607495856	0.03132861031	1.34101141360	0.03144562364	1.90955494647	0.02278259784	0.00000032271
70	Barite	µg	122.00778341642	x	171.80316680830	117.93709108635	65.38870209198	135.63392439192	65.63293093617	193.14082354251	47.55156670746	0.00000703119
71	Barite, 15% in crude ore, in ground	mg	3.10778229978	x	3.71097116900	2.18035360724	1.41240462996	2.50758104320	1.41768000536	3.56991127491	1.02712014202	0.00005396035
72	Barium	µg	0.05111166327	x	0.02375326384	1.45057834866	0.00904054985	4.45299472135	0.00907431658	207.86682032246	0.00657441263	0.00797816019
73	Barium	mg	0.04828400841	x	0.04437687581	3.37783856458	0.01688994659	3.88472199408	0.01695303107	5.52802198347	0.01228260229	0.00023422595
74	Barium	µg	9.19656070770	x	10.80565611950	6.20114130771	4.11265893425	7.13167891801	4.12801984379	10.15543809470	2.99078234313	0.00000042229
75	Barium-140	nBq	67.92208349136	x	1.97413588544	92.05789793785	0.75136090737	105.94101093367	0.75416726382	150.74067805024	0.54640002271	0.00575104785
76	Barium-140	nBq	176.70667730747	x	5.13592890321	239.49862003725	1.95474700063	275.61704636255	1.96204804172	392.16824612855	1.42151899981	0.01496197559
77	Basalt, in ground	µg	186.31976726700	x	32.72631551558	267.03343698808	12.45571508122	307.16913399381	12.50223756600	437.36402625953	9.05796793062	0.00054725258
78	Benomyl	pg	2.79092870210	x	1.00849709599	1.15084853806	0.38383644141	1.32373020625	0.38527008250	1.88168572998	0.27913115820	0.00020526108
79	Bentazone	ng	0.73573633396	x	0.01035937009	1.77116505132	0.00394280139	2.03893090023	0.00395752788	2.90244235215	0.00286725959	0.00001195245
80	Benzal chloride	pg	0.00010278233	x	0.00000348617	0.00005935753	0.00000132684	0.00006828960	0.00000133180	0.00009686538	0.00000096490	0.00000002352
81	Benzaldehyde	pg	128.44917654839	x	45.07779268323	348.49687815024	17.15671725665	402.36923376517	17.22079813135	550.38735208308	12.47660159951	1.40913804367
82	Benzene	µg	6.79963177628	x	5.17213220042	45.29390008416	1.96852606338	60.30112116957	1.97587856970	638.11192469151	1.43153932443	0.49468248799
83	Benzene	µg	3.69208715044	x	3.31491510134	2.23300896556	1.26166472975	2.56932503755	1.26637708692	3.63640274901	0.91750000596	0.00139849401
84	Benzene, 1-methyl-2-nitro-	pg	0.14445796830	x	0.00209164104	0.35121807250	0.00079608365	0.40430747269	0.00079905705	0.57557638314	0.00057892302	x
85	Benzene, 1,2-dichloro-	pg	3.20579307248	x	0.05677282652	44.72344636819	0.02160787551	51.44043475658	0.02168858160	73.24688768590	0.01571354532	x
86	Benzene, 1,2-dichloro-	ng	2.01591310688	x	0.03489598348	0.79560686449	0.01328149597	0.91500400461	0.01333110277	1.30292188808	0.00965848719	0.00000013311
87	Benzene, chloro-	ng	41.47724077996	x	0.71794369478	14.32970201618	0.27325111201	16.47992379067	0.27427171344	23.46670617711	0.19871198028	0.00000274864
88	Benzene, ethyl-	µg	1.15568256280	x	0.96629565356	0.55615551032	0.36777447003	0.64207825694	0.36914811916	0.90804614089	0.26745067092	0.00034398988
89	Benzene, ethyl-	µg	1.12366728462	x	1.11239390202	0.60734496863	0.42337981784	0.69882554839	0.42496115468	0.98888792787	0.30788764736	0.00039140289
90	Benzene, hexachloro-	ng	0.67445050991	x	0.32457893474	1.32297345472	0.12353553001	1.52153812121	0.12399693907	2.16649984686	0.08983674256	0.00000594539
91	Benzene, pentachloro-	pg	10.18566973884	x	1.03478461660	12.91946777704	0.39384153553	14.91574298041	0.39531254596	21.13361378413	0.28640700074	0.00543413150
92	Benzo(a)pyrene	ng	8.44438219996	x	21.49250718367	71.57237714088	8.18010037621	85.46242885192	8.21065330655	345.23494207501	5.94868190174	0.03176100350
93	Beryllium	µg	0.00080788099	x	0.00023014289	0.01155409237	0.00008759294	0.05218651391	0.00008792010	2.89728975090	0.00006369880	0.00001026914
94	Beryllium	µg	0.37650988687	x	0.14987246643	178.01282101124	0.05704182432	204.78847638352	0.05725487732	290.26834190086	0.04148160198	0.08448692055
95	BOD5, Biological Oxygen Demand	mg	7.66603923349	x	10.26717396312	5.76674884857	3.90771131914	6.63550245860	3.92230674294	9.39078808381	2.84174160858	0.00364322987
96	Borate	ng	0.04230923897	x	0.00178901068	4.12222922253	0.00068090181	4.74061983765	0.00068344500	6.75051072425	0.00049516119	x
97	Borax, in ground	ng	11.13152317774	x	1.88986348325	20.74540422902	0.71928662665	23.86308165122	0.72197318466	33.96729628513	0.52307516306	0.00070861436
98	Boron	mg	0.00133246650	x	0.00084497105	0.03809556593	0.00032159803	0.06146647297	0.00032279921	1.33546055951	0.00023387053	0.00042667511
99	Boron	µg	32.39405373393	x	4.72961874347	158.98067981849	1.80010436810	184.41130363573	1.80682781413	233.86596355485	1.30906074294	1.80371736399
100	Boron	ng	212.42235047853	x	224.42461954401	199.57120523132	85.41655466598	229.57024454737	85.73558816493	326.88360769210	62.11609753941	0.00005859555
101	Boron trifluoride	pg	0.00011474921	x	0.00000194316	0.00002749659	0.00000073957	0.00003162166	0.00000074233	0.00004502823	0.00000053783	0.00000000000
102	Bromate	ng	224.74307183413	x	47.12958356058	433.88242245261	17.93763384234	501.72551110448	18.00463146487	664.50036380514	13.04449491945	3.13532884426
103	Bromide	ng	2.86970897833	x	0.26609896363	212.59139357357	0.10127791113	244.48363093463	0.10165618729	348.13766190905	0.07365069489	x
104	Bromine	µg	0.14865581211	x	0.09258255069	6.67840769355	0.03523714340	8.08012771695	0.03536875523	30.86227328468	0.02562493705	0.11821907455
105	Bromine	µg	33.60544545823	x	32.63084337872	32.17120419834	12.41937815431	37.27393142121	12.46576491954	48.03624563083	9.03154321582	0.31652705516
106	Bromine, 0.0023% in water	ng	3.22623125226	x	0.26402034328	252.89740224890	0.10048678318	290.83608017252	0.10086210446	414.14226312384	0.07307537573	x
107	Butadiene	pg	8.43685009153	x	0.31365695655	16.75112193913	0.11937859861	19.26400982316	0.11982448141	27.43054187275	0.08681376467	0.00005633987
108	Butane	µg	51.12662269095	x	43.28966939918	34.89786144561	16.47615319665	40.18662592705	16.53769214334	56.26866859679	11.98168602140	0.06005247263
109	Butene	µg	1.15261889541	x	0.96528852944	0.53373646018	0.36739115615	0.61412916645	0.36876337359	0.86906015149	0.26717191978	0.00034244946
110	Butene	ng	1.12321740884	x	0.03394197417	0.92928041762	0.01291839771	1.06895337680	0.01296664833	1.51736888731	0.00939443713	0.00030069618
111	Butyl acetate	ng	6.08617971108	x	0.10402559271	1.48279791883	0.03959239296	1.70525053771	0.03974027178	2.42821892757	0.02879213464	0.00000040491
112	Butyrolactone	pg	4.30070385642	x	0.07439876589	1.06789782796	0.02831635079	1.22810714764	0.02842211325	1.74878267501	0.02059204114	0.00000028644
113	Butyrolactone	pg	10.32187732195	x	0.17856028369	2.56300144225	0.06796047717	2.94751080883	0.06821431168	4.19715482199	0.04942179704	0.00000068748
114	Cadmium	µg	0.07455781381	x	0.03938642793	0.16083596624	0.01499057002	0.23387657624	0.01504656027	3.87175263901	0.01090134943	0.00008824310
115	Cadmium	ng	5.36076114550	x	0.05785854570	1.53210344985	0.02202110286	2.05860765601	0.02210335237	2.81828148471	0.01601404995	0.00032932900
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag,	µg	5.59245106703	x	0.01662056981	1.76054638612	0.00632582919	2.02488553644	0.00634945636	2.88329831045	0.00460023030	-0.00000014515
117	Cadmium, ion	µg	0.84017293850	x	0.14891663615	80.80375501345	0.05667803300	92.92526254134	0.05688972722	132.31668451605	0.04121704791	0.00040761636
118	Calcite, in ground	mg	70.84917530456	x	16.17066509681	196.26367844338	6.15459436684	225.71856282941	6.17758196899	321.29079737194	4.47570597411	0.00779509461
119	Calcium	mg	0.00174592780	x	0.00063464004	0.01936039911	0.00024154554	0.06158466105	0.00024244772	2.91051723409	0.00017565525	0.00001040471
120	Calcium	µg	75.36417593036	x	87.29978786942	70.62545110177	33.22651105760	87.14168629162	33.35061311395	121.87548891865	24.16277745946	0.00374753371
121	Calcium, ion	g	0.00625453843	x	0.00363063347	2.02365356403	0.00138182791	2.32724119907	0.00138698908	3.31334524634	0.00100488433	0.00003697393
122	Carbetamide	ng	0.26381507656	x	0.00389148107	1.25859392119	0.00148110714	1.44865816512	0.00148663912	2.05274382590	0.00107708155	0.00061804327
123	Carbofuran	ng	1.53009337668	x	0.55289650602	0.63093898521	0.21043375155	0.72571929789	0.21121972818	1.03161175921	0.15303032870	0.00011253194
124	Carbon	µg	56.34168825457	x	65.06068743630	47.40711390513	24.76225547937	54.77880235338	24.85474327683	77.75947039955	18.00745397267	0.00966138202
125	Carbon-14	mBq	8.58661567802	x	2.32588470866	74.69714410965	0.88523736285	86.31116223093	0.88854375205	115.53305100468	0.64375682901	0.46273286758
126	Carbon dioxide, biogenic	mg	7.22983815686	x	3.04729892583	71.50362055410	1.15980936410	89.43717277048	1.16414128829	124.33270574721	0.84342937817	0.02564012808
127	Carbon dioxide, fossil	g	2.78065171727	x	2.41754515385	11.80010826478	0.92012355066	16.68464148244	0.92356024086	233.28407720658	0.66912654631	0.20910480602
128	Carbon dioxide, in air	g	0.00843948718	x	0.00333202492	0.69285657721	0.00126817677	0.80411290240	0.00127291345	1.14210067794	0.00092223565	0.00001730211
129	Carbon dioxide, land transformation	µg	29.42918493818	x	13.11271670568	152.62269138017	4.99073179042	175.52549539718	5.00937232950	249.82782322766	3.62932904399	0.00725139639
130	Carbon disulfide	µg	2.86501061351	x	0.32495512957	6.05823669325	0.12367871067	6.96865414163	0.12414065452	9.91742342609	0.08994086551	0.00033121409
131	Carbon disulfide	ng	0.01498175502	x	0.00097569787	2.59884650328	0.00037135298	2.98867543338	0.00037273999	4.25580283242	0.00027005301	x
132	Carbon monoxide, biogenic	µg	2.87955713236	x	0.52023210712	64.85298234892	0.19800160208	104.07954931657	0.19874114425	123.81565473675	0.14398949801	0.87474835527
133	Carbon monoxide, fossil	g	0.00682623019	x	0.00854331161	0.02365360779	0.00325160513	0.18155776477	0.00326374997	11.46093330191	0.00236461213	0.00003396947
134	Carbon, in organic matter, in soil	µg	1.93270612999	x	0.69837990465	0.79695766455	0.26580508602	0.91667747648	0.26679787632	1.30305927774	0.19329712740	0.00014214241
135	Carbonate	µg	0.78661273346	x	0.08460194304	1.70598842302	0.03219970477	1.97013282446	0.03231997167	2.66585576830	0.02341606975	0.00874896324
136	Carboxylic acids, unspecified	µg	193.65846300021	x	200.96862207731	109.51129605277	76.48914512450	126.00571601349	76.77483447004	178.31669236730	55.62396209773	0.06997137076
137	Cerium-141	nBq	16.46584954514	x	0.47857520376	22.31691693033	0.18214688360	25.68249757468	0.18282720790	36.54295031096	0.13245972789	0.00139418409
138	Cerium-141	nBq	70.65021802229	x	2.05342833875	95.75546308078	0.78153980747	110.19620030914	0.78445888305	156.79527509468	0.56834653542	0.00598204242
139	Cerium-144	nBq	21.50823702557	x	0.62513074533	29.15109470053	0.23792627828	33.54732740564	0.23881494036	47.73360982061	0.17302327361	0.00182112935
140	Cerium, 24% in bastnasite, 2.4% in crude ore, in	pg	x	x	x	0.00000000000	x	0.00000000000	x	0.00000000000	x	0.00000000000
141	Cesium	ng	46.81444278973	x	46.34557817386	25.30339575568	17.63923949011	29.11468829312	17.70512260042	41.19935636736	12.82749842783	0.01630683775
142	Cesium-134	nBq	0.78860831297	x	0.02292067457	1.06883681769	0.00872366435	1.23002648905	0.00875624751	1.75017233972	0.00634396912	0.00006677245
143	Cesium-134	µBq	1.50723428940	x	0.52273799773	21.86260324899	0.19895535013	25.35217247329	0.19969845458	32.27610998909	0.14468307675	0.24012926255
144	Cesium-136	nBq	12.53903444263	x	0.36444344225	16.99472532440	0.13870805828	19.55767426519	0.13922613721	27.82810031588	0.10087041454	0.00106169574
145	Cesium-137	nBq	13.97946160954	x	0.40630904628	18.94700196529	0.15464220874	21.80437080715	0.15521980222	31.02486573389	0.11245794869	0.00118365852
146	Cesium-137	mBq	1.28327468755	x	0.43975352578	13.97818397533	0.16737125878	16.15421513400	0.16799639566	21.56841404199	0.12171468958	0.09007027845
147	Chloramine	pg	0.82689963325	x	0.03463252189	79.45305015575	0.01318122185	91.37212429635	0.01323045413	130.11135031561	0.00958556647	x
148	Chloramine	ng	0.00748053115	x	0.00031046552	0.70921133747	0.00011816393	0.81560329033	0.00011860528	1.16139617817	0.00008593044	x
149	Chlorate	µg	1.76296936945	x	0.39582620476	3.43063184465	0.15065241383	3.96667672511	0.15121510530	5.26162984197	0.10955651476	0.02428162229
150	Chloride	g	0.02557543823	x	0.02412363144	0.99851778118	0.00918151265	1.14914083944	0.00921580589	1.62092448686	0.00667692273	0.00096850418

No	Substance	Unit	C0, Clamp, transport of fuels, at plant, ZA	C1, Clamp, clay extraction, extracted clay, ZA	C2, Clamp, mining fuel, stockpiled clay, ZA	C3, Clamp, clay preparation, wet green brick, ZA rev1	C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	C6, Clamp, dry green brick transport, at firing location, ZA	C7, Clamp, brick firing, fired brick, ZA rev1	C8, Clamp, fired brick transport, at sales bay, ZA	C9, Clamp, factory overheads, additional water and electricity, ZA
151	Chloride	mg	5.11650256574	x	0.08426121620	0.17364664993	0.03207002331	0.19978486720	0.03218980585	0.28445720239	0.02332176361	0.00000002196
152	Chlorinated solvents, unspecified	ng	1.30493860200	x	0.25319880916	2.21484547783	0.09636808104	2.55498953839	0.09672801883	3.52618539055	0.07008019868	0.00699457353
153	Chlorine	µg	1.05443798766	x	0.28860750446	0.98623643432	0.10984471638	1.14789195542	0.11025498982	1.61984624697	0.07988059391	0.00062372082
154	Chlorine	µg	0.02049798936	x	0.00300751936	1.92416681844	0.00114466916	2.21662189430	0.00114894454	3.08644790380	0.00083241922	0.00439319386
155	Chloroacetic acid	ng	0.22418681347	x	0.00509487319	2.00395530771	0.00193912110	2.30472928346	0.00194636378	3.28181462877	0.00141015563	x
156	Chloroacetic acid	ng	16.36149995884	x	0.23680977596	48.42246867965	0.09013037524	55.73089153425	0.09046701501	79.34308924180	0.06554405293	x
157	Chloroacetyl chloride	pg	0.31317087344	x	0.00463997488	1.24197694194	0.00176598570	1.42914873693	0.00177258171	2.03475578402	0.00128424917	x
158	Chloroform	ng	0.75950957545	x	0.03725134697	1.05947969104	0.01417795303	1.22067474473	0.01423090813	1.69901249489	0.01031040314	0.00245829901
159	Chloroform	pg	95.46453580979	x	1.62308150896	45.53301325244	0.61774876000	52.36407675379	0.62005607091	74.56471981835	0.44923542493	0.00000630009
160	Chlorosilane, trimethyl-	pg	104.96792738775	x	16.38624916204	135.00584106712	6.23664618509	155.29640640132	6.25994025334	221.12412634338	4.53537518888	0.00000086298
161	Chlorosulfonic acid	pg	1.15259373890	x	0.01631299965	2.94912898421	0.00620876724	3.39475304031	0.00623195718	4.83286445283	0.00451510124	x
162	Chlorosulfonic acid	pg	2.87427952839	x	0.04068052438	7.35438854052	0.01548310627	8.46566324780	0.01554093616	12.05195267382	0.01125952859	x
163	Chlorothalonil	µg	0.00337003730	x	0.00022183313	0.62276750062	0.00008443023	0.71671009646	0.00008474558	1.01094098647	0.00006139883	0.00060510296
164	Chromium	µg	0.61556742512	x	0.88889074652	4.94435442371	0.33831397463	5.96312442258	0.33957758789	28.43684414339	0.24602659202	0.00111403119
165	Chromium	ng	117.86009476168	x	108.75270250837	79.93504017505	41.39154241523	95.99645065276	41.54614111868	135.15283734538	30.10050096290	0.00412620819
166	Chromium-51	nBq	1.05512871565	x	0.03066701376	1.43006407588	0.01167193984	1.64572988621	0.01171553490	2.34166576993	0.00848799575	0.00008933907
167	Chromium-51	µBq	13.49289447536	x	0.65501338577	30.96245082343	0.24929968373	35.77550008522	0.25023082583	48.10135293710	0.18129417103	0.17814365837
168	Chromium VI	ng	13.46931186036	x	20.95321298607	154.21253339941	7.97484369625	180.24356252736	8.00462998648	456.55863755622	5.79941641096	0.10973492094
169	Chromium VI	mg	0.01341166352	x	0.00672083548	0.97744320390	0.00255796629	1.12449323830	0.00256752037	1.59337322135	0.00186018839	0.00049463104
170	Chromium VI	ng	160.12127241705	x	46.11850311160	426.52539039032	17.55281417052	490.82084795887	17.61837447956	698.80324105850	12.76464874251	0.00001761306
171	Chromium, 25.5% in chromite, 11.6% in crude ore,	mg	0.13972431556	x	0.23921403723	1.35082302495	0.09104544292	1.55377898696	0.09138550049	2.21087824345	0.06620950277	0.00009904910
172	Chromium, ion	ng	200.08296986870	x	147.38507898542	243.16634185460	56.09511862685	280.32495166066	56.30463564659	387.01667024835	40.79314453429	0.76323165399
173	Chrysotile, in ground	ng	44.37877399604	x	8.83074053346	83.15390711473	3.36100127094	96.14955289525	3.37355471564	127.46356007361	2.44416651540	0.59329850938
174	Cinnabar, in ground	ng	3.91477883732	x	0.83803038328	7.60702934848	0.31895639699	8.79739463847	0.32014770909	11.65432400739	0.23194949438	0.05477593701
175	Clay, bentonite, in ground	mg	1.19120601756	x	0.64168934705	1.94176071997	0.24422852226	2.23425424133	0.24514072342	3.16131513978	0.17760635242	0.00116458321
176	Clay, unspecified, in ground	oz	0.00071564790	47.40821008610	0.00008729771	37.15945042379	0.00003322572	42.73336805968	0.00003334982	45.29824488839	0.00002416220	0.00000001863
177	Coal, brown, in ground	g	0.05039019542	x	0.03242763470	0.74447355579	0.01234203644	0.85619188540	0.01238813433	1.21858407288	0.00897529925	0.00003820747
178	Coal, hard, unspecified, in ground	g	0.09421428444	x	0.04518115175	108.68536002994	0.01719605597	125.11816085773	0.01726028377	175.78952717806	0.01250520925	0.14917050347
179	Cobalt	µg	0.04906856557	x	0.04787220070	0.27982777507	0.01822027573	0.46092214415	0.01828832903	10.73516646462	0.01325003600	0.00024086883
180	Cobalt	mg	0.00620972490	x	0.00324849901	2.23206927237	0.00123638661	2.56700801588	0.00124100455	3.65306538174	0.00089911740	0.00014394996
181	Cobalt	ng	0.13461325411	x	0.05093499066	1.55520050084	0.01938598102	2.16386857730	0.01945838826	2.93721900157	0.01409775298	0.00047711031
182	Cobalt-57	nBq	398.03625322136	x	11.56880958828	539.47668993974	4.40311699592	620.83435737381	4.41956277540	883.36887822212	3.20200745471	0.03370222867
183	Cobalt-58	nBq	1.46931034445	x	0.04270508402	1.99142332986	0.01625365858	2.29174688417	0.01631436651	3.26086636513	0.01181988487	0.00012440835
184	Cobalt-58	µBq	61.19282288917	x	4.92319183366	196.44264042900	1.87377875585	226.96923352140	1.88077737801	304.87097096031	1.36263777462	1.14943354989
185	Cobalt-60	nBq	12.97998981305	x	0.37725968382	17.59237225709	0.14358595092	20.24545143204	0.14412224893	28.80672035712	0.10441768539	0.00109903198
186	Cobalt-60	µBq	53.75148776592	x	3.84932098062	160.44371868577	1.46506090391	185.40579871281	1.47053295213	248.57822720537	1.06541251124	0.96796125115
187	Cobalt, in ground	ng	20.04011201263	x	19.37403555666	8.15314346054	7.37380493543	9.38216249473	7.40134632713	13.25970784225	5.36233272809	0.00628282569
188	COD, Chemical Oxygen Demand	mg	8.12879207616	x	10.49833933164	6.54620080571	3.99569341922	7.53265687237	4.01061745891	10.66299643106	2.90572340615	0.00396583655
189	Colemanite, in ground	µg	3.66891759632	x	0.14853356374	2.03116080308	0.05653223471	2.33813054836	0.05674338437	3.29547212983	0.04111102138	0.00212292212
190	Copper	µg	6.42708115448	x	1.25040864324	2.89654316783	0.47590856318	3.81261308119	0.47768609653	40.13383912391	0.34608727601	0.00148771875
191	Copper	ng	438.45867898896	x	30.70811592523	311.00545754057	11.68758342086	361.27378203515	11.73123690991	512.68420068437	8.49937198485	0.02853378581
192	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	µg	26.44788331291	x	2.22925405583	59.03657099785	0.84845950195	67.90780239778	0.85162852469	96.66992496452	0.61701146092	0.00150657628
193	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	µg	144.32946522898	x	12.27822445519	326.79249033797	4.67312201535	375.89866017866	4.69057627201	535.10934272343	3.39835883166	0.00833235218
194	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	µg	38.28545286779	x	3.25697445145	86.68637756019	1.23961237784	99.71249078254	1.24424236878	141.94539927080	0.90146323127	0.00221027540
195	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	µg	193.32969361302	x	16.20655724403	430.59916781677	6.16825500515	495.30385767083	6.19129363021	705.08864878014	4.48564017884	0.01095734465
196	Copper, ion	mg	0.00983057828	x	0.00237141519	1.37430321405	0.00090256637	1.58056968366	0.00090593749	2.24860112499	0.00065635873	0.00013126185
197	Cumene	ng	255.02443210812	x	74.26322561675	255.12924381742	28.26476383675	293.55291395766	28.37033361230	415.52865497131	20.55452639453	0.15558757360
198	Cumene	ng	612.81911189238	x	178.45327996220	613.06698438519	67.91975129192	705.39774368796	68.17343368391	998.50181584894	49.39218062119	0.37384132303
199	Cyanide	ng	30.06292043221	x	12.03359961712	82.33482240143	4.58001720851	94.74118361186	4.59712371580	134.58943540743	3.33065173102	0.01918241865
200	Cyanide	ng	518.08490921089	x	167.80867234335	590.34401850730	63.86838780774	679.01774590738	64.10693823060	966.14655549000	46.44597317539	0.04591522281
201	Cyanoacetic acid	pg	0.94393077858	x	0.01335973056	2.41522558275	0.00508474586	2.78017490360	0.00510373755	3.95793399549	0.00369769737	x
202	Cypermethrin	pg	221.88233897667	x	78.16078001246	134.83119488358	29.74818249546	155.11885317606	29.85929288602	220.12769775255	21.63328891846	0.04719294731
203	Diatomite, in ground	ng	2.07290283049	x	0.00607441112	0.12348818008	0.00231193561	0.14212088014	0.00232057076	0.20085639926	0.00168127149	0.00009485572
204	Dichromate	ng	4.17743441548	x	1.20249213722	11.13126126657	0.45767142474	12.80920675308	0.45938084181	18.23699663324	0.33282497721	0.00000285413
205	Diethylamine	pg	0.85791489381	x	0.14582296730	35.61192094676	0.05550057513	40.95459795273	0.05570787151	58.31806389980	0.04036078430	x
206	Diethylamine	pg	2.05902235056	x	0.34998124383	85.47011538408	0.13320371048	98.29276597443	0.13370123049	139.96581809993	0.09686757684	x
207	Dimethyl malonate	pg	1.18368684309	x	0.01675306948	3.02868666113	0.00637625889	3.48633216986	0.00640007442	4.96323903816	0.00463690347	x
208	Dimethylamine	pg	8.24428630907	x	0.24793858440	53.43163098170	0.09436602674	61.46814329900	0.09471848679	87.52127442790	0.06862427716	x
209	Dinitrogen monoxide	mg	0.09792009550	x	0.08300989850	0.95166591084	0.03159376875	1.14878916043	0.03171177247	4.85437190778	0.02297542472	0.00893179146
210	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	0.00074549647	x	0.00038359369	0.00214267661	0.00014599669	0.01791299423	0.00014654199	1.14554715023	0.00010617081	0.00001592916
211	Dipropylamine	pg	0.49254312453	x	0.09236790861	22.53811349674	0.03515545011	25.91924280013	0.03528675681	36.90824407759	0.02556552856	x
212	Dipropylamine	pg	1.18211460299	x	0.22168428854	54.09178658768	0.08437357804	62.20654406330	0.08468871598	88.58030032355	0.06135763054	x
213	DOC, Dissolved Organic Carbon	mg	2.57083269439	x	3.19990476212	2.10549792611	1.21789151562	2.42283645850	1.22244037846	3.42949658397	0.88566752045	0.00128650857
214	Dolomite, in ground	µg	147.47220328029	x	88.06685381175	335.28643616061	33.51845821620	385.62775360329	33.64365070431	549.09498716009	24.37508546288	0.00080860339
215	Energy, gross calorific value, in biomass	kJ	0.08305727724	x	0.03117697017	7.48555525443	0.01186603049	8.68747776769	0.01191035048	12.33902644527	0.00862914115	0.00018908134
216	Energy, gross calorific value, in biomass, primary	J	0.13399308366	x	0.04841816122	0.05525247722	0.01842806963	0.06355256184	0.01849689904	0.09034012522	0.01340114659	0.00000985444
217	Energy, kinetic (in wind), converted	J	20.15283984058	x	13.32138421472	301.58553039636	5.07015115060	346.83955894007	5.08908832347	493.69155865807	3.68708389892	0.01243843108
218	Energy, potential (in hydropower reservoir),	kJ	0.46433020582	x	0.09806745676	4.58143593134	0.03732471196	5.31624489297	0.03746412092	6.70685427292	0.02714304572	0.05419983140
219	Energy, solar, converted	J	0.50914750459	x	0.19191211057	4.49981194698	0.07304221487	5.17525108859	0.07331502983	7.36642426205	0.05311730684	0.00018225309
220	Ethane	mg	0.02060638779	x	0.01872325162	0.07462177484	0.00712611499	0.10907994338	0.00715273125	1.83368347228	0.00518220918	0.00013088183
221	Ethane, 1,1-difluoro-, HFC-152a	ng	0.18228487557	x	0.07064336272	1.64990564632	0.02688703524	1.89749967768	0.02698745915	2.70195623474	0.01955262314	0.00000003577
222	Ethane, 1,1,1-trichloro-, HCFC-140	pg	1.21021887728	x	0.21828378155	7.30678530446	0.08307933683	8.44785147586	0.08338964074	11.21858617538	0.06041644047	0.05090253543
223	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	6.37367392414	x	0.00992620135	0.14328629286	0.00377793631	0.16481472613	0.00379204702	0.23442585253	0.00274736743	0.00001625224
224	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	pg	34.13851690829	x	0.57810142823	8.18042404072	0.22002680609	9.40766349191	0.22084861308	13.39619524896	0.16000653037	0.00000226936
225	Ethane, 1,2-dichloro-	ng	19.44997240799	x	5.39456497074	41.08513601342	2.05318451540	47.26839888143	2.06085322368	67.08442071999	1.49310411926	0.01392094471
226	Ethane, 1,2-dichloro-	ng	0.93463278645	x	0.51763438160	6.91301115819	0.19701290145	7.97199911012	0.19774875079	10.95584563777	0.14327050126	0.02486199357
227	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	ng	3.99265614619	x	0.94454190902	32.38678901026	0.35949494209	37.44915404938	0.36083766692	49.64651086188	0.26142968392	0.23100318350
228	Ethane, hexafluoro-, HFC-116	ng	40.10857692474	x	1.03855681114	323.75191259033	0.39527724192	372.56810850932	0.39675361476	526.39098237761	0.28745106625	0.25913832057
229	Ethanol	µg	0.11075653116	x	0.06987112426	1.23484968580	0.02659311940	1.42037106687	0.02669244554	2.01784434053	0.01933888349	0.00030765554
230	Ethanol	ng	10.97897876131	x	0.18911106413	3.54546249934	0.07197612980	4.07789924047	0.07224496289	5.80659788221	0.05234203506	0.00000071670
231	Ethene	mg	0.00397493234	x	0.00265610176	0.02160547025	0.00101091878	0.07116605379	0.00101469459	3.46182285389	0.00073515409	0.00002499357
232	Ethene	ng	223.18305336817	x	74.39277286894	135.74953296309	28.31406983523	156.17630418018	28.41982377022	221.55811110184	20.59038239719	0.05194669841
233	Ethene, chloro-	ng	7.09450831376	x	1.56894391826	23.57302972460	0.59714386164	27.11527367549	0.59937421261	38.59545948741	0.43425125843	0.00088377400
234	Ethene, chloro-	pg	65.02762802764	x	13.40321251241	357.40770444673	5.10129519922	411.14284471038	5.12034869608	584.50517319750	3.70973228095	0.05815470597
235	Ethene, tetrachloro-	pg	2.87265515167	x	0.53066160915	17.11986251442	0.20197109586	19.78472405190	0.20272546421	26.43055212098	0.14687616867	0.10936779041
236	Ethyl acetate	µg	1.29017740904	x	0.02205192365	0.31404774626	0.00839301564	0.36116187833	0.00842436382	0.51428226548	0.00610351682	0.00000008584
237	Ethyl acetate	pg	2.80981380395	x	0.38512108487	91.78662836596	0.14657801923	105.55621159969	0.14712549271	150.30899167623	0.10659355877	0.00000004889
238	Ethyl cellulose	ng	2.61143429537	x	0.04421434036	0.62558118974	0.01682808521	0.71943180734	0.01689093863	1.02444661082	0.01223761584	0.00000017359
239	Ethylamine	pg	0.40807759207	x	0.01517640991	26.47599097394	0.00577617843	30.44810215241	0.00579775264	43.35712233168	0.00420051668	x
240	Ethylamine	pg	0.97939272956	x	0.03642365263	63.54274949269	0.01386293056	73.07587200558	0.01391470904	104.05770140178	0.01008131445	x
241	Ethylene diamine	pg	13.26499206291	x	0.22404799237	553.44463795816	0.08527320945	636.56815514734	0.08559170755	904.51278266353	0.06201185492	0.12213222124
242	Ethylene diamine	ng	0.03209776597	x	0.00053925266	1.33131200400	0.00020524087	1.53126775801	0.00020600745	2.17577340021	0.00014925399	0.00029607812
243	Ethylene oxide	ng	3.82394096243	x	0.95642035368	2.15170841814	0.36401590694	2.47528629494	0.36537551772	3.51266900657	0.26471739196	0.00075559111
244	Ethylene oxide	pg	849.95528821860	x	15.15383163316	374.14190657687	5.76758508368	430.46241333278	5.78912719407	611.86798682263	4.19426748159	0.06585502245
245	Ethyne	µg	0.06570269432	x	0.03349129741	3.06134662220	0.01274686905	11.24031338434	0.01279447900	576.08927718029	0.00926969911	0.00399943645
246	Feldspar, in ground	ng	0.11397287177	x	0.01577521244	1.36096199321	0.00600408413	1.71301074607	0.00602650957	2.38459095360	0.00436625285	0.00005526995
247	Fenpiclonil	ng	0.18235281080	x	0.00943111992	24.63131214958	0.00358950712	28.34691109489	0.00360291404	39.98595275289	0.00261033912	0.02381718661
248	Fluoride	mg	0.19012277619	x	0.01526923007	1.69596688286	0.00581150601	1.95163394242	0.00583321217	2.75637791110	0.00422620738	0.00142478567
249	Fluoride	µg	1.02791027915	x	1.11171764196	0.90860428241	0.42312243162	1.04514559184	0.42470280712	1.48819540943	0.30770047255	0.00000003580
250	Fluorine	µg	0.24678542130	x	0.07268357880	1.67820056202	0.02766354642	1.93369910758	0.02776687063	2.75211839412	0.02011731279	0.00000341129
251	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	µg	2.22164408340	x	2.12139389429	2.61994179943	0.80740766279	3.01415895112	0.81042335563	4.27299553170	0.58715799686	0.00119756105
252	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	µg	1.09594169993	x	0.93585927519	1.63081611555	0.35619031059	1.87640563901	0.35752069252	2.66077048499	0.25902651028	0.00069536297
253	Fluorspar, 92%, in ground	µg	63.19057937982	x	59.19877153380	134.88199552337	22.53119606552	155.47024466777	22.61535078640	215.06100459467	16.38499677209	0.39698115645
254	Fluosilicic acid	ng	44.12118965571	x	1.16519630213	377.67275705879	0.44347653943	434.61982462888	0.44513293815	614.05301622074	0.32250226068	0.30286773065
255	Fluosilicic acid	µg	0.07941814152	x	0.00209735337	0.67981096196	0.00079825778	0.78231568346	0.00080123930	1.10529542832	0.00058050408	0.00054516189
256	Formaldehyde	µg	1.99473261895	x	0.25234268051	11.48505983850	0.09604223640	16.41848893522	0.09640095715	245.33930659286	0.06984323996	0.13159470976
257	Formaldehyde	ng	38.58766781414	x	9.58727066014	45.24795743891	3.64893847254	52.06252042274	3.66256737168	73.70403508763	2.65355842274	0.02703071596
258	Formamide	pg	0.33023801969	x	0.01658564368	41.13319374917	0.00631253622	47.30347158014	0.00633611374	67.35892257756	0.00459056347	x
259	Formamide	pg	0.79259005941	x	0.03980664800	98.72255033483	0.01515050680	113.53164993823	0.01520709442	161.66613914477	0.01101765767	x
260	Formate	ng	0.22917565725	x	0.00365516279	1.26377971803	0.00139116383	1.45397870607	0.00139635987	2.07020156078	0.00101167354	x
261	Formic acid	ng	10.34511410852	x	3.18154167577	3.99809491451	1.21090248041	4.59861315521	1.21542523898	6.53806961067	0.88058499758	0.00064208527
262	Formic acid	pg	0.23007653597	x	0.01155519135	28.65741900212	0.00439793386	32.95624000489	0.00441436028	46.92883513126	0.00319823821	x
263	Furan	ng	2.47862168776	x	0.89564545906	1.02206942679	0.34088483461	1.17560577338	0.34215805011	1.67112628838	0.24789615689	0.00018230491
264	Gadolinium, 0.15% in bastnasite, 0.015% in crude	pg	x	x	x	0.00000000000	x	0.00000000000	x	0.00000000000	x	0.00000000000
265	Gallium, 0.014% in bauxite, in ground	pg	1.40747363541	x	0.54403811707	12.70885963888	0.20706222723	14.61602560423	0.20783561111	20.81257742233	0.15057850967	0.00000027553
266	Gas, mine, off-gas, process, coal mining/m3	cm3	0.91829194482	x	0.43866494896	439.30553887700	0.16695694380	505.72168163275	0.16758053320	710.62896845049	0.12141339400	0.59690825586
267	Gas, natural, in ground	cm3	89.96218004512	x	55.17487152696	266.43324665581	20.99968996069	306.53268321743	21.07812445845	434.20328971411	15.27126439361	0.14375545303
268	Glutaraldehyde	ng	15.06268926775	x	21.21026750253	14.56013466246	8.07267926884	16.74492889177	8.10283097799	23.84454605162	5.87056378975	0.00000086804
269	Glyphosate	µg	0.13311723194	x	0.00430479676	1.48646297773	0.00163841609	1.70943461557	0.00164453563	2.43419044323	0.00119147880	0.00000022544
270	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	ng	2.55799304739	x	0.04331481230	0.61290483616	0.01648572265	0.70485373409	0.01654729734	1.00368792507	0.01198864506	0.00000017004
271	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	ng	4.69080459333	x	0.07942997773	1.12393457405	0.03023124223	1.29254891557	0.03034415686	1.84054602799	0.02198457662	0.00000031169
272	Gold, Au 1.4E-4%, in ore, in ground	ng	5.61647022407	x	0.09510438823	1.34572757455	0.03619696089	1.54761563299	0.03633215767	2.20375242233	0.02632292958	0.00000037331
273	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	ng	8.57856559216	x	0.14526190556	2.05545681431	0.05528703367	2.36381951220	0.05549353247	3.36599919483	0.04020549400	0.00000057026
274	Gold, Au 4.3E-4%, in ore, in ground	ng	2.12611609016	x	0.03600178871	0.50942548178	0.01370236813	0.58585025260	0.01375354690	0.83423098421	0.00996455123	0.00000014134
275	Gold, Au 4.9E-5%, in ore, in ground	ng	5.09231950399	x	0.08622887233	1.22013905633	0.03281891800	1.40318613805	0.03294149769	1.99808969388	0.02386637016	0.00000033865
276	Gold, Au 6.7E-4%, in ore, in ground	ng	7.88373776562	x	0.13349630193	1.88897343759	0.05080901638	2.17236005095	0.05099878965	3.09336738425	0.03694901802	0.00000052410
277	Gold, Au 7.1E-4%, in ore, in ground	ng	8.88973127082	x	0.15053091979	2.13001332274	0.05729243327	2.44956109926	0.05750642230	3.48809232055	0.04166384827	0.00000059094
278	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	pg	532.69141930662	x	9.02012935150	127.63488353059	3.43308311455	146.78285918319	3.44590578719	209.01383678294	2.49658542701	0.00003541355
279	Granite, in ground	pg	2.06816241805	x	0.12648514736	60.37798517896	0.04814055395	69.48298848983	0.04832036042	98.06208489290	0.03500847530	0.05525325263
280	Gravel, in ground	g	2.60529418191	x	0.03759187834	3.57473784850	0.01430756010	4.11131691950	0.01436099928	5.85415273528	0.01040465519	0.00000815080
281	Gypsum, in ground	ng	92.17289517787	x	25.35087242238	259.12053992510	9.64860354669	298.13984078009	9.68464138223	422.09344418830	7.01659767675	0.15350022994
282	Heat, waste	Wh	11.64850969764	x	9.87693577166	32.73478022523	3.75918571673	46.65542450244	3.77322639277	689.03014558961	2.73373174044	0.37720398957
283	Heat, waste	kJ	0.76820286567	x	0.71612628246	3.15957407180	0.27255940047	3.63786336026	0.27357741834	5.10226518845	0.19820895810	0.00489398826
284	Heat, waste	J	22.19353775806	x	7.26470237491	34.36103259904	2.76496334849	39.58596129310	2.77529057294	56.22725657159	2.01071951122	0.00747909243
285	Helium	µg	4.63416259480	x	1.74923087205	1.09921729468	0.66576151364	1.26474294588	0.66824815368	1.79070026544	0.48415096208	0.00064498801
286	Helium, 0.08% in natural gas, in ground	pg	x	x	x	0.00005285947	x	0.00006200045	x	0.00006613208	x	0.00000139107
287	Heptane	µg	11.52158430267	x	9.65278011926	5.33350078942	3.67387153161	6.13684709280	3.68759355651	8.68429249961	2.67169008745	0.00342324414
288	Hexane	µg	25.10653773136	x	20.87023949115	17.39298399801	7.94326378278	20.01363396097	7.97293212105	28.30519539296	5.77645106200	0.01216845728
289	Hydrocarbons, aliphatic, alkanes, cyclic	ng	4.45050009861	x	1.27002499536	3.31878735174	0.48337459439	3.82026837157	0.48518001360	5.40003997417	0.35151667696	0.00247398783
290	Hydrocarbons, aliphatic, alkanes, unspecified	µg	13.61816814938	x	5.84360173734	48.33549487473	2.22408899816	63.80385213452	2.23239604002	643.04821435544	1.61738821808	0.49788800735
291	Hydrocarbons, aliphatic, alkanes, unspecified	µg	6.08587756513	x	6.02492516318	3.28944145033	2.29310113393	3.78490948051	2.30166593828	5.35591633118	1.66757479578	0.00211988891
292	Hydrocarbons, aliphatic, unsaturated	µg	0.40084690963	x	0.22614354364	26.02807190015	0.08607078135	38.29740224754	0.08639225840	606.81339895948	0.06259186021	0.48893911433
293	Hydrocarbons, aliphatic, unsaturated	ng	561.77592837486	x	556.14704541288	303.66493661456	211.67091473008	349.40408177356	212.46151220638	494.43189225541	153.93001083976	0.19568205303
294	Hydrocarbons, aromatic	µg	3.48941851836	x	1.46725620753	6.80529553657	0.55844127224	7.82732638358	0.56052706783	11.13229195803	0.40610620122	0.00085096667
295	Hydrocarbons, aromatic	µg	24.92569669954	x	24.73307826130	13.53913786538	9.41346959017	15.57834988197	9.44862919305	22.04634121144	6.84560501807	0.00860797510
296	Hydrocarbons, chlorinated	ng	26.23458338312	x	2.48365056908	120.01358378087	0.94528343208	138.10723230876	0.94881409521	195.31803348607	0.68742315935	0.08392934577

No	Substance	Unit	C0, Clamp, transport of fuels, at plant, ZA	C1, Clamp, clay extraction, extracted clay, ZA	C2, Clamp, mining fuel, stockpiled clay, ZA	C3, Clamp, clay preparation, wet green brick, ZA rev1	C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	C6, Clamp, dry green brick transport, at firing location, ZA	C7, Clamp, brick firing, fired brick, ZA rev1	C8, Clamp, fired brick transport, at sales bay, ZA	C9, Clamp, factory overheads, additional water and electricity, ZA
297	Hydrocarbons, unspecified	µg	2.72614832200	x	3.36843160995	2.90261485351	1.28203324276	3.33925019767	1.28682167696	4.73999990584	0.93231226977	0.00093756839
298	Hydrogen	µg	2.62611573738	x	1.67176123845	5.82742877311	0.63627638315	6.72207590365	0.63865289531	9.22447789086	0.46270896821	0.02179196828
299	Hydrogen-3, Tritium	mBq	36.46565496296	x	13.45357753593	433.33748462974	5.12046424936	500.93204786933	5.13958934322	666.29983895871	3.72367227880	2.95151903878
300	Hydrogen-3, Tritium	Bq	2.91534285303	x	1.00731571277	32.12749919706	0.38338680409	37.13107278929	0.38481876577	49.53563434244	0.27880417574	0.20955341172
301	Hydrogen chloride	mg	0.01905794370	x	0.01037691998	0.47124113162	0.00394948092	1.01344497418	0.00396423235	35.45684091573	0.00287211704	0.00271370928
302	Hydrogen fluoride	mg	0.00371885149	x	0.00172381500	0.13991356669	0.00065608817	0.21775827715	0.00065853868	4.23524858890	0.00047711637	0.00255388251
303	Hydrogen peroxide	ng	1.93445188789	x	0.03288806922	0.46663461970	0.01251727894	0.53663998333	0.01256403136	0.76415718444	0.00910273802	0.00000012864
304	Hydrogen peroxide	ng	16.63687265118	x	0.34329829116	39.18725568498	0.13066016248	45.09853860590	0.13114818226	63.61468439442	0.09501787363	0.03795732887
305	Hydrogen sulfide	mg	0.00273668189	x	0.00145785909	0.01050945402	0.00055486471	0.04295456243	0.00055693714	2.30169903879	0.00040350527	0.00000346502
306	Hydrogen sulfide	µg	0.30363813553	x	0.28226441973	3.40320037013	0.10743052294	3.95020115425	0.10783177930	4.95889238398	0.07812495912	0.04182148507
307	Hydroxide	ng	53.58625763074	x	0.97201605331	14.48436661233	0.36995166806	16.65740108181	0.37133344909	23.71955938365	0.26903395938	0.00000358478
308	Hypochlorite	µg	0.09177958881	x	0.05427319046	1.27035390138	0.02065650796	1.46100862460	0.02073366066	2.07913486938	0.01502169771	0.00008142642
309	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag,	ng	93.27534727468	x	0.30401261268	29.97312744138	0.11570793794	34.47342433473	0.11614011070	49.08781680557	0.08414440956	-0.00000265615
310	Iodide	µg	4.69107052433	x	4.64019166427	2.74388757404	1.76606820480	3.15705874251	1.77266452470	4.46952700454	1.28430917519	0.00163833639
311	Iodine	µg	0.07752455683	x	0.04913832348	3.73114480330	0.01870216513	4.70089689178	0.01877201830	31.17289363622	0.01360047262	0.06679194663
312	Iodine-129	µBq	6.76922959228	x	2.35349525162	74.70212352987	0.89574600249	86.33098135983	0.89909164178	115.26865358498	0.65139885680	0.48115053937
313	Iodine-131	mBq	0.18232792226	x	0.11900806527	2.69240257016	0.04529475836	3.09641055460	0.04546393570	4.40742242764	0.03293897348	0.00011158453
314	Iodine-131	µBq	0.74107079497	x	0.11263905866	4.17772689001	0.04287069899	4.83163893461	0.04303082239	6.39356274754	0.03117616404	0.03053654075
315	Iodine-133	nBq	94.13138946881	x	5.08256146920	202.75484558588	1.93443522577	233.83774770351	1.94166040175	322.38254617595	1.40674799678	0.66326591389
316	Iodine-133	nBq	110.93252529974	x	3.22422204421	150.35191157315	1.22714673218	173.02625700436	1.23173016355	246.19451024075	0.89239804168	0.00939279588
317	Iodine-135	nBq	28.01750599643	x	5.90404081271	201.02050375396	2.24709225687	232.43303331174	2.25548521662	308.29829657487	1.63411650533	1.42365709161
318	Iodine, 0.03% in water	ng	0.80653061921	x	0.08825715042	54.90677875318	0.03359088557	63.14374272674	0.03371634857	89.91486171443	0.02442775563	x
319	Iron	mg	0.00501719163	x	0.00179542333	0.05672514247	0.00068334247	0.20169136781	0.00068589478	10.19003822471	0.00049693608	0.00003542526
320	Iron	mg	0.05656798330	x	0.04918416743	2.82060830991	0.01871961345	3.24424272150	0.01878953179	4.61836454147	0.01361316128	0.00007457770
321	Iron-59	nBq	30.49772273443	x	0.88640757077	41.33495472541	0.33736887191	47.56861701827	0.33862895519	67.68413402810	0.24533930029	0.00258228045
322	Iron, 46% in ore, 25% in crude ore, in ground	mg	81.06984330187	x	35.12928684961	132.78684214381	13.37029180071	152.72101045963	13.42023025809	217.46093289145	9.72306074473	0.00028570514
323	Iron, ion	mg	0.74852370018	x	0.30520689486	210.29971885987	0.11616248463	241.85128090146	0.11659635514	344.27868039224	0.08447496219	0.00701221984
324	Isocyanic acid	ng	3.35498118967	x	1.28849626797	305.10568109781	0.49040480556	350.87287333599	0.49223648282	499.63424253733	0.35662914355	0.00000071047
325	Isoprene	pg	115.01798810066	x	41.56153889991	47.42804458378	15.81842253608	54.55273493045	15.87750483821	77.54684626968	11.50337520652	0.00845909213
326	Isopropylamine	pg	0.13721715692	x	0.00311081619	2.23544509349	0.00118398419	2.57110660361	0.00118840641	3.66106993726	0.00086100964	x
327	Isopropylamine	pg	0.32932306353	x	0.00746605656	5.36519134513	0.00284159924	6.17079744024	0.00285221270	8.78676947152	0.00206645019	x
328	Kaolinite, 24% in crude ore, in ground	mg	0.02905459350	x	0.00055238906	1.35572694343	0.00021024062	1.56023460470	0.00021102587	2.20075691690	0.00015288988	0.00131730106
329	Kieserite, 25% in crude ore, in ground	µg	0.52453339455	x	0.00269020124	3.27525463279	0.00102389712	3.76932118604	0.00102772141	5.31683399610	0.00074459212	0.00317624062
330	Krypton-85	mBq	1.58667146355	x	0.94137998938	21.40291937258	0.35829150780	24.61468389864	0.35962973777	35.03637128467	0.26055452990	0.00089007372
331	Krypton-85m	mBq	0.99997309131	x	0.04351488164	1.66607331319	0.01656186952	1.91707341924	0.01662372862	2.72795971559	0.01204402012	0.00009686760
332	Krypton-87	µBq	234.20456982451	x	17.77005905950	553.18414757933	6.76332758927	636.41336300625	6.78858882901	905.69239415687	4.91838517567	0.02908467972
333	Krypton-88	µBq	300.52813260656	x	17.31069897077	591.74287970095	6.58849402506	680.82968022188	6.61310225598	968.85711524225	4.79124379459	0.03268538582
334	Krypton-89	µBq	123.43646566478	x	4.30165146854	182.65359718038	1.63721898499	210.18656852349	1.64333404902	299.07913661794	1.19060824407	0.01105424111
335	Lactic acid	pg	0.38583145246	x	0.07235552234	17.65501376868	0.02753868734	20.30358879612	0.02764154520	28.91171692964	0.02002651354	x
336	Lactic acid	pg	0.92599993827	x	0.17365446493	42.37233105484	0.06609331065	48.72895582163	0.06634017123	69.38860864368	0.04806396777	x
337	Lanthanum-140	nBq	5.80503341876	x	0.16872163302	7.86782657807	0.06421586286	9.05436165938	0.06445571111	12.88321306190	0.04669866183	0.00049151945
338	Lanthanum-140	nBq	188.20721510582	x	5.47018870776	255.08582354486	2.08196709318	293.55493256473	2.08974330529	417.69159261412	1.51403520710	0.01593574042
339	Lanthanum, 7.2% in bastnasite, 0.72% in crude ore,	pg	x	x	x	0.00000000000	x	0.00000000000	x	0.00000000000	x	0.00000000000
340	Lead	µg	1.17684544948	x	0.27533995451	2.48528277279	0.10479505468	6.19579776703	0.10518646748	250.76613808581	0.07620841023	0.00246806322
341	Lead	µg	1.84409359148	x	0.61739327042	64.29686569747	0.23498137655	73.95883345722	0.23585903933	105.03144353947	0.17088170043	0.01780067930
342	Lead	ng	205.19868815974	x	0.63096809686	14.82198404525	0.24014798843	18.40744671047	0.24104494867	25.61361763798	0.17463893190	0.00655801845
343	Lead-210	mBq	0.02622798712	x	0.01374091117	0.64808521100	0.00522982413	2.18261375239	0.00524935769	107.25731567558	0.00380320029	0.00238722747
344	Lead-210	µBq	35.51188353530	x	29.70350142790	163.46051962874	11.30522470593	188.01254149517	11.34745007323	267.26910771008	8.22131544973	0.02850409248
345	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in	µg	399.57874721309	x	2.68449668737	21.15463014551	1.02172595196	24.33603131295	1.02554213030	34.65099303027	0.74301321493	0.00000107741
346	Linuron	ng	11.11055023447	x	0.15645125855	26.73807123374	0.05954572857	30.78034857089	0.05976813372	43.81619226576	0.04330247571	0.00018043175
347	Lithium, 0.15% in brine, in ground	ng	0.00955387977	x	0.00047982590	1.18998991892	0.00018262290	1.36849705030	0.00018330501	1.94870447723	0.00013280590	x
348	Lithium, ion	ng	156.41048971351	x	5.30536951969	92.20254371570	2.01923651034	106.07621618257	2.02677842176	150.47576497556	1.46841666140	0.03578405751
349	m-Xylene	ng	4.88195429555	x	2.50036177521	59.94044989249	0.95164375767	77.55632104224	0.95519817682	107.23179781146	0.69204847591	0.00431773399
350	m-Xylene	pg	5.22505905851	x	0.19187011311	108.92798084330	0.07302623054	125.26906654159	0.07329898579	178.36377799700	0.05310568281	0.00100845982
351	Magnesite, 60% in crude ore, in ground	mg	0.99185457342	x	0.47379475323	1.96475280311	0.18032743253	2.25960534528	0.18100096113	3.21748498274	0.13113659796	0.00000583183
352	Magnesium	mg	0.00070267649	x	0.00029199850	0.02573188437	0.00011113534	0.14662278819	0.00011155043	8.70012446477	0.00008081915	0.00003029652
353	Magnesium	g	0.00259113225	x	0.00127616578	1.12059113302	0.00048571179	1.28875824526	0.00048752594	1.83375231706	0.00035321632	0.00008844540
354	Magnesium	µg	14.91256747880	x	17.38155961925	12.29346756700	6.61546375979	14.80713915934	6.64017272351	20.83510191810	4.81085655794	0.00042001625
355	Magnesium, 0.13% in water	ng	10.09727983403	x	1.29001790873	122.43281664632	0.49098394572	140.95341177297	0.49281778609	200.65767462106	0.35705030228	0.00000179783
356	Mancozeb	µg	0.00437698409	x	0.00028811553	0.80884666904	0.00010965747	0.93085874522	0.00011006704	1.31300404851	0.00007974443	0.00078590406
357	Manganese	µg	0.21108569039	x	0.07853604432	1.21847536188	0.02989100900	2.38685808772	0.03000265285	73.95377065962	0.02173715432	0.00119948134
358	Manganese	mg	0.20886768532	x	0.08375414407	89.32736742961	0.03187703043	102.72718693048	0.03199609213	146.27665465975	0.02318141652	0.00026811173
359	Manganese	µg	0.84099412849	x	0.92044463073	1.82205094058	0.35032345951	2.51210908583	0.35163192857	3.42397278215	0.25476005520	0.00009890633
360	Manganese-54	nBq	0.54034273344	x	0.01570490673	0.73235115332	0.00597732560	0.84279592820	0.00599965110	1.19919215946	0.00434679368	0.00004575149
361	Manganese-54	µBq	3.70026606606	x	0.30280690362	12.65542998806	0.11524904215	14.63269646299	0.11567950092	19.45690965152	0.08381069421	0.08654825197
362	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	mg	0.05515993623	x	0.15837523815	0.80813172347	0.06027799987	0.92949174612	0.06050314008	1.32351472899	0.04383499351	0.00000056943
363	Mercury	µg	0.10006251407	x	0.04848676084	0.40353233707	0.01845417881	0.57144274548	0.01852310574	8.27556912157	0.01342013355	0.00417638773
364	Mercury	µg	0.06587620001	x	0.03647250056	31.05548858197	0.01388152220	35.71390993249	0.01393337011	50.85430846683	0.01009483454	0.00009124059
365	Mercury	pg	18.11653893285	x	0.74132074659	245.27646522632	0.28214847464	284.36712514553	0.28320230800	400.70851051906	0.20518226519	0.21696738443
366	Metaldehyde	pg	50.53762195881	x	0.78953788296	396.43100341229	0.30050003372	456.27080488966	0.30162241073	645.34757408715	0.21852777226	0.27129655652
367	Metamorphous rock, graphite containing, in ground	µg	2.34455179007	x	0.06751357266	19.99111228661	0.02569582955	23.00539225194	0.02579180427	32.50428914402	0.01868636192	0.01596249002
368	Methane, biogenic	µg	10.71863831106	x	4.43314534603	256.71191819635	1.68726587377	299.84616894716	1.69356786450	361.78654065013	1.22700303238	4.06823819711
369	Methane, bromo-, Halon 1001	pg	0.00002351126	x	0.00000079745	0.00001357792	0.00000030351	0.00001562111	0.00000030465	0.00002215777	0.00000022072	0.00000000538
370	Methane, bromochlorodifluoro-, Halon 1211	ng	1.44946238682	x	1.33270416950	12.49746672806	0.50723044013	14.37792392821	0.50912496166	20.37379097795	0.36886497726	0.00627315191
371	Methane, bromotrifluoro-, Halon 1301	ng	37.08660755149	x	24.99110689048	14.31469302752	9.51167591244	16.47066059774	9.54720231899	23.31123095931	6.91702201114	0.00896617351
372	Methane, chlorodifluoro-, HCFC-22	ng	6.96462077124	x	5.04583669367	57.09040325686	1.92045768711	65.67483608618	1.92763065654	93.16536707522	1.39658333773	0.02219817205
373	Methane, dichloro-, HCC-30	pg	46.07370386507	x	5.68897030060	221.00219178611	2.16523589819	254.91896740814	2.17332312188	350.14933539492	1.57458943145	0.80530512620
374	Methane, dichloro-, HCC-30	ng	465.62183963325	x	547.09325161742	314.06835035828	208.22501884648	361.19715799623	209.00274579406	514.34119691858	151.42410779025	0.00001319200
375	Methane, dichlorodifluoro-, CFC-12	pg	94.59558852581	x	8.87877611053	104.94137154464	3.37928372811	120.72061871199	3.39190545836	171.25719384351	2.45746177061	0.04051285730
376	Methane, dichlorofluoro-, HCFC-21	pg	0.22505604284	x	0.00474487696	0.08241070690	0.00180591168	0.09477494392	0.00181265682	0.13495613262	0.00131328390	0.00000001529
377	Methane, fossil	mg	3.80329469783	x	1.59054645257	297.12210664452	0.60536583861	342.50664310456	0.60762689892	514.87767920667	0.44023039357	0.40513833736
378	Methane, monochloro-, R-40	pg	33.80289293256	x	6.03720483572	196.36450262671	2.29777480710	227.01285505109	2.30635706775	301.78248417300	1.67097355541	1.34816115760
379	Methane, tetrachloro-, CFC-10	ng	1.49687573940	x	0.46340636001	3.18108091178	0.17637358487	3.70326802823	0.17703234572	4.45203158476	0.12826130537	0.05156827802
380	Methane, tetrafluoro-, CFC-14	µg	0.33977428346	x	0.00897648341	2.90843472304	0.00341647136	3.34698048711	0.00342923199	4.72878638915	0.00248450513	0.00233224329
381	Methane, trichlorofluoro-, CFC-11	pg	0.36536645901	x	0.00770305416	0.13378937884	0.00293180110	0.15386205694	0.00294275147	0.21909406961	0.00213204623	0.00000002481
382	Methane, trifluoro-, HFC-23	pg	71.60874069870	x	1.50973355283	26.22158836326	0.57460825291	30.15566375131	0.57675443268	42.94058733274	0.41786305271	0.00000486342
383	Methanesulfonic acid	pg	0.95386948690	x	0.01350039612	2.44065562182	0.00513828352	2.80944751358	0.00515747517	3.99960729381	0.00373663070	x
384	Methanol	µg	0.73145874699	x	0.27585872050	2.96244456693	0.10499249827	3.40827090067	0.10538464853	4.82836162599	0.07635199393	0.00158304430
385	Methanol	ng	59.03693738629	x	19.70560689566	183.98416998392	7.50000179147	211.67280802200	7.52801453236	299.86993421480	5.45410482366	0.09700450548
386	Methyl acetate	pg	0.03873643710	x	0.00056087373	0.09417921439	0.00021346990	0.10841515039	0.00021426722	0.15434095177	0.00015523826	x
387	Methyl acetate	pg	0.09296575660	x	0.00134607324	0.22602598552	0.00051231874	0.26019160778	0.00051423227	0.37041151759	0.00037256526	x
388	Methyl acrylate	pg	816.13152834676	x	13.82036588686	195.56508450265	5.26006478557	224.90405101439	5.27971129180	320.25577680714	3.82519171561	0.00005425324
389	Methyl acrylate	ng	15.94336852575	x	0.26998489871	3.82042124821	0.10275690745	4.39356655860	0.10314070771	6.25629047094	0.07472624143	0.00000105984
390	Methyl amine	pg	1.99890222988	x	0.07832066390	1.25026123641	0.02980903469	1.43871227894	0.02992037237	2.04836026981	0.02167754147	0.00000010325
391	Methyl amine	pg	4.79730467502	x	0.18796389676	3.00065257491	0.07153951512	3.45293896963	0.07180671744	4.91610663632	0.05202452284	0.00000024780
392	Methyl borate	pg	0.07407054229	x	0.00346404442	8.34586997359	0.00131842371	9.59782981538	0.00132334807	13.66705511436	0.00095877592	0.00000000002
393	Methyl ethyl ketone	µg	1.29017435858	x	0.02205172748	0.31400578737	0.00839294098	0.36111362472	0.00842428887	0.51421355380	0.00610346253	0.00000008584
394	Methyl formate	pg	3.25271076958	x	0.05794628456	11.63311544271	0.02205449648	13.37817799553	0.02213687072	19.05017321813	0.01603833426	0.00000021246
395	Methyl formate	pg	1.29862013901	x	0.02313461600	4.64443321602	0.00880509098	5.34113622084	0.00883797827	7.60563734632	0.00640318369	0.00000008482
396	Methyl lactate	pg	0.42357539735	x	0.07943439693	19.38228969459	0.03023292419	22.28998769669	0.03034584510	31.74029090155	0.02198579977	x
397	Metolachlor	ng	80.38800092022	x	1.13188517202	193.52098199968	0.43079824249	222.77760604396	0.43240728738	317.12656805503	0.31328242816	0.00130594854
398	Metribuzin	ng	0.15411641329	x	0.01014473234	28.48000935191	0.00386110974	32.77613271403	0.00387553110	46.23171362306	0.00280785230	0.02767218635
399	Molybdenum	µg	0.02178793278	x	0.01746001746	0.13724279957	0.00664532500	0.24132751235	0.00667014550	6.39037765512	0.00483257207	0.00017973751
400	Molybdenum	µg	1.58441315190	x	0.56301465599	541.46119991688	0.21428474398	622.68564515027	0.21508510419	886.60462535968	0.15583082355	0.00532898538
401	Molybdenum	pg	43.96797361022	x	11.09388553770	463.90059827847	4.22235975008	610.78401508485	4.23813039559	837.65944061067	3.07055829058	0.25292628623
402	Molybdenum-99	nBq	64.88980744675	x	1.88600365054	87.94811589644	0.71781756495	101.21143884983	0.72049863597	144.01109432716	0.52200684112	0.00549430123
403	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	µg	3.59278168294	x	0.30117784536	8.00212730169	0.11462901862	9.20458007897	0.11505716158	13.10315845497	0.08335980454	0.00020362805
404	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	µg	0.50288242680	x	0.04278061462	1.13863237323	0.01628240571	1.30973139282	0.01634322101	1.86446396064	0.01184079018	0.00002903214
405	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	µg	0.62303928188	x	1.73310633610	8.79562584966	0.65962447614	10.11666862284	0.66208819415	14.40207007013	0.47968802370	0.00020583140
406	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	µg	1.84271636163	x	0.15676137329	4.17230027111	0.05966375899	4.79925986106	0.05988660499	6.83197111850	0.04338830906	0.00010638272
407	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	µg	1.24032132503	x	3.49750622169	17.74728834558	1.33115935313	20.41281025519	1.33613127488	29.05963576904	0.96803745530	0.00041541290
408	Monoethanolamine	ng	36.45776871586	x	1.18824660941	30.58991404979	0.45224954230	35.22338827586	0.45393870846	49.44214772427	0.32888210946	0.04476540535
409	Napropamide	ng	0.08941252963	x	0.00139687181	0.70137646801	0.00053165280	0.80724666544	0.00053363854	1.14176640670	0.00038662525	0.00047998519
410	Neodymium, 4% in bastnasite, 0.4% in crude ore, in	pg	x	x	x	0.00000000000	x	0.00000000000	x	0.00000000000	x	0.00000000000
411	Nickel	µg	0.86985143291	x	0.57238843618	2.68101557505	0.21785242746	4.00251083561	0.21866611308	72.20777156316	0.15842529222	0.00234513654
412	Nickel	ng	66.64643293650	x	0.36434432061	9.20217246134	0.13867033235	11.73599677642	0.13918827037	16.22588589779	0.10084297972	0.00423181938
413	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	µg	0.46652901219	x	0.08152461771	15.31078008022	0.03102846728	17.61994182668	0.03114435958	24.86211257881	0.02256432969	0.01433137899
414	Nickel, 1.98% in silicates, 1.04% in crude ore, in	mg	0.74603705815	x	0.83105839320	4.06138283467	0.31630284065	4.67141634471	0.31748424164	6.64916764597	0.23001979158	0.00016151895
415	Nickel, ion	mg	0.02452184316	x	0.01543821890	10.33892752446	0.00587582357	11.89063943637	0.00589776995	16.91620953447	0.00427298000	0.00099067215
416	Niobium-95	nBq	0.06414338810	x	0.00186430919	0.08693645969	0.00070956060	0.10004721629	0.00071221083	0.14235455267	0.00051600226	0.00000543110
417	Niobium-95	µBq	0.30150327948	x	0.04720901436	2.76388855038	0.01796786540	3.21234599576	0.01803497594	3.95976977431	0.01306647972	0.03857951850
418	Nitrate	µg	0.04469319730	x	0.01282507924	1.49096545003	0.00488125627	1.71564690434	0.00489948792	2.42465295479	0.00354971694	0.00115383636
419	Nitrate	mg	0.19990624153	x	0.10293431217	116.95004820071	0.03917704894	134.49288190579	0.03932337644	191.51021920172	0.02849009074	0.00027961807
420	Nitrite	µg	0.12039961586	x	0.01712631730	0.88558575364	0.00651831791	1.02007921336	0.00654266404	1.42253551635	0.00474021076	0.00188545487
421	Nitrobenzene	pg	2.57371499415	x	0.43930180165	106.78308734267	0.16719933148	122.80320209276	0.16782382620	174.86791592768	0.12158966167	x
422	Nitrobenzene	pg	10.31413874745	x	1.76049785781	427.93222268942	0.67004975576	492.13268255013	0.67255241252	700.78153574885	0.48726943094	x
423	Nitrogen	µg	2.83794272069	x	2.80902612015	29.04879987337	1.06912215620	33.42176491484	1.07311536083	47.32223740462	0.77748038885	0.01690855035
424	Nitrogen oxides	mg	20.86971550783	x	29.27092312627	109.10520738384	11.14058435487	128.16943708886	11.18219478532	301.66402212157	8.10158671395	0.95925541684
425	Nitrogen, organic bound	µg	4.17455542600	x	3.40292843420	5.53263719748	1.29516281776	6.36435366171	1.30000029133	9.03864736541	0.94186027793	0.00151087042
426	NMVOC, non-methane volatile organic compounds, unspecified origin	mg	2.88991269465	x	4.23275038383	12.65391885768	1.61099506499	14.58610678148	1.61701218186	22.26777203235	1.17153784748	0.01146565330
427	Noble gases, radioactive, unspecified	Bq	65.04301455301	x	22.61624002484	717.92096569298	8.60779582180	829.68058948676	8.63994620799	1107.76521278435	6.25970793317	4.62532021560
428	o-Xylene	pg	3.21046216919	x	0.10889229251	1.85406490466	0.04144467071	2.13306302930	0.04159946785	3.02564311168	0.03013913659	0.00073457012
429	Occupation, arable, non-irrigated	mm2a	0.37387242101	x	0.00584509572	2.94659201332	0.00222465761	3.39136773056	0.00223296678	4.79667016910	0.00161780172	0.00202079236
430	Occupation, construction site	mm2a	0.10238871835	x	0.09031657559	0.55217499016	0.03437470778	0.64428805205	0.03450309839	0.74812988088	0.02499776197	0.01063088880
431	Occupation, dump site	mm2a	0.78754628529	x	0.30263340351	189.96323602969	0.11518300758	218.73422471935	0.11561321971	306.42252493737	0.08376267296	0.31706530980
432	Occupation, dump site, benthos	mm2a	0.19581496114	x	0.27573347764	0.18928175117	0.10494483053	0.21768407624	0.10533680275	0.30997909959	0.07631732930	0.00000001128
433	Occupation, forest, intensive	mm2a	1.09041258601	x	0.04056343232	16.14238217295	0.01543854075	18.57730395222	0.01549620418	26.20721311712	0.01122711993	0.01547097030
434	Occupation, forest, intensive, normal	cm2a	0.08675891127	x	0.03164283441	31.36514038077	0.01204333954	36.12079439629	0.01208832179	51.41534002629	0.00875808275	0.00008340380
435	Occupation, forest, intensive, short-cycle	mm2a	0.03361153097	x	0.01214546661	0.01385982424	0.00462259406	0.01594186150	0.00463985959	0.02266139516	0.00336161420	0.00000247199
436	Occupation, industrial area	mm2a	2.14419167689	x	2.36999044544	155.94659861042	0.90202411327	179.34412814196	0.90539320150	255.37807892728	0.65596438562	0.00011375648
437	Occupation, industrial area, benthos	mm2a	0.00174152132	x	0.00212485641	0.00158677520	0.00080872550	0.00182487354	0.00081174612	0.00259859106	0.00058811635	0.00000000010
438	Occupation, industrial area, built up	mm2a	0.44500070770	x	0.19621238310	1.15301938029	0.07467890903	1.32605616763	0.07495783709	1.88823654899	0.05430753343	0.00000047159
439	Occupation, industrial area, vegetation	mm2a	0.41784386860	x	0.07917012169	1.71157083136	0.03013234039	1.96836505356	0.03024488562	2.80285736357	0.02191265384	0.00000174830

No	Substance	Unit	C0, Clamp, transport of fuels, at plant, ZA	C1, Clamp, clay extraction, extracted clay, ZA	C2, Clamp, mining fuel, stockpiled clay, ZA	C3, Clamp, clay preparation, wet green brick, ZA rev1	C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	C6, Clamp, dry green brick transport, at firing location, ZA	C7, Clamp, brick firing, fired brick, ZA rev1	C8, Clamp, fired brick transport, at sales bay, ZA	C9, Clamp, factory overheads, additional water and electricity, ZA
440	Occupation, mineral extraction site	cm2a	0.01169837451	868.16000000010	0.00279894960	682.71744621459	0.00106528701	785.12776884066	0.00106926589	833.13946706777	0.00077469142	0.00310329460
441	Occupation, permanent crop, fruit, intensive	mm2a	0.04915158068	x	0.01744839044	0.01785170378	0.00664089973	0.02053218342	0.00666570370	0.02920767135	0.00482935395	0.00000186159
442	Occupation, shrub land, sclerophyllous	mm2a	0.05943715750	x	0.00649398612	0.49344392490	0.00247162687	0.57673192300	0.00248085847	0.65201176418	0.00179740118	0.01062599433
443	Occupation, traffic area, rail embankment	mm2a	0.14789779091	x	0.04462106186	22.02009206490	0.01698288440	25.32312654514	0.01704631600	36.05952925997	0.01235018795	0.00000003198
444	Occupation, traffic area, rail network	mm2a	0.16354083261	x	0.04934059834	24.34914048050	0.01877915143	28.00153440939	0.01884929215	39.87351828612	0.01365645813	0.00000003536
445	Occupation, traffic area, road embankment	mm2a	4.54292931488	x	0.03931989442	31.01191497612	0.01496524721	35.71362922119	0.01502114287	50.83193160059	0.01088293433	0.00033727936
446	Occupation, traffic area, road network	mm2a	22.54941850168	x	0.99145137026	1.79751017645	0.37734879684	2.06733068582	0.37875820638	2.94376892750	0.27441325353	0.00000012347
447	Occupation, urban, discontinuously built	mm2a	0.00036120236	x	0.00007101627	0.00525779210	0.00002702896	0.00653208607	0.00002712992	0.00912478226	0.00001965584	0.00000000001
448	Occupation, water bodies, artificial	mm2a	0.68971080663	x	0.28433349507	26.85795539523	0.10821801803	31.40793751384	0.10862221571	35.20014346297	0.07869763642	0.59798789533
449	Occupation, water courses, artificial	mm2a	1.18164276642	x	0.25722476522	2.36744890772	0.09790036969	2.72315458241	0.09826603062	3.87165051981	0.07119450013	0.00037466484
450	Oil, crude, in ground	mg	854.08922419803	x	726.91546937464	405.56559554852	276.66579118431	466.65127086529	277.69914655375	660.40437759898	201.19518210756	0.25757474289
451	Oils, biogenic	µg	0.19389047654	x	0.05852224269	32.34776159476	0.02227370754	37.22610873480	0.02235690054	52.99731195171	0.01619774757	0.00014492445
452	Oils, unspecified	mg	2.34299072994	x	3.16120290828	1.68143591142	1.20316149616	1.93470954377	1.20765534192	2.73750560206	0.87495564698	0.00109927548
453	Oils, unspecified	mg	2.34810720542	x	3.33991754210	1.76352914504	1.27118071936	2.02917331075	1.27592861904	2.87106484109	0.92442016495	0.00115938307
454	Olivine, in ground	ng	15.32902027161	x	1.04009794123	6.36362616607	0.39586379977	7.32447475948	0.39734236342	10.39628345754	0.28787761922	0.00200618837
455	Orbencarb	ng	0.83224394518	x	0.05478256285	153.79487976884	0.02085037633	176.99437270626	0.02092825313	249.65584640610	0.01516268146	0.14943254994
456	Ozone	µg	2.18959690001	x	0.80575329257	60.54614404240	0.30667165796	70.56556414782	0.30781708618	83.37094169333	0.22301586259	1.07444532393
457	PAH, polycyclic aromatic hydrocarbons	µg	0.26770768714	x	2.18149050594	1.68656979886	0.83028057899	1.94363502310	0.83338170287	2.71009408050	0.60379149722	0.00359476614
458	PAH, polycyclic aromatic hydrocarbons	ng	262.63805692197	x	277.91552456787	184.65073132841	105.77532289019	212.44669709300	106.17039702420	301.00579924374	76.92127479974	0.09503197617
459	Paraffins	pg	x	x	x	0.00000121893	x	0.00000142972	x	0.00000152499	x	0.00000003208
460	Paraffins	pg	x	x	x	0.00000353744	x	0.00000414917	x	0.00000442567	x	0.00000009309
461	Particulates, < 2.5 um	mg	0.62657142195	x	2.71472555203	2.95104665482	1.03323113119	3.56295015006	1.03709028173	16.05724235010	0.75137994007	0.01369985002
462	Particulates, > 10 um	mg	0.74140787387	x	0.43294017922	182.80255978826	0.16477808255	211.35815889540	0.16539353383	378.38774980617	0.11982889603	0.06290373608
463	Particulates, > 2.5 um, and < 10um	mg	0.48279609513	x	0.24757069388	1.26034713081	0.09422600671	1.75983143669	0.09457794379	24.88060696688	0.06852245266	0.00195960543
464	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	1.22663558224	x	0.91283534296	0.62634980925	0.34742734613	0.72063434562	0.34872499811	1.02115767020	0.25265396157	0.00031432482
465	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	2.94782552114	x	2.19370720629	1.50523239165	0.83493028478	1.73181529310	0.83804877546	2.45402690159	0.60717282745	0.00075541448
466	Peat, in ground	µg	19.03616162231	x	0.48550790011	69.54672328691	0.18478548465	80.02173676545	0.18547566421	113.18213608891	0.13437855500	0.04813013812
467	Pentane	µg	64.32488588265	x	53.41506264270	54.57032523825	20.32990242994	63.06503760697	20.40583525035	84.22015024688	14.78418565632	0.35053020361
468	Phenol	µg	0.05221847364	x	0.00534137580	0.12983372965	0.00203294059	1.69264142760	0.00204053368	114.43844161601	0.00147838246	0.00007807160
469	Phenol	µg	4.33658625259	x	4.44064972143	2.50871509846	1.69012205726	2.88659797217	1.69643471592	4.08446932413	1.22908008843	0.00163381509
470	Phenol, 2,4-dichloro-	pg	0.29125028966	x	0.04769746552	0.45424659404	0.01815377110	0.52285296048	0.01822157600	0.74436053676	0.01320167291	x
471	Phenol, pentachloro-	ng	0.97374804665	x	0.64312266443	14.56040789376	0.24477404634	16.74584040140	0.24568828504	23.83579105806	0.17800306506	0.00060246547
472	Phosphate	mg	0.72989351963	x	0.36649817797	388.93370491988	0.13949009568	447.28171299474	0.14001109555	636.77721354674	0.10143912293	0.00887526016
473	Phosphine	pg	0.62176775690	x	0.01052901153	0.14899077171	0.00400736733	0.17134259015	0.00402233497	0.24398606455	0.00291421284	0.00000004133
474	Phosphorus	µg	0.02576650872	x	0.01891098239	0.58659910345	0.00719756578	2.64727185841	0.00722444891	145.35869552830	0.00523416918	0.00052001819
475	Phosphorus	ng	386.29361579201	x	262.92172602089	479.55757685200	100.06864678735	551.91236411908	100.44240630792	780.65002935384	72.77130116974	0.32749355666
476	Phosphorus	µg	0.96991358384	x	1.10736084385	1.26354077820	0.42146422369	1.65729612745	0.42303840573	2.28498815014	0.30649460085	0.00004187922
477	Phosphorus, 18% in apatite, 12% in crude ore, in	µg	4.79441174473	x	3.73435168311	7.55939046982	1.42130331035	8.69738976385	1.42661192260	12.33990025231	1.03359138523	0.00279099885
478	Phosphorus, 18% in apatite, 4% in crude ore, in	µg	8.88657633109	x	8.48557557417	10.47976719819	3.22963065004	12.05663580512	3.24169342137	17.09198212623	2.34863198661	0.00479024428
479	Pirimicarb	pg	69.59585482339	x	0.97992878937	167.54065297834	0.37296327460	192.86955450452	0.37435630408	274.55210148091	0.27122404122	0.00113062404
480	Platinum	pg	0.10603476265	x	0.03382305822	0.80544196203	0.01287313802	0.92635783891	0.01292121959	1.31857478310	0.00936152365	0.00003211810
481	Plutonium-238	nBq	0.00092343249	x	0.00032105485	0.01019057867	0.00012219425	0.01177694308	0.00012265065	0.01572450993	0.00008886135	0.00006563672
482	Plutonium-alpha	nBq	0.00211685159	x	0.00073597742	0.02336060618	0.00028011479	0.02699714495	0.00028116103	0.03604644014	0.00020370334	0.00015046384
483	Polonium-210	mBq	0.04512805453	x	0.02427700857	1.15950139420	0.00923988836	3.96064554312	0.00927439963	196.02273858648	0.00671937435	0.00421398866
484	Polonium-210	µBq	49.30999290596	x	42.43794674886	180.77910500886	16.15198548961	207.93911830502	16.21231365979	295.50721484958	11.74594679042	0.03705130125
485	Polychlorinated biphenyls	ng	1.20182315515	x	0.55903625765	2.22122342543	0.21277055592	2.55460097111	0.21356526059	3.63753170437	0.15472968509	0.00000587170
486	Potassium	mg	0.00170332390	x	0.00073120206	0.02382160697	0.00027829728	0.06797590083	0.00027933673	2.91915130726	0.00020238162	0.00001091315
487	Potassium	µg	6.71699665115	x	7.71289208357	7.91899671999	2.93554543894	10.24263572434	2.94650979282	14.16840286002	2.13476916190	0.00023293412
488	Potassium-40	mBq	0.00501069391	x	0.00314183888	0.23393944308	0.00119579150	0.68782320996	0.00120025782	31.18875591225	0.00086959608	0.00242535902
489	Potassium-40	µBq	14.68082339100	x	9.82189981219	167.76633843330	3.73823889704	192.95060123023	3.75220133605	274.47995708634	2.71849892403	0.01731734520
490	Potassium, ion	g	0.00160205540	x	0.00081752254	0.77070026316	0.00031115106	0.88639656860	0.00031231322	1.26056761474	0.00022627335	0.00010295333
491	Praseodymium, 0.42% in bastnasite, 0.042% in crude ore, in ground	pg	x	x	x	0.00000000000	x	0.00000000000	x	0.00000000000	x	0.00000000000
492	Propanal	pg	135.51409685341	x	46.53563576794	516.98087227601	17.71157587151	596.13565761441	17.77772916046	826.30262147570	12.88010244283	1.40913867831
493	Propanal	pg	0.62735560779	x	0.03150808550	78.14177047655	0.01199205378	89.86360360940	0.01203684448	127.96345207142	0.00872078703	x
494	Propane	mg	0.05207347869	x	0.04445662467	0.05026092082	0.01692029920	0.07332915105	0.01698349705	1.22298558839	0.01230467513	0.00010847838
495	Propene	µg	2.78074903783	x	2.02600628875	5.89028457378	0.77110290871	14.52562018597	0.77398300215	580.18371593503	0.56075667858	0.04065316547
496	Propene	ng	800.04555695974	x	71.10821752826	251.28161086352	27.06396010404	289.11487090099	27.16504484014	409.46515153091	19.68128534567	0.13948516500
497	Propionic acid	ng	15.03642701301	x	14.40494177018	139.83844786299	5.48255578498	160.84673035326	5.50303330204	228.51839262327	3.98699024137	0.03278933274
498	Propionic acid	pg	1.24237378431	x	0.12197621297	3.21097221217	0.04642444258	3.69526828021	0.04659783932	5.26101332080	0.03376049543	x
499	Propylamine	pg	0.10457999766	x	0.00525234049	13.02604516790	0.00199905353	14.98004655799	0.00200652006	21.33119964740	0.00145373932	x
500	Propylamine	pg	0.25099102585	x	0.01260549928	31.26215110617	0.00479768361	35.95170085067	0.00481560311	51.19429405717	0.00348894174	x
501	Propylene oxide	ng	303.97985273723	x	2.34768796408	10.07553702692	0.89353573476	11.58818541111	0.89687311863	16.49245019903	0.64979151960	0.00053938398
502	Propylene oxide	ng	731.42833504223	x	5.64868689914	24.23753962619	2.14990393786	27.87634140663	2.15793389621	39.67395141638	1.56343981827	0.00129789114
503	Protactinium-234	µBq	1.12222851110	x	0.31959707363	10.29405938218	0.12163942158	11.89593024418	0.12209374862	15.89798321822	0.08845786634	0.06537837017
504	Protactinium-234	µBq	20.64166215725	x	5.89315000412	189.78336372739	2.24294718870	219.31530987717	2.25132466649	293.10608060084	1.63110215454	1.20480741839
505	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	pg	24.18017861400	x	22.23356869552	44.72567814402	8.46215018548	51.44437357540	8.49375658067	73.13951597804	6.15379241612	0.00723482313
506	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	pg	86.68390454562	x	79.70547229278	160.33777387459	30.33609612487	184.42372843130	30.44940239119	262.19898629011	22.06082782460	0.02593577810
507	Radioactive species, alpha emitters	nBq	80.63476123347	x	72.46640359372	103.59011771903	27.58088901559	119.20288416513	27.68390449732	168.62662439939	20.05720318521	0.06982563993
508	Radioactive species, Nuclides, unspecified	mBq	6.62188217751	x	2.29248593671	72.71577079749	0.87252570922	84.03463956273	0.87578461999	112.21668915972	0.63451273903	0.46746704141
509	Radioactive species, other beta emitters	mBq	3.32479820107	x	0.00975673044	0.19838122150	0.00371343528	0.22831401188	0.00372730507	0.32267498146	0.00270046139	0.00015215430
510	Radium-224	mBq	2.34072214101	x	2.31727890900	1.26516978900	0.88196197462	1.45573441606	0.88525613014	2.05996782037	0.64137492148	0.00081534189
511	Radium-226	mBq	0.04270029044	x	0.01388159935	0.49658853113	0.00528337039	0.94384285783	0.00530310395	28.18797180216	0.00384213987	0.00270528287
512	Radium-226	mBq	16.61974584079	x	7.40384437993	120.18731369557	2.81792113317	138.87878662745	2.82844615660	185.80044342794	2.04923114320	0.75072100227
513	Radium-228	mBq	0.00391682408	x	0.00275838099	0.42050570505	0.00104984650	2.49044766419	0.00105376771	149.17292409566	0.00076346286	0.00073114601
514	Radium-228	mBq	4.68171533371	x	4.63456701101	2.53049611162	1.76392744813	2.91164892078	1.77051577223	4.12019108746	1.28275238739	0.00163074579
515	Radon-220	mBq	0.20769932574	x	0.12773603051	3.00509459985	0.04861664311	3.48701391076	0.04879822779	7.20182846885	0.03535469391	0.00026151931
516	Radon-222	Bq	147.96660498220	x	42.25510305088	1361.18375257181	16.08239473457	1572.99132146993	16.14246298110	2102.32267559766	11.69533943281	8.63614289309
517	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	pg	16.78199461796	x	20.88322626787	16.44064844141	7.94820658151	18.91453387986	7.97789338128	26.81928554108	5.78004553345	0.00718535006
518	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	pg	52.56309124887	x	65.40860914051	51.49396098630	24.89467532407	59.24244866243	24.98765771378	84.00101866114	18.10375151150	0.02250543594
519	Rhenium, in crude ore, in ground	pg	30.40446099311	x	29.31826573872	17.05046888343	11.15860306802	19.62114152436	11.20028079893	27.77591519380	8.11469017086	0.01023832075
520	Rubidium	ng	468.14442789732	x	463.45578173859	254.80341531001	176.39239490110	293.22233278348	177.05122600421	414.20731896390	128.27498427832	0.20963418314
521	Ruthenium-103	nBq	0.01409272263	x	0.00040960094	0.01910050980	0.00015589511	0.02198102893	0.00015647739	0.03127622793	0.00011336908	0.00000119325
522	Ruthenium-103	nBq	13.69233353145	x	0.39796374932	18.55784419026	0.15146596847	21.35652473394	0.15203169860	30.38763733564	0.11014814293	0.00115934701
523	Samarium, 0.3% in bastnasite, 0.03% in crude ore,	pg	x	x	x	0.00000000000	x	0.00000000000	x	0.00000000000	x	0.00000000000
524	Sand, unspecified, in ground	µg	1.48705058646	x	0.30738055893	6.01636728873	0.11698978645	6.91976062769	0.11742674696	9.85089505090	0.08507658749	0.00015022713
525	Scandium	µg	0.01370439759	x	0.00395004033	0.10220125403	0.00150339493	0.15643982331	0.00150901016	3.04574415186	0.00109328955	0.00001005280
526	Scandium	µg	0.67191958466	x	0.23960859646	239.22803294127	0.09119561312	275.63567395568	0.09153623158	382.93556127668	0.06631870861	0.60044491519
527	Selenium	µg	0.04553713661	x	0.02830690344	0.86324952649	0.01077367612	1.28341540035	0.01081391614	21.70129018777	0.00783476598	0.01549280413
528	Selenium	µg	1.05297932821	x	0.35473061138	366.29397217982	0.13501133129	421.36041541731	0.13551560283	597.77723907112	0.09818210365	0.14001463784
529	Shale, in ground	ng	97.52689930055	x	8.35579610472	43.14782064627	3.18023626912	49.64851143327	3.19211455089	70.42476813204	2.31271171102	0.01686649817
530	Silicon	mg	0.00246465457	x	0.00099507077	0.10288044856	0.00037872635	0.60609217757	0.00038014090	36.26232584538	0.00027541503	0.00012731467
531	Silicon	g	0.00584442510	x	0.00269814341	1.19534703596	0.00102691993	1.37746669892	0.00103075551	1.91000946672	0.00074679035	0.00323169993
532	Silicon	µg	2.42477486901	x	2.39386746063	8.05339069705	0.91111176318	10.98377597938	0.91451479407	14.98517048940	0.66257305006	0.00183315773
533	Silicon tetrafluoride	pg	66.22955992921	x	64.13117509776	73.07363721208	24.40848082827	84.07173883998	24.49964726636	119.13869040755	17.75018416332	0.03621634401
534	Silver	ng	0.59507002002	x	0.17288935102	4.21262379340	0.06580210644	4.84493816973	0.06604787936	6.89890447891	0.04785220005	0.00000150093
535	Silver-110	nBq	0.13966967187	x	0.00405945899	0.18930067715	0.00154503994	0.21784882729	0.00155081071	0.30997136659	0.00112357437	0.00001182601
536	Silver-110	µBq	52.06379717351	x	3.58808509114	143.45110186169	1.36563389060	165.64357404144	1.37073457582	224.44584501155	0.99310781479	0.71630478622
537	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd,	ng	56.59300535796	x	1.01497560711	14.90835609719	0.38630217846	17.14499137213	0.38774502916	24.41387269521	0.28092427622	0.00000378079
538	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	ng	40.35951415917	x	0.72481676923	10.65469556461	0.27586702082	12.25317343471	0.27689739275	17.44809357834	0.20061430527	0.00000269708
539	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	ng	3.72623794466	x	0.06685830723	0.98225093769	0.02544643394	1.12961373519	0.02554147716	1.60853075754	0.01850499799	0.00000024903
540	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	ng	8.51029781406	x	0.15269666204	2.24334786399	0.05811672003	2.57990749894	0.05833378779	3.67369874703	0.04226328097	0.00000056876
541	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	ng	8.34151793960	x	0.14966831945	2.19885683280	0.05696412549	2.52874167359	0.05717688828	3.60084038738	0.04142509832	0.00000055748
542	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	ng	5.50418689175	x	0.09875929784	1.45092528038	0.03758802835	1.66860123277	0.03772842081	2.37603024832	0.02733453304	0.00000036792
543	Silver, ion	µg	0.08990335244	x	0.04358083445	2.37582735345	0.01658697132	2.73223606849	0.01664892418	3.89036389064	0.01206227449	0.00001693462
544	Sodium	mg	0.00102947595	x	0.00078684015	0.00765707122	0.00029947327	0.02841096917	0.00030059181	1.45638298520	0.00021778110	0.00000575547
545	Sodium	µg	53.44414713365	x	43.24169939257	25.28384887876	16.45789569576	29.07794523655	16.51936645011	41.40668120145	11.96840891474	0.00000104402
546	Sodium-24	µBq	0.49097358079	x	0.01427000638	0.66543888914	0.00543119905	0.76579272620	0.00545148475	1.08962632861	0.00394964291	0.00004157135
547	Sodium chlorate	ng	0.79598809637	x	0.69125863895	2.16570833314	0.26309471502	2.49672899627	0.26407738200	3.44472051773	0.19132610820	0.00694025642
548	Sodium chloride, in ground	mg	10.49703307225	x	0.61028918266	4.42252724737	0.23227754352	5.10623919663	0.23314510740	6.91458100406	0.16891543572	0.02237052477
549	Sodium dichromate	ng	1.14808534935	x	0.32428633985	3.14099008134	0.12342416768	3.61449223248	0.12388516081	5.14374310920	0.08975575834	0.00015132784
550	Sodium formate	ng	0.03343471669	x	0.00647373615	2.72002270916	0.00246391969	3.13030988007	0.00247312250	4.41585696889	0.00179179640	0.00261376168
551	Sodium formate	ng	0.08032485315	x	0.01555275399	6.53468868815	0.00591941590	7.52037859636	0.00594152510	10.60882708352	0.00430468095	0.00627940301
552	Sodium hydroxide	ng	7.21458400912	x	0.12237049229	1.73351694252	0.04657450624	1.99358196119	0.04674846348	2.83879336115	0.03386962380	0.00000047966
553	Sodium nitrate, in ground	pg	4.78862912292	x	0.10412594671	1.94788398162	0.03963058793	2.24035956764	0.03977860942	3.18964647514	0.02881991056	0.00002994721
554	Sodium sulphate, various forms, in ground	µg	16.11102507365	x	16.81372942788	16.27892538859	6.39934621136	18.73066131771	6.42324796929	26.51128565661	4.65369289370	0.01008966568
555	Sodium, ion	g	0.01977376858	x	0.01515670778	1.21570466541	0.00576867975	1.39816583867	0.00579022595	1.98904975688	0.00419506354	0.00011963565
556	Solids, inorganic	mg	0.21442868276	x	0.13130564169	7.65841253574	0.04997524578	8.81242795706	0.05016190489	12.45364568008	0.03634268853	0.00596652894
557	Solved solids	mg	0.03786617140	x	0.04963694120	9.45217134400	0.01889194024	10.87155712272	0.01896250223	15.45313658525	0.01373847971	0.00173852042
558	Stibnite, in ground	pg	215.41931383943	x	0.63126234587	12.83308545342	0.24025998032	14.76942488284	0.24115735885	20.87331219973	0.17472037394	0.00985755494
559	Strontium	µg	0.04448388981	x	0.02290511525	1.54396664403	0.00871774243	5.94454225514	0.00875030348	310.90442575954	0.00633966263	0.00250255751
560	Strontium	mg	0.15191423048	x	0.11815695287	39.44293257046	0.04497082292	45.36807902845	0.04513879035	64.44432720948	0.03270340315	0.00996725565
561	Strontium	ng	186.09552859382	x	218.17522795765	125.02788292207	83.03802106681	143.79003196955	83.34817066850	204.74506785905	60.38639507570	0.00066547333
562	Strontium-89	µBq	1.14941967009	x	0.06396069846	3.40654637497	0.02434359701	3.94492346340	0.02443452110	5.13707707847	0.01770299975	0.03013749288
563	Strontium-90	mBq	5.03997627194	x	3.28938515028	74.81546409780	1.25194796844	86.05051433821	1.25662403320	122.32620530374	0.91043384302	0.01301312616
564	Styrene	ng	3.52111186314	x	0.90711297186	4.98472793484	0.34524939780	5.73300714138	0.34653891508	8.16015075763	0.25107012748	0.00021250726
565	Sulfate	µg	10.57946191653	x	3.21426949954	36.88336207028	1.22335876953	42.45651993059	1.22792805274	59.77542135064	0.88964338296	0.04272565709
566	Sulfate	g	0.01796001445	x	0.00846998219	9.01800073510	0.00322369577	10.37093181123	0.00323573638	14.76384596553	0.00234431606	0.00025837594
567	Sulfide	ng	63.24636383922	x	55.37104274334	140.84551755001	21.07435320157	162.09953426472	21.15306656886	228.59935799409	15.32556053294	0.13974818115
568	Sulfite	µg	0.24972193177	x	0.14734264826	3.45624549400	0.05607896939	3.97497364686	0.05628842609	5.65644329843	0.04078140059	0.00023846252
569	Sulfur	µg	6.22141757109	x	8.48100839473	4.76766347863	3.22789237047	5.48552135718	3.23994864927	7.76728594589	2.34736788571	0.00276541328
570	Sulfur	µg	11.16387249653	x	12.99443539642	8.76621530102	4.94571363715	10.27394905814	4.96418603202	14.54727498852	3.59659122156	0.00081323088
571	Sulfur dioxide	g	0.00298941250	x	0.00366881723	0.08025324359	0.00139636074	0.10743875163	0.00140157619	1.11021744670	0.00101545280	0.00179772496
572	Sulfur hexafluoride	µg	0.02441496428	x	0.01199789956	0.81359078981	0.00456642968	0.95074030796	0.00458348544	1.07784923282	0.00332077069	0.01732809496
573	Sulfur trioxide	ng	0.02144319396	x	0.00353845164	0.86066007759	0.00134674328	0.98978257245	0.00135177341	1.40941863377	0.00097937030	x
574	Sulfur, in ground	µg	1.14132209737	x	0.12575841383	1.23204437692	0.04786395740	1.41877097208	0.04804273078	2.01356770278	0.03480733048	0.00038641297
575	Sulfuric acid	ng	1.51014695191	x	0.02577554023	0.36668844472	0.00981023315	0.42169981237	0.00984687467	0.60048624003	0.00713413695	0.00000010046
576	Sulfuric acid	pg	0.93265162740	x	0.01579351617	0.22348615052	0.00601105057	0.25701387711	0.00603350203	0.36597908529	0.00437131895	0.00000006200
577	Suspended solids, unspecified	µg	519.88356337041	x	672.20464296213	558.78251116495	255.84271791998	642.89866200817	256.79829846054	910.82093078152	186.05235581334	0.29194511370
578	Sylvite, 25 % in sylvinite, in ground	µg	6.64746872947	x	0.58347291816	35.64344973667	0.22207120819	41.02333567370	0.22290065109	57.94268446741	0.16149324780	0.02956195158
579	t-Butyl methyl ether	ng	2.54272806829	x	0.06462746548	15.97599161970	0.02459737015	18.39727453958	0.02468924210	26.18495457870	0.01788754709	0.00020600707
580	t-Butyl methyl ether	ng	70.93906690366	x	100.87186406706	53.58610866586	38.39207618509	61.65834071602	38.53547178850	87.23852298137	27.91924771935	0.03531275225
581	t-Butylamine	pg	0.74354392448	x	0.01185889386	4.10020940348	0.00451352377	4.71729139162	0.00453038193	6.71656603483	0.00328229679	x

No	Substance	Unit	C0, Clamp, transport of fuels, at plant, ZA	C1, Clamp, clay extraction, extracted clay, ZA	C2, Clamp, mining fuel, stockpiled clay, ZA	C3, Clamp, clay preparation, wet green brick, ZA rev1	C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	C6, Clamp, dry green brick transport, at firing location, ZA	C7, Clamp, brick firing, fired brick, ZA rev1	C8, Clamp, fired brick transport, at sales bay, ZA	C9, Clamp, factory overheads, additional water and electricity, ZA
582	t-Butylamine	pg	1.78453205016	x	0.02846177975	9.84066971525	0.01083262242	11.32169163190	0.01087308261	16.12003227629	0.00787763255	x
583	Talc, in ground	µg	0.39681419821	x	0.05877741943	143.36554084432	0.02237082843	164.99163389963	0.02245438418	232.72858539162	0.01626837522	0.13911310467
584	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore,	ng	44.64115761294	x	0.79216284225	11.55802772932	0.30149909959	13.29201930170	0.30262520815	18.92737648724	0.21925430675	0.00000298017
585	Tebutam	ng	0.21186618961	x	0.00330993776	1.66193664814	0.00125977034	1.91279987081	0.00126447562	2.70545637236	0.00091612238	0.00113734211
586	Technetium-99m	µBq	1.49141449847	x	0.04370383290	2.02904419712	0.01663378483	2.33503493904	0.01669591254	3.32246488802	0.01209631792	0.00012658070
587	Teflubenzuron	ng	0.01027442758	x	0.00067631549	1.89866728723	0.00025740732	2.18507551087	0.00025836874	3.08211423792	0.00018719015	0.00184481235
588	Tellurium-123m	µBq	0.21775711021	x	0.06756781467	2.61190288335	0.02571647419	3.02579210521	0.02581252602	3.90726917260	0.01870137499	0.02519899338
589	Tellurium-132	nBq	3.75724804097	x	0.10920333712	5.09236965173	0.04156305504	5.86034225240	0.04171829435	8.33852685511	0.03022522731	0.00031813090
590	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	ng	6.05402804922	x	0.10872433338	1.59823098780	0.04138074506	1.83800666696	0.04153530343	2.61725768383	0.03009264897	0.00000040457
591	Terpenes	ng	1.08757795903	x	0.39299435095	0.44846631218	0.14957460340	0.51583538952	0.15013326921	0.73326126948	0.10877271614	0.00007998679
592	Thallium	µg	0.00056272617	x	0.00010804880	0.01089612672	0.00004112364	0.06130836376	0.00004127723	3.62722998565	0.00002990568	0.00001261746
593	Thallium	µg	0.07863196824	x	0.01750692333	11.54978012047	0.00666317749	13.32276978979	0.00668806467	18.23110644764	0.00484555464	0.04647526210
594	Thiram	pg	4.95143973843	x	1.78919389634	2.04174229583	0.68097153764	2.34845495388	0.68351498759	3.33833446840	0.49521190147	0.00036415757
595	Thorium	µg	0.00018076357	x	0.00009963224	0.01152429493	0.00003792027	0.05771186111	0.00003806190	3.30838582602	0.00002757614	0.00001515933
596	Thorium-228	mBq	0.00110795971	x	0.00071397627	0.05048001302	0.00027174110	0.22794818389	0.00027275606	12.64530334587	0.00019761388	0.00015849357
597	Thorium-228	mBq	9.36321112027	x	9.26941245371	5.06108334497	3.52796086803	5.82340271962	3.54113791204	8.24053031561	2.56558183892	0.00326156700
598	Thorium-230	µBq	4.26446385305	x	1.29773440594	38.17478831078	0.49392086328	44.11430869509	0.49576567313	58.97189483094	0.35918606926	0.24140624705
599	Thorium-230	mBq	2.81635341127	x	0.80406281245	25.89408768485	0.30602825712	29.92343350205	0.30717128222	39.99146399361	0.22254797262	0.16438421144
600	Thorium-232	mBq	0.00156357304	x	0.00098802721	0.04862183070	0.00037604555	0.16412435788	0.00037745010	8.07245665417	0.00027346552	0.00020788914
601	Thorium-232	µBq	2.14424271007	x	1.28564704567	30.53556898612	0.48932038464	35.11906729570	0.49114801155	49.96292143698	0.35584053769	0.00286211032
602	Thorium-234	µBq	1.12246309532	x	0.31965798217	10.29625990117	0.12166260352	11.89847681071	0.12211701715	15.90132067119	0.08847472456	0.06539649929
603	Thorium-234	µBq	20.64417021599	x	5.89380115636	189.80688614058	2.24319501882	219.34253134618	2.25157342227	293.14175648641	1.63128238003	1.20500119334
604	Tin	µg	0.02582815100	x	0.00934843643	0.12855571316	0.00355803759	0.16740771491	0.00357132697	1.65356033738	0.00258745404	0.00005468108
605	Tin	ng	0.10855087691	x	0.00414402985	0.92887069513	0.00157722781	1.06907007362	0.00158311881	1.50648771639	0.00114698184	0.00099470037
606	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	µg	2.21531836170	x	0.06572071586	2.30734554145	0.02501346390	2.65355459996	0.02510688997	3.77769338520	0.01819013620	0.00005555492
607	Tin, ion	µg	0.74337484974	x	0.10393622331	19.51956833104	0.03955837875	22.55426827562	0.03970613053	30.17007030892	0.02876739904	0.12222171610
608	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	µg	220.14463776116	x	34.82749849306	194.50673837386	13.25543042005	223.72121239442	13.30493986659	318.21652167102	9.63953196331	0.02203798688
609	TiO2, 95% in rutile, 0.40% in crude ore, in ground	ng	3.10139247699	x	0.01279885392	1.01762777758	0.00487127485	1.17047528179	0.00488946922	1.66579246418	0.00354245831	0.00005528460
610	Titanium	µg	0.32638915337	x	0.08867066004	4.01601874050	0.03374826833	16.31909184883	0.03387431917	872.37268911215	0.02454220655	0.00302388439
611	Titanium	ng	7.08581209760	x	3.78118565138	90.60917704947	1.43912843230	132.95350262924	1.44450362193	178.76532931198	1.04655405995	0.00589391686
612	Titanium, ion	mg	0.05179122177	x	0.00667384444	2.81303497741	0.00254008139	3.26885237336	0.00254956867	4.03633198363	0.00184718224	0.03882969884
613	TOC, Total Organic Carbon	mg	2.57988403161	x	3.20501178371	2.12027250558	1.21983526043	2.43983825201	1.22439138322	3.45351963641	0.88708103851	0.00129824147
614	Toluene	µg	7.84742010933	x	6.26629267895	20.43844274851	2.38496619601	25.28577081591	2.39387411922	144.07206802618	1.73438033691	0.24838049753
615	Toluene	µg	5.85119497208	x	5.87991955984	3.18380100870	2.23791164951	3.66336781188	2.24627031941	5.18373822643	1.62744024094	0.00206343343
616	Toluene, 2-chloro-	pg	0.95293992462	x	0.13223182173	32.16260800509	0.05032775215	36.98832584356	0.05051572788	52.67002610695	0.03659903603	x
617	Toluene, 2-chloro-	pg	1.81035904924	x	0.27411503596	66.93454570174	0.10432884771	76.97698502163	0.10471851921	109.61260055590	0.07586937808	x
618	Transformation, from arable	mm2	0.00078912306	x	0.00008853237	0.00648475028	0.00003369563	0.00746164209	0.00003382149	0.01055955641	0.00002450393	0.00000410819
619	Transformation, from arable, non-irrigated	mm2	0.69079163160	x	0.01079218595	5.41817008427	0.00410753216	6.23602290752	0.00412287392	8.82020568952	0.00298705408	0.00370789823
620	Transformation, from arable, non-irrigated, fallow	mm2	0.00019300887	x	0.00000743162	0.00164522844	0.00000282849	0.00189329496	0.00000283906	0.00267510435	0.00000205692	0.00000130924
621	Transformation, from dump site, inert material	mm2	0.01009205824	x	0.00034843800	0.01099507593	0.00013261635	0.01264558825	0.00013311167	0.01800563817	0.00009644044	0.00000005961
622	Transformation, from dump site, residual material	mm2	0.00172990296	x	0.00092340922	0.08728894536	0.00035145179	0.10223105403	0.00035276447	0.11179146535	0.00025558059	0.00212116085
623	Transformation, from dump site, sanitary landfill	mm2	0.00002161650	x	0.00002333466	0.00023883755	0.00000888123	0.00027516906	0.00000891440	0.00038272920	0.00000645855	0.00000057153
624	Transformation, from dump site, slag compartment	mm2	0.00004108580	x	0.00000213786	0.00002626386	0.00000081368	0.00003100363	0.00000081672	0.00004365376	0.00000059172	0.00000001303
625	Transformation, from forest	mm2	0.79512381440	x	0.93798879739	0.55015702180	0.35700081191	0.63271290328	0.35833422109	0.90097555582	0.25961591802	0.00000008703
626	Transformation, from forest, extensive	mm2	0.07336351515	x	0.02348752490	21.22961825986	0.00893940896	24.44834236465	0.00897279793	34.79867261441	0.00650086158	0.00017390761
627	Transformation, from forest, intensive, clear-cutting	mm2	0.00120041717	x	0.00043376860	0.00049499593	0.00016509338	0.00056935473	0.00016571001	0.00080933915	0.00012005819	0.00000008829
628	Transformation, from industrial area	mm2	0.00090498741	x	0.00052126119	0.00565218439	0.00019839327	0.00651767684	0.00019913428	0.00896531565	0.00014427433	0.00001981374
629	Transformation, from industrial area, benthos	mm2	0.00000082866	x	0.00000074284	0.00000731659	0.00000028273	0.00000841430	0.00000028378	0.00001198167	0.00000020560	0.00000000000
630	Transformation, from industrial area, built up	mm2	0.00000312751	x	0.00000302842	0.00000345070	0.00000115262	0.00000397005	0.00000115693	0.00000562599	0.00000083820	0.00000000171
631	Transformation, from industrial area, vegetation	mm2	0.00000533516	x	0.00000516612	0.00000588649	0.00000196624	0.00000677245	0.00000197358	0.00000959728	0.00000142988	0.00000000292
632	Transformation, from mineral extraction site	cm2	0.00012043893	32.00000000000	0.00002131283	25.08133211564	0.00000811171	28.84353203125	0.00000814201	30.57436812602	0.00000589895	0.00000008769
633	Transformation, from pasture and meadow	cm2	0.00021706673	32.00000000000	0.00003106345	25.08205481520	0.00001182282	28.84438170231	0.00001186698	30.57524097865	0.00000859772	0.00002124800
634	Transformation, from pasture and meadow,	mm2	0.00056368979	x	0.00000880640	0.00442173772	0.00000335174	0.00508918277	0.00000336426	0.00719811944	0.00000243743	0.00000302601
635	Transformation, from sea and ocean	mm2	0.19600667904	x	0.27582775781	0.18945846094	0.10498071380	0.21788730122	0.10537282004	0.31026844205	0.07634342410	0.00000001410
636	Transformation, from shrub land, sclerophyllous	mm2	0.01386855200	x	0.00179730151	0.11102961005	0.00068405731	0.12953892169	0.00068661229	0.15062844223	0.00049745592	0.00212414456
637	Transformation, from tropical rain forest	mm2	0.00120041717	x	0.00043376860	0.00049499593	0.00016509338	0.00056935473	0.00016571001	0.00080933915	0.00012005819	0.00000008829
638	Transformation, from unknown	mm2	0.19991258710	x	0.03493837284	8.48309677504	0.01329762947	9.76349730271	0.01334729653	13.76465613460	0.00967021969	0.00867650090
639	Transformation, to arable	mm2	0.00467187606	x	0.00281056299	0.05150159084	0.00106970709	0.05923287612	0.00107370248	0.08426220547	0.00077790576	0.00000524363
640	Transformation, to arable, non-irrigated	mm2	0.69135604295	x	0.01080100465	5.42259171975	0.00411088858	6.24111197245	0.00412624287	8.82740364416	0.00298949491	0.00371092404
641	Transformation, to arable, non-irrigated, fallow	mm2	0.00028268332	x	0.00001710284	0.00199038792	0.00000650938	0.00229033518	0.00000653369	0.00323882906	0.00000473371	0.00000141254
642	Transformation, to dump site	mm2	0.00518613497	x	0.00223071697	1.61534388725	0.00084901629	1.85955580233	0.00085218739	2.61307241149	0.00061741637	0.00219071960
643	Transformation, to dump site, benthos	mm2	0.19581496114	x	0.27573347764	0.18928175117	0.10494483053	0.21768407624	0.10533680275	0.30997909959	0.07631732930	0.00000001128
644	Transformation, to dump site, inert material landfill	mm2	0.01009205824	x	0.00034843800	0.01099507593	0.00013261635	0.01264558825	0.00013311167	0.01800563817	0.00009644044	0.00000005961
645	Transformation, to dump site, residual material	mm2	0.00172995280	x	0.00092341091	0.08728934809	0.00035145243	0.10223151720	0.00035276512	0.11179212489	0.00025558106	0.00212116085
646	Transformation, to dump site, sanitary landfill	mm2	0.00002161650	x	0.00002333466	0.00023883755	0.00000888123	0.00027516906	0.00000891440	0.00038272920	0.00000645855	0.00000057153
647	Transformation, to dump site, slag compartment	mm2	0.00004108580	x	0.00000213786	0.00002626386	0.00000081368	0.00003100363	0.00000081672	0.00004365376	0.00000059172	0.00000001303
648	Transformation, to forest	mm2	0.01772911546	x	0.00165458615	0.11137488664	0.00062973950	0.12993501833	0.00063209160	0.15119790694	0.00045795526	0.00212381635
649	Transformation, to forest, intensive	mm2	0.00726771225	x	0.00027019465	0.10753542668	0.00010283674	0.12375610295	0.00010322084	0.17458413537	0.00007478430	0.00010306275
650	Transformation, to forest, intensive, clear-cutting	mm2	0.00120041717	x	0.00043376860	0.00049499593	0.00016509338	0.00056935473	0.00016571001	0.00080933915	0.00012005819	0.00000008829
651	Transformation, to forest, intensive, normal	mm2	0.06449726767	x	0.02273773458	20.91404621810	0.00865403694	24.08501024724	0.00868636004	34.28311270986	0.00629333511	0.00006742933
652	Transformation, to forest, intensive, short-cycle	mm2	0.00120041717	x	0.00043376860	0.00049499593	0.00016509338	0.00056935473	0.00016571001	0.00080933915	0.00012005819	0.00000008829
653	Transformation, to heterogeneous, agricultural	mm2	0.03948670901	x	0.04359363125	0.02565067779	0.01659184181	0.02949978501	0.01665381286	0.04200738674	0.01206581638	0.00000000101
654	Transformation, to industrial area	mm2	0.01025791712	x	0.00402916418	4.51619565207	0.00153350966	5.19398086700	0.00153923737	7.39595539314	0.00111518939	0.00000139268
655	Transformation, to industrial area, benthos	mm2	0.00019171851	x	0.00009428027	0.00017671036	0.00003588330	0.00020322567	0.00003601733	0.00028934343	0.00002609483	0.00000000281
656	Transformation, to industrial area, built up	mm2	0.00981634174	x	0.00442067883	0.02596817463	0.00168252109	0.02989931649	0.00168880536	0.04194862615	0.00122355256	0.00003935214
657	Transformation, to industrial area, vegetation	mm2	0.00915782925	x	0.00221120993	0.03087163063	0.00084159186	0.03550359488	0.00084473523	0.05055555760	0.00061201722	0.00000001930
658	Transformation, to mineral extraction site	cm2	0.00841794878	32.00000000000	0.00900548744	25.10579532086	0.00342751037	28.87168737319	0.00344031223	30.61405404870	0.00249253285	0.00002561488
659	Transformation, to pasture and meadow	cm2	0.00000164553	16.00000000000	0.00000146458	12.54040912174	0.00000055742	14.42147049055	0.00000055950	15.28676394155	0.00000040537	0.00000000019
660	Transformation, to permanent crop, fruit, intensive	mm2	0.00069191344	x	0.00024562335	0.00025130084	0.00009348484	0.00028903432	0.00009383401	0.00041116033	0.00006798347	0.00000002621
661	Transformation, to sea and ocean	mm2	0.00000082866	x	0.00000074284	0.00000731659	0.00000028273	0.00000841430	0.00000028378	0.00001198167	0.00000020560	0.00000000000
662	Transformation, to shrub land, sclerophyllous	mm2	0.01188466355	x	0.00129731975	0.09854912247	0.00049376305	0.11518281468	0.00049560727	0.13022348621	0.00035907130	0.00212180501
663	Transformation, to traffic area, rail embankment	mm2	0.00034414679	x	0.00010382978	0.05123906039	0.00003951787	0.05892496754	0.00003966547	0.08390775079	0.00002873794	0.00000000007
664	Transformation, to traffic area, rail network	mm2	0.00037827706	x	0.00011412695	0.05632062116	0.00004343699	0.06476876720	0.00004359923	0.09222918236	0.00003158798	0.00000000008
665	Transformation, to traffic area, road embankment	mm2	0.01175893726	x	0.00024711778	0.20680795930	0.00009405363	0.23816206601	0.00009440492	0.33897910722	0.00006839710	0.00000236422
666	Transformation, to traffic area, road network	mm2	0.04839874619	x	0.01179128628	0.02334613811	0.00448779217	0.02685007321	0.00450455421	0.03823324278	0.00326358441	0.00000000140
667	Transformation, to unknown	mm2	0.00354541795	x	0.00065355426	0.00664870924	0.00024874434	0.00766383725	0.00024967340	0.01059683857	0.00018089032	0.00001984588
668	Transformation, to urban, discontinuously built	mm2	0.00000719492	x	0.00000141460	0.00010473183	0.00000053840	0.00013011494	0.00000054041	0.00018175978	0.00000039153	0.00000000000
669	Transformation, to water bodies, artificial	cm2	0.00019677575	16.00000000000	0.00002502120	12.54235551888	0.00000952313	14.42374282971	0.00000955870	15.28937919938	0.00000692535	0.00003895923
670	Transformation, to water courses, artificial	mm2	0.01125490694	x	0.00249267135	0.02786475892	0.00094871676	0.03205167536	0.00095226025	0.04556586756	0.00068991992	0.00000463750
671	Tributyltin compounds	ng	48.16707403873	x	46.76322164637	58.65887457226	17.79819560898	67.47751135220	17.86467242535	95.78050966653	12.94309351151	0.01919678252
672	Triethylene glycol	ng	15.14921336490	x	13.55686367883	138.77394501554	5.15977520592	159.65996493915	5.17904712744	226.14539282843	3.75225974901	0.07567712047
673	Trimethylamine	pg	0.06860296273	x	0.00099847911	0.16711087839	0.00038002357	0.19237048174	0.00038144297	0.27386084082	0.00027635839	x
674	Trimethylamine	pg	0.16464711076	x	0.00239634989	0.40106610826	0.00091205658	0.46168915630	0.00091546314	0.65726601816	0.00066326013	x
675	Tungsten	ng	1.53082696122	x	0.43704779278	10.67946081667	0.16634145024	12.28246834641	0.16696274075	17.48955764926	0.12096579859	x
676	Tungsten	µg	0.98043210486	x	0.11514029617	20.31854557324	0.04382267606	23.47639511499	0.04398635512	31.42458047483	0.03186845491	0.12589734941
677	Ulexite, in ground	ng	59.48745605181	x	24.64788316213	553.93232325498	9.38104412874	637.03213341776	9.41608262150	907.11537172239	6.82202477495	0.00001365536
678	Uranium	µg	0.00014505273	x	0.00009155611	0.01518938122	0.00003484648	0.07304250504	0.00003497663	4.13674799361	0.00002534084	0.00002018525
679	Uranium-234	µBq	13.14668979974	x	3.83283177347	119.81687103656	1.45878507166	138.46063558919	1.46423367946	185.06153471273	1.06084863941	0.75972405570
680	Uranium-234	µBq	24.76999500565	x	7.07178008192	227.74003683587	2.69153665574	263.17837227011	2.70158962920	351.72729731551	1.95732260675	1.44576890207
681	Uranium-235	µBq	0.63163487603	x	0.18033039238	5.80737089729	0.06863418483	6.71104844353	0.06889053565	8.96904602997	0.04991172655	0.03686710583
682	Uranium-235	µBq	40.87049169434	x	11.66843710569	375.77105779499	4.44103547075	434.24431074761	4.45762287691	580.35003679999	3.22958229299	2.38551861240
683	Uranium-238	mBq	0.01707444054	x	0.00629177623	0.24355897025	0.00239466530	0.58977586371	0.00240360945	23.22702134712	0.00174143366	0.00117309748
684	Uranium-238	mBq	0.08031839349	x	0.03290567902	0.65390588148	0.01252398127	0.75522295313	0.01257075873	1.01722515388	0.00910761204	0.00365284791
685	Uranium alpha	µBq	60.83134420131	x	17.37252572402	559.15704651156	6.61202543735	646.16194428851	6.63672155883	863.65708315190	4.80835616240	3.54418269509
686	Uranium alpha	mBq	1.18918974471	x	0.33951889950	10.93348830575	0.12922171684	12.63482824847	0.12970436399	16.88605146288	0.09397181611	0.06940230858
687	Uranium, in ground	µg	4.61998533126	x	1.30165410671	41.87204378901	0.49541271090	48.38757396146	0.49726309285	64.67050293167	0.36027096144	0.26566224996
688	Urea	pg	0.80792256736	x	0.03747260031	90.00473661139	0.01426216259	103.50634408691	0.01431543221	147.39027388318	0.01037164149	x
689	Vanadium	µg	0.95096777059	x	0.81672842542	5.85420019695	0.31084882015	7.84574157625	0.31200985020	91.79540514741	0.22605355259	0.00247575429
690	Vanadium	ng	0.20281832554	x	0.10822950726	2.59352162400	0.04119241303	3.80555094457	0.04134626798	5.11683055380	0.02995569133	0.00016870269
691	Vanadium, ion	µg	5.16071482924	x	2.04042220930	621.40044187380	0.77658964304	717.83401571412	0.77949022961	963.28569546558	0.56474670752	3.69773642475
692	Vermiculite, in ground	µg	0.03876016272	x	0.00557029931	3.41824423769	0.00212006943	3.93098370059	0.00212798796	5.59762734633	0.00154174375	0.00000000295
693	VOC, volatile organic compounds, unspecified origin	µg	16.43477927522	x	16.23570112896	9.33113720425	6.17934723846	10.73902493917	6.20242729336	15.15276851616	4.49370660401	0.00875837138
694	Volume occupied, final repository for low-active	mm3	0.00937008728	x	0.00268197727	0.08465772780	0.00102076706	0.09780255806	0.00102457965	0.13123231576	0.00074231589	0.00050442878
695	Volume occupied, final repository for radioactive	mm3	0.00214546512	x	0.00067766917	0.02169630892	0.00025792253	0.02507382901	0.00025888588	0.03348082600	0.00018756482	0.00013959022
696	Volume occupied, reservoir	cm3y	8.84335910817	x	1.57073507285	139.81258611303	0.59782557942	163.02797750204	0.60005847663	191.27144329951	0.43474701301	2.56638712932
697	Volume occupied, underground deposit	mm3	0.02608518351	x	0.01127755831	0.12382899377	0.00429226605	0.14248792272	0.00430829780	0.20151409373	0.00312139512	0.00008679038
698	Water	mg	0.03915543400	x	0.01331140399	40.54835591326	0.00506635265	46.66496060211	0.00508527564	65.82209349864	0.00368432158	0.03941255392
699	Water, cooling, unspecified natural origin/m3	cm3	9.87248302336	x	5.86189865236	79.30658099687	2.23105284840	91.46936457345	2.23938590046	125.40536617134	1.62245242610	0.30416526040
700	Water, fresh	cm3	x	x	x	x	x	x	x	x	x	17.26207900000
701	Water, lake	cm3	0.04033462587	x	0.00586522975	3.79067554964	0.00223232067	4.36368059038	0.00224065846	6.13333695008	0.00162337441	0.00505069665
702	Water, process, drinking	g	x	x	x	24.90177900001	x	28.63704585000	x	30.35526860098	x	x
703	Water, rain	cm3	x	x	x	10.13012700000	x	11.64964605000	x	12.34862481299	x	71.19017000001
704	Water, river	cm3	2.51173593933	x	1.11879060828	72.51378669562	0.42581441976	83.79336263169	0.42740484992	98.73451364469	0.30965812348	0.46050009098
705	Water, salt, ocean	cm3	0.37487155424	x	0.32367754683	2.93467030035	0.12319245959	3.39047448376	0.12365258727	4.54489976558	0.08958725701	0.01777016267
706	Water, salt, sole	mm3	549.04688882397	x	576.79640664478	423.05370939204	219.53011171152	486.70910134117	220.35006353397	689.84305835249	159.64532736347	0.20244186197
707	Water, turbine use, unspecified natural origin	dm3	3.26584326801	x	0.83685874688	26.10129983185	0.31851046933	30.14280637893	0.31970011588	40.65799963761	0.23162520963	0.14213692896
708	Water, unspecified natural origin/m3	cm3	6.85857945303	x	2.36259147161	8.66239678777	0.89920804588	9.96463186183	0.90256661601	14.15129450072	0.65391650254	0.00237637689
709	Water, well, in ground	cm3	0.78229005072	x	0.27206991075	84.29055207254	0.10355046809	96.98017879209	0.10393723232	119.46847744862	0.07530332968	0.05274550125
710	Wood, hard, standing	mm3	2.25703644258	x	0.95987302983	536.39970647960	0.36533000386	623.06026658552	0.36669452284	884.91948424315	0.26567302138	0.00299967740
711	Wood, primary forest, standing	mm3	0.01242911945	x	0.00449124008	0.00512518789	0.00170937687	0.00589509896	0.00171576145	0.00837989761	0.00124308246	0.00000091411
712	Wood, soft, standing	mm3	5.27742165659	x	1.99591188476	57.84302785887	0.75964890554	66.53382885324	0.76248621792	94.52239338126	0.55242716938	0.01377520090
713	Wood, unspecified, standing/m3	mm3	0.00012160544	x	0.00002479068	0.00009046086	0.00000943539	0.00010479167	0.00000947064	0.00014862194	0.00000686155	0.00000002063
714	Xenon-131m	mBq	1.21209100757	x	0.08138327428	2.63533698890	0.03097467163	3.03194449173	0.03109036300	4.31473318552	0.02252520875	0.00014158988
715	Xenon-133	mBq	43.87366307287	x	2.57905471736	87.50358346316	0.98159448237	100.67659718173	0.98526076841	143.26870245680	0.71382905631	0.00481549491
716	Xenon-133m	µBq	54.44458757022	x	11.30726499154	282.92173680627	4.30357248788	325.41518135246	4.31964646551	463.16358000468	3.12961731447	0.01281902760
717	Xenon-135	mBq	17.58266172616	x	1.05819530771	35.59713231299	0.40275170136	40.95571722984	0.40425599154	58.28262666591	0.29288659632	0.00195062600
718	Xenon-135m	mBq	11.02916802592	x	0.62274037645	21.44665837020	0.23701649808	24.67560369590	0.23790176210	35.11458283772	0.17236166889	0.00118893641
719	Xenon-137	µBq	337.91289632043	x	11.79388457264	500.40781915895	4.48878108101	575.83836558536	4.50554681852	819.37343421776	3.26430355979	0.03027661099
720	Xenon-138	mBq	2.54268665733	x	0.10493617368	4.11359171735	0.03993896229	4.73340244127	0.04008813556	6.73547702026	0.02904416464	0.00024148928
721	Xylene	µg	5.79202909726	x	4.46734356189	98.48131021916	1.70028179770	116.60265712420	1.70663240331	245.06738557294	1.23646839191	2.07208835621
722	Xylene	µg	4.69559172931	x	4.75028378184	2.58836552714	1.80796953184	2.97823634826	1.81472235450	4.21437975189	1.31478039857	0.00167041204
723	Zinc	µg	4.18790857784	x	1.29353309122	5.09088527324	0.49232183271	10.75563482913	0.49416067012	369.27594000571	0.35802323216	0.00281190170
724	Zinc	µg	14.26857457764	x	0.35641318262	0.76312028374	0.13565172198	0.91339516753	0.13615838540	1.28453285210	0.09864780460	0.00019828354
725	Zinc-65	nBq	2.69806269933	x	0.07841841881	3.65680744518	0.02984624045	4.20828507070	0.02995771709	5.98785814292	0.02170459801	0.00022844835
726	Zinc-65	µBq	6.65649104989	x	0.19346900417	9.02184594618	0.07363477236	10.38241695103	0.07390980053	14.77286800665	0.05354822282	0.00056361342
727	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in	µg	326.11040945897	x	18.90423368483	337.37394751951	7.19499720324	388.11931625428	7.22187074248	550.89497833039	5.23230127720	0.11065605263
728	Zinc, ion	mg	0.16342229694	x	0.02565762019	12.95167804463	0.00976535249	14.89457067499	0.00980182639	21.20790079285	0.00710149912	0.00010037173
729	Zirconium	ng	1.43204896652	x	0.61534370352	2.34454896488	0.23420130642	2.69652640634	0.23507605561	3.83942672744	0.17031442266	0.00001656171
730	Zirconium-95	nBq	2.63725385766	x	0.07665102728	3.57439044887	0.02917356694	4.11343889126	0.02928253112	5.85290400879	0.02121542056	0.00022329958
731	Zirconium-95	nBq	77.08402858769	x	2.24042519143	104.47549999604	0.85271126326	120.23129286360	0.85589616646	171.07394435464	0.62010340044	0.00652680108

No	Substance	Unit	C0, Clamp, transport of fuels, at plant, ZA	C1, Clamp, clay extraction, extracted clay, ZA	C2, Clamp, mining fuel, stockpiled clay, ZA	C3, Clamp, clay preparation, wet green brick, ZA rev1	C4, Clamp, wet green brick transport, wet bricks ready for drying, ZA	C5, Clamp, drying of wet green brick, dry green brick, ZA rev1	C6, Clamp, dry green brick transport, at firing location, ZA	C7, Clamp, brick firing, fired brick, ZA rev1	C8, Clamp, fired brick transport, at sales bay, ZA	C9, Clamp, factory overheads, additional water and electricity, ZA
732	Zirconium, 50% in zircon, 0.39% in crude ore, in	ng	61.28009509003	x	1.04277311248	14.80443122230	0.39688197644	17.02541958028	0.39836434301	24.24362133501	0.28861805134	0.00000407534

Appendix 5.2: Inventory of emitted substances for the tunnel kiln firing technology for the cradle to gate phase

No	Substance	Unit	T0, Tunnel, transport of fuel, at plant, ZA	T1 Tunnel, clay extraction, extracted clay, ZA	T2 Tunnel, mining fuel, stockpiled clay, ZA	T3 Tunnel, clay preparation, wet green brick, ZA rev1	T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA	T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1	T6 Tunnel, dry green brick transport, at firing location, ZA	T7 Tunnel, brick firing, fired brick, ZA rev1	T8 Tunnel, fired brick transport, at saled bay, ZA	T9 Tunnel, factory overheads, additional water and electricity, ZA rev1
1	1-Butanol	pg	0.350304935	x	0.030072942	0.098340410	0.001196540	0.134523234	0.000617384	0.447640909	0.003379151	0.000000025
2	1-Butanol	ng	7.514916316	x	0.165660085	0.383471217	0.006591270	0.420916736	0.003400925	0.775297089	0.018614420	0.000002551
3	1-Pentanol	pg	0.357094059	x	0.018766232	7.555628601	0.000746669	7.835721145	0.000385262	11.624058546	0.002108670	x
4	1-Pentanol	pg	0.857029013	x	0.045039012	18.133510152	0.001792009	18.805732508	0.000924630	27.897743211	0.005060815	x
5	1-Pentene	pg	0.269848931	x	0.014181277	5.709643016	0.000564244	5.921303547	0.000291135	8.784077148	0.001593481	x
6	1-Pentene	pg	0.647639781	x	0.034035037	13.703104666	0.001354183	14.211088762	0.000698724	21.081726307	0.003824352	x
7	1-Propanol	pg	22.817930339	x	5.393086965	76.384103209	0.214579716	88.020961384	0.110717593	151.539805778	0.605995000	0.000010252
8	1-Propanol	pg	3.156362364	x	0.093407523	25.204532215	0.003716491	26.257645984	0.001917613	38.998433254	0.010495750	x
9	1,4-Butanediol	pg	24.979534059	x	0.712387914	1.534653611	0.028344434	1.850466468	0.014624996	4.903291173	0.080047571	0.000008081
10	1,4-Butanediol	pg	9.991885913	x	0.284957226	0.613865885	0.011337856	0.740191941	0.005850041	1.961330653	0.032019260	0.000003232
11	2-Aminopropanol	pg	0.165784196	x	0.002869666	0.126742314	0.000114178	0.141114250	0.000058913	0.213562338	0.000322450	x
12	2-Aminopropanol	pg	0.416884693	x	0.007199555	0.312847511	0.000286455	0.348785263	0.000147804	0.527978550	0.000808979	x
13	2-Butene, 2-methyl-	pg	0.000059856	x	0.000003146	0.001266466	0.000000125	0.001313415	0.000000065	0.001948412	0.000000353	x
14	2-Methyl-1-propanol	pg	0.851740644	x	0.056871601	13.084061833	0.002262803	13.596927478	0.001167548	20.384034146	0.006390386	x
15	2-Methyl-1-propanol	pg	2.044144409	x	0.136490798	31.401097805	0.005430685	32.631951496	0.002802093	48.920687492	0.015336808	x
16	2-Methyl-2-butene	pg	0.000143656	x	0.000007549	0.003039564	0.000000300	0.003152243	0.000000155	0.004676259	0.000000848	x
17	2-Nitrobenzoic acid	pg	0.296563305	x	0.005012295	0.136634281	0.000199429	0.159270875	0.000102900	0.244273948	0.000563207	x
18	2-Propanol	ng	446.229553311	x	9.735618130	22.356349662	0.387360002	24.393812879	0.199867758	44.699170555	1.093944145	0.000151379
19	2-Propanol	pg	1.328820632	x	0.035642281	4.158028309	0.001418132	4.385219214	0.000731720	6.560958530	0.004004950	x
20	2,4-D	ng	1.061245973	x	0.327407329	0.064192482	0.013026857	0.337454522	0.006721522	3.642590188	0.036789172	0.000263730
21	4-Methyl-2-pentanone	pg	1.104506833	x	0.042814396	0.133293172	0.001703496	0.152470413	0.000878960	0.295033233	0.004810846	0.001143192
22	Acenaphthene	pg	0.655888990	x	0.468406938	1.941842410	0.018636938	2.831614252	0.009616179	6.283441071	0.052632614	0.012903784
23	Acenaphthene	pg	386.474918214	x	596.537517081	63.736827539	23.734987425	89.648766127	12.246640590	299.699213426	67.030024741	0.830792439
24	Acenaphthylene	pg	24.170215850	x	37.307571388	3.986113474	1.484390692	5.606651102	0.765907265	18.743246510	4.192070677	0.051957919
25	Acetaldehyde	µg	1.032178547	x	0.107092551	0.523543618	0.004260990	0.730037511	0.002198561	3.251020161	0.012033470	0.001537281
26	Acetaldehyde	ng	14.239184738	x	0.321377590	1.615274113	0.012786946	1.751254357	0.006597734	2.951166842	0.036111640	0.000004658
27	Acetic acid	µg	1.783437419	x	1.095013062	1.446948563	0.043568293	14.304845045	0.022480114	173.812561117	0.123041302	0.007425953
28	Acetic acid	ng	105.755188619	x	34.123903724	28.468644539	1.357719175	37.479414221	0.700548033	121.226704546	3.834337398	0.088684584
29	Acetone	µg	0.658736538	x	0.103984490	0.306107172	0.004137327	0.419189595	0.002134754	1.842717201	0.011684232	0.001080803
30	Acetone	pg	141.485224719	x	2.425116742	86.881669841	0.096490353	98.282020574	0.049786530	149.076577295	0.272498595	0.002724751
31	Acetonitrile	ng	3.157920518	x	0.975902941	0.191074294	0.038829149	1.005664424	0.020034838	10.858285769	0.109657476	0.000786198
32	Acetonitrile	pg	1.401271141	x	0.023150213	0.679436567	0.000921099	0.787369195	0.000475263	1.200082419	0.002601277	x
33	Acetyl chloride	pg	0.673255156	x	0.035381246	14.245122770	0.001407746	14.773199774	0.000726361	21.915601181	0.003975619	x
34	Acidity, unspecified	ng	81.048896893	x	17.712491647	7.574238487	0.704743213	22.906518050	0.363629299	204.056989088	1.990266696	0.057268286
35	Aclonifen	ng	2.555422860	x	0.042005009	1.168406536	0.001671292	1.363422912	0.000862344	2.079344679	0.004719899	0.000191831
36	Acrolein	ng	0.389424272	x	0.205587199	0.703682963	0.008179887	0.932975061	0.004220611	1.600568943	0.023100835	0.028246375
37	Acrylate, ion	ng	2.732309273	x	0.059658403	0.137063897	0.002373684	0.149624187	0.001224760	0.274275982	0.006703525	0.000000927
38	Acrylic acid	ng	1.154455371	x	0.025206871	0.057912242	0.001002929	0.063219217	0.000517485	0.115887105	0.002832374	0.000000392
39	Actinides, radioactive, unspecified	µBq	0.229838979	x	0.046796149	0.819094922	0.001861921	1.051290401	0.000960703	1.525862765	0.005258256	0.043196432
40	Actinides, radioactive, unspecified	µBq	19.825797100	x	7.910658164	124.461578147	0.314748640	160.901627478	0.162402170	236.905021042	0.888882253	6.401379831
41	Aerosols, radioactive, unspecified	µBq	2.375469520	x	1.179291577	18.924536281	0.046921560	24.459582361	0.024210313	35.874427623	0.132511269	0.983399025
42	Aldehydes, unspecified	ng	18.661286152	x	7.375417704	36.586608764	0.293452535	47.968065380	0.151413930	83.840379928	0.828739881	1.771647347
43	Aldrin	pg	29.688672415	x	0.649296080	1.493410652	0.025834141	1.631838415	0.013329750	2.993683659	0.072958248	0.000010076
44	Aluminium	mg	0.049035402	x	0.021158901	11.653104190	0.000841869	13.418968667	0.000434382	29.923198814	0.002377523	0.210813983
45	Aluminium	mg	0.820287681	x	0.423722261	123.143216779	0.016859028	154.045716225	0.008698823	191.212109947	0.047611613	6.927157996
46	Aluminium	µg	26.138835702	x	44.862721714	4.948019974	1.784994414	18.432124247	0.921011023	177.034235242	5.041006241	0.006818129
47	Aluminium, 24% in bauxite, 11% in crude ore,	mg	2.552096408	x	0.126810890	5.710149224	0.005045542	6.269617836	0.002603369	9.195839708	0.014249124	0.088369830
48	Ammonia	mg	0.067058755	x	0.044986989	4.628310153	0.001789939	5.058464009	0.000923562	7.072575603	0.005054970	0.083588224
49	Ammonium carbonate	ng	0.402982271	x	0.138940103	0.188821575	0.005528138	0.457333375	0.002852376	2.782342700	0.015612025	0.000133524
50	Ammonium, ion	µg	9.890147424	x	8.207274287	60.628793110	0.326550379	69.713112770	0.168491563	102.614367943	0.922211567	1.456204651
51	Anhydrite, in ground	ng	54.548699009	x	6.107826560	5.774994955	0.243017719	8.925151298	0.125390867	41.103929791	0.686306818	0.049106514
52	Aniline	pg	3.868275218	x	0.676796543	26.779701174	0.026928327	28.307771459	0.013894321	47.771551695	0.076048342	x
53	Aniline	pg	9.403035091	x	1.626373519	64.329839344	0.064710021	68.006478376	0.033388700	114.755991143	0.182747697	x
54	Anthranilic acid	pg	0.216177683	x	0.003660606	0.099667351	0.000145648	0.116172307	0.000075151	0.178235367	0.000411325	x
55	Antimony	µg	0.030826684	x	0.003850955	0.024234420	0.000153221	0.137039631	0.000079058	2.106327568	0.000432713	0.000422351
56	Antimony	µg	1.108006753	x	0.235200454	29.555989013	0.009358137	35.262482704	0.004828557	47.289396993	0.026428333	1.020717133
57	Antimony	pg	2.219014861	x	0.121460263	0.334053317	0.004832651	0.413119244	0.002493523	0.923877316	0.013647900	0.001509776
58	Antimony-122	nBq	79.983281751	x	2.426226419	18.733290925	0.096534504	23.248164979	0.049809311	44.308858160	0.272623284	0.027976577
59	Antimony-124	nBq	0.198389747	x	0.006017988	0.046465871	0.000239443	0.057664520	0.000123547	0.109903257	0.000676212	0.000069393
60	Antimony-124	µBq	5.976750938	x	1.285933759	24.629560234	0.051164630	31.536039702	0.026399628	45.119195007	0.144494134	1.316754281
61	Antimony-125	nBq	2.070363705	x	0.062802763	0.484910406	0.002498791	0.601777721	0.001289312	1.146932829	0.007056842	0.000724172
62	Antimony-125	µBq	5.709056006	x	1.171358028	32.344239441	0.046605900	41.010547555	0.024047441	55.928119386	0.131619815	1.871297566
63	AOX, Adsorbable Organic Halogen as Cl	ng	87.232042501	x	78.908813915	121.400278212	3.139617631	157.987651502	1.619961621	247.466973501	8.866600335	4.001277379
64	Argon-41	mBq	0.820605842	x	0.622302549	2.323630622	0.024760124	3.426878783	0.012775585	7.618893396	0.069925116	0.002321620
65	Arsenic	µg	0.246473680	x	0.080449655	0.383451153	0.003200924	2.183044771	0.001651594	31.210109891	0.009039737	0.011436924
66	Arsenic	ng	10.572306735	x	17.930638635	1.867837292	0.713422828	7.236258667	0.368107756	70.564928396	2.014778814	0.001036597
67	Arsenic, ion	µg	4.014363056	x	1.454327911	153.963680482	0.057864684	172.834134828	0.029856682	254.948696912	0.163415767	0.007900603
68	Arsine	pg	0.013456705	x	0.000293819	0.000675044	0.000011690	0.000736903	0.000006032	0.001350817	0.000033015	0.000000005
69	Atrazine	pg	7.788550006	x	0.170336866	0.391782549	0.006777350	0.428097805	0.003496937	0.785365428	0.019139927	0.000002643
70	Barite	mg	0.205926959	x	0.355525076	0.039621729	0.014145604	0.437866263	0.007298766	5.312547478	0.039948627	0.000000058
71	Barite, 15% in crude ore, in ground	mg	4.435097115	x	7.679388750	0.738422787	0.305546911	3.671251497	0.157654316	38.863395596	0.862895632	0.000441985
72	Barium	µg	0.087755463	x	0.049154396	1.341755569	0.001955751	10.014886266	0.001009117	107.036807891	0.005523241	0.065348430
73	Barium	mg	0.066415811	x	0.091832371	1.159865199	0.003653819	1.256111140	0.001895276	1.883100571	0.010318758	0.001918525
74	Barium	µg	12.887099298	x	22.360948189	2.083317678	0.889695633	8.697512749	0.459059972	87.421109627	2.512591191	0.000003459
75	Barium-140	nBq	134.674078399	x	4.085226271	31.542700405	0.162542659	39.144745337	0.083867815	74.606273910	0.459037043	0.047106342
76	Barium-140	nBq	350.369242113	x	10.628159812	82.061761003	0.422872380	101.839306546	0.218191228	194.096324461	1.194234721	0.122552266
77	Basalt, in ground	µg	276.512915379	x	67.722999656	89.768593048	2.694557340	110.784054170	1.390322004	306.521004199	7.609704692	0.004482499
78	Benomyl	pg	6.753179497	x	2.086958077	0.408610351	0.083035722	2.150602693	0.042844289	23.220328819	0.234501347	0.001681276
79	Bentazone	ng	1.304169707	x	0.021437415	0.596300687	0.000852950	0.695828032	0.000440100	1.061201409	0.002408818	0.000097902
80	Benzal chloride	pg	0.000186108	x	0.000007214	0.000022460	0.000000287	0.000025691	0.000000148	0.000049713	0.000000811	0.000000193
81	Benzaldehyde	pg	172.987270245	x	93.282830354	267.991429796	3.711529857	352.016954463	1.915053561	595.398130667	10.481738780	11.542129510
82	Benzene	µg	9.500827542	x	10.703077988	68.195352642	0.425853218	151.714347606	0.219729264	852.523535165	1.202652913	4.051902060
83	Benzene	µg	4.988506995	x	6.859800461	0.899952822	0.272937197	1.271613450	0.140828545	4.491242676	0.770802475	0.011454945
84	Benzene, 1-methyl-2-nitro-	pg	0.256098765	x	0.004328388	0.117991260	0.000172218	0.137539206	0.000088860	0.210944009	0.000486360	x
85	Benzene, 1,2-dichloro-	pg	5.745623604	x	0.117484234	15.024781731	0.004674453	15.886840718	0.002411897	23.697796291	0.013201133	x
86	Benzene, 1,2-dichloro-	ng	3.239090444	x	0.072212855	0.267300076	0.002873199	0.290124742	0.001482497	0.498793031	0.008114208	0.000001090
87	Benzene, chloro-	ng	66.616479114	x	1.485694305	4.814395565	0.059112687	5.245496093	0.030500620	9.188512687	0.166940256	0.000022514
88	Benzene, ethyl-	µg	1.527118324	x	1.999627492	0.223680533	0.079561020	0.311235479	0.041051432	0.992558977	0.224688434	0.002817592
89	Benzene, ethyl-	µg	1.491387911	x	2.301959468	0.245955358	0.091590181	0.345946688	0.047258168	1.156505244	0.258660010	0.003205948
90	Benzene, hexachloro-	ng	1.113803129	x	0.671675340	0.445088159	0.026724565	0.639266605	0.013789185	2.561464144	0.075472897	0.000048698
91	Benzene, pentachloro-	pg	16.590374327	x	2.141356799	4.922275927	0.085200135	6.420479341	0.043961069	20.234020160	0.240613868	0.044510508
92	Benzo(a)pyrene	ng	13.491961595	x	44.476044237	27.446187392	1.769609321	36.391012774	0.913072712	187.185067945	4.997557170	0.260151670
93	Beryllium	µg	0.001377458	x	0.000476252	0.004981378	0.000018949	0.089617641	0.000009777	1.443240047	0.000053514	0.000084114
94	Beryllium	µg	0.614329631	x	0.310142246	68.851444017	0.012339915	75.251603936	0.006367078	108.061096035	0.034849178	0.692025159
95	BOD5, Biological Oxygen Demand	mg	10.345509547	x	21.246626998	2.327515604	0.845359110	3.438950826	0.436183471	13.266139425	2.387380328	0.029841385
96	Borate	ng	0.081747994	x	0.003702133	1.384857329	0.000147300	1.437182066	0.000076003	2.132466140	0.000415991	x
97	Borax, in ground	ng	17.468825440	x	3.910835119	7.045307886	0.155603998	9.891508735	0.080287645	23.089813364	0.439441556	0.005804200
98	Boron	µg	2.183752403	x	1.748561465	58.493705417	0.069571625	105.311639557	0.035897162	729.319668676	0.196477363	3.494859438
99	Boron	µg	52.904074248	x	9.787351967	246.581783243	0.389418384	321.358285476	0.200929830	443.464826316	1.099757225	14.774095063
100	Boron	µg	0.307739883	x	0.464418563	0.067052251	0.018478249	0.236836598	0.009534299	2.133984515	0.052184459	0.000000480
101	Boron trifluoride	pg	0.000184165	x	0.000004021	0.000009238	0.000000160	0.000010085	0.000000083	0.000018486	0.000000452	0.000000000
102	Bromate	µg	0.393466373	x	0.097528754	0.481545976	0.003880466	0.614899005	0.002002220	1.148087045	0.010958833	0.025681211
103	Bromide	ng	5.739942413	x	0.550658384	71.419791267	0.021909552	74.433291149	0.011304763	113.849801766	0.061874809	x
104	Bromine	µg	0.243309219	x	0.191587961	14.904486494	0.007622887	19.274217181	0.003933213	34.122342770	0.021527809	0.968322355
105	Bromine	µg	44.761454768	x	67.525432059	44.706922498	2.686696536	65.485695821	1.386266033	99.461229398	7.587504980	2.592646108
106	Bromine, 0.0023% in water	ng	6.402993263	x	0.546356940	84.960540305	0.021738407	88.451957012	0.011216456	134.262156470	0.061391477	x
107	Butadiene	pg	13.556009139	x	0.649073677	5.633562184	0.025825292	5.920656273	0.013325184	9.194435528	0.072933258	0.000461475
108	Butane	mg	0.074789779	x	0.089582534	0.018155357	0.003564303	0.102124396	0.001839088	1.104816825	0.010065954	0.000491885
109	Butene	µg	1.521705694	x	1.997543375	0.215983848	0.079478097	0.300633327	0.041008646	0.968344764	0.224454251	0.002804974
110	Butene	ng	1.803811144	x	0.070238653	0.344395973	0.002794650	0.419424124	0.001441967	0.784694191	0.007892376	0.002462977
111	Butyl acetate	ng	9.768390203	x	0.215267899	0.498195720	0.008565062	0.546761091	0.004419351	1.006488832	0.024188609	0.000003317
112	Butyrolactone	pg	6.903116870	x	0.153958902	0.358795464	0.006125705	0.396472504	0.003160705	0.733972085	0.017299614	0.000002346
113	Butyrolactone	pg	16.567782347	x	0.369508081	0.861124791	0.014701958	0.951551321	0.007585831	1.761564972	0.041519829	0.000005631
114	Cadmium	µg	0.113701054	x	0.081505266	0.063483328	0.003242925	0.188514537	0.001673266	2.211754871	0.009158351	0.000722792
115	Cadmium	ng	7.348804024	x	0.119730994	0.549979723	0.004763847	0.734595152	0.002458022	1.574874286	0.013453590	0.002697506
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn	µg	8.356833831	x	0.034394182	0.591438002	0.001368473	0.627843430	0.000706097	0.986580486	0.003864707	-0.000001189
117	Cadmium, ion	µg	1.373293626	x	0.308164275	27.189578125	0.012261216	29.070400661	0.006326471	43.989099014	0.034626924	0.003338751
118	Calcite, in ground	mg	100.926416010	x	33.463160442	66.769475466	1.331429574	86.525053060	0.686983278	222.548604376	3.760092883	0.063848955
119	Calcium	mg	0.003099867	x	0.001313308	0.007618423	0.000052254	0.093472846	0.000026962	1.452538917	0.000147570	0.000085224
120	Calcium	µg	106.261373248	x	180.655946466	24.127953118	7.187924472	80.206866092	3.708783410	724.167180914	20.299431661	0.030695729
121	Calcium, ion	g	0.009762870	x	0.007513140	0.683803483	0.000298932	0.724433921	0.000154241	1.081312046	0.000844215	0.000302850
122	Carbetamide	pg	468.647011185	x	8.052931324	489.013408211	0.320409393	549.345869914	0.165322973	798.797345171	0.904868798	5.062339689
123	Carbofuran	ng	3.702350123	x	1.144149877	0.224015752	0.045523345	1.179042279	0.023488870	12.730268364	0.128562567	0.000921740
124	Carbon	µg	79.629466725	x	134.634921268	16.961104348	5.356843571	57.206899882	2.763992950	532.251838475	15.128272481	0.079135556
125	Carbon-14	mBq	15.854721837	x	4.813126282	74.651664638	0.191504287	96.462718209	0.098811267	142.573640247	0.540827634	3.790205445
126	Carbon dioxide, biogenic	mg	12.349698199	x	6.306002398	26.767596502	0.250902723	37.946642664	0.129459326	87.154733337	0.708574875	0.210016102

No	Substance	Unit	T0, Tunnel, transport of fuel, at plant, ZA	T1 Tunnel, clay extraction, extracted clay, ZA	T2 Tunnel, mining fuel, stockpiled clay, ZA	T3 Tunnel, clay preparation, wet green brick, ZA rev1	T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA	T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1	T6 Tunnel, dry green brick transport, at firing location, ZA	T7 Tunnel, brick firing, fired brick, ZA rev1	T8 Tunnel, fired brick transport, at saled bay, ZA	T9 Tunnel, factory overheads, additional water and electricity, ZA rev1
127	Carbon dioxide, fossil	g	4.290813309	x	5.002806061	26.358686429	0.199051251	44.068743829	0.102705305	218.476403215	0.562141030	1.712759629
128	Carbon dioxide, in air	mg	14.599520283	x	6.895207077	234.617358278	0.274345952	274.315111906	0.141555427	428.103823406	0.774780945	0.141720112
129	Carbon dioxide, land transformation	µg	62.756106586	x	27.135120314	52.050165609	1.079650015	87.739648740	0.557071527	324.901565102	3.049041735	0.059395569
130	Carbon disulfide	µg	4.772174763	x	0.672453827	2.070736342	0.026755540	2.824075824	0.013805167	8.285747468	0.075560372	0.002712946
131	Carbon disulfide	ng	0.030754348	x	0.002019084	0.873078964	0.000080335	0.904822470	0.000041451	1.342050790	0.000226875	x
132	Carbon monoxide, biogenic	µg	4.822796456	x	1.076555006	115.470015618	0.042833885	143.139740246	0.022101179	179.283000846	0.120967260	7.164989158
133	Carbon monoxide, fossil	g	0.010084588	x	0.017679310	0.011584424	0.000703423	0.021182306	0.000362948	5.397589030	0.001986538	0.000278241
134	Carbon, in organic matter, in soil	µg	4.676547776	x	1.445209499	0.282960911	0.057501881	1.489283121	0.029669486	16.079977915	0.162391175	0.001164276
135	Carbonate	µg	1.283708276	x	0.175073095	1.510112255	0.006965794	1.974804022	0.003594170	3.464489836	0.019672114	0.071662012
136	Carboxylic acids, unspecified	µg	257.808510172	x	415.879322475	44.283997605	16.546973504	66.816156498	8.537811027	269.097241734	46.730340467	0.573129529
137	Cerium-141	nBq	32.648043135	x	0.990351277	7.646664115	0.039404018	9.489571781	0.020331456	18.086248564	0.111280965	0.011419643
138	Cerium-141	nBq	140.083350082	x	4.249312044	32.809633414	0.169071291	40.717019413	0.087236420	77.602883331	0.477474565	0.048998399
139	Cerium-144	nBq	42.645953278	x	1.293629563	9.988325469	0.051470830	12.395592383	0.026557619	23.624855742	0.145358874	0.014916715
140	Cerium, 24% in bastnasite, 2.4% in crude ore,	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
141	Cesium	ng	62.134231069	x	95.906353198	10.247078368	3.815914376	14.412984880	1.968913277	48.183153113	10.776531305	0.133567917
142	Cesium-134	nBq	1.563631330	x	0.047431457	0.366226041	0.001887199	0.454489468	0.000973746	0.866215004	0.005329643	0.000546927
143	Cesium-134	µBq	2.709039221	x	1.081740632	33.061796039	0.043040210	41.901397467	0.022207637	56.383884117	0.121549943	1.966878305
144	Cesium-136	nBq	24.862059888	x	0.754169931	5.823069409	0.030006853	7.226476053	0.015482761	13.772996797	0.084742414	0.008696259
145	Cesium-137	nBq	27.718100090	x	0.840805540	6.491997101	0.033453904	8.056620709	0.017261351	15.355175949	0.094477237	0.009695246
146	Cesium-137	mBq	2.317524649	x	0.910014690	14.342200112	0.036207592	18.539054356	0.018682183	27.289896692	0.102253933	0.737757967
147	Chloramine	pg	1.595829016	x	0.071667654	26.692144677	0.002851507	27.701886471	0.001471304	41.104010316	0.008052946	x
148	Chloramine	pg	14.420585550	x	0.642469404	238.258589076	0.025562522	247.282349711	0.013189601	366.921172070	0.072191168	x
149	Chlorate	µg	3.077748650	x	0.819112616	3.753000860	0.032590788	4.815619952	0.016816005	9.263571656	0.092039708	0.198888697
150	Chloride	mg	34.550907179	x	49.920825428	439.174385126	1.986245843	505.963600926	1.024851563	715.083179794	5.609360799	7.932935132
151	Chloride	mg	11.137997136	x	0.174368004	0.058339013	0.006937740	0.114462026	0.003579695	0.721482083	0.019592886	0.000000180
152	Chlorinated solvents, unspecified	ng	2.105482718	x	0.523963135	1.493172773	0.020847404	2.036714626	0.010756722	5.996690256	0.058875194	0.057291955
153	Chlorine	µg	1.865847945	x	0.597236982	0.398124231	0.023762818	0.725852698	0.012261000	3.810069278	0.067108620	0.005108844
154	Chlorine	µg	0.035650310	x	0.006223684	1.116918166	0.000247627	1.345412518	0.000127769	1.782161526	0.000699325	0.035984276
155	Chloroacetic acid	ng	0.455219488	x	0.010543200	0.673226209	0.000419492	0.724349474	0.000216447	1.083437704	0.001184688	x
156	Chloroacetic acid	ng	29.156063734	x	0.490048089	16.267465648	0.019497995	18.587798578	0.010060462	28.227818736	0.055064325	x
157	Chloroacetyl chloride	pg	0.555987179	x	0.009601845	0.417240522	0.000382037	0.465169835	0.000197121	0.704157134	0.001078913	x
158	Chloroform	ng	1.262094424	x	0.077086984	0.619208207	0.003067131	0.794218575	0.001582560	1.320160709	0.008661890	0.020135718
159	Chloroform	pg	153.308644128	x	3.358763330	15.297559893	0.133638209	16.303134210	0.068953865	27.123610324	0.377407929	0.000051604
160	Chlorosilane, trimethyl-	pg	157.342247697	x	33.909284589	45.355368190	1.349179926	55.824953595	0.696142001	153.461050404	3.810221687	0.000007069
161	Chlorosulfonic acid	pg	2.043337327	x	0.033757704	0.990756074	0.001343149	1.148143715	0.000693030	1.749963191	0.003793189	x
162	Chlorosulfonic acid	pg	5.095570495	x	0.084183236	2.470697333	0.003349476	2.863182621	0.001728243	4.363969459	0.009459262	x
163	Chlorothalonil	ng	6.966610710	x	0.459055804	274.022475955	0.018264876	298.773309949	0.009424204	417.204754019	0.051581872	4.956346708
164	Chromium	µg	0.958344032	x	1.839447759	1.780362487	0.073187802	3.597829778	0.037763016	15.526748976	0.206689815	0.009124934
165	Chromium	ng	164.692937347	x	225.050058905	27.296061725	8.954273897	95.818120203	4.620174100	893.822558397	25.287782552	0.033797419
166	Chromium-51	nBq	2.092080809	x	0.063461533	0.489996879	0.002525002	0.608090075	0.001302836	1.158963594	0.007130864	0.000731769
167	Chromium-51	µBq	26.596468224	x	1.355467935	29.480423193	0.053931251	37.061412054	0.027827133	53.033550104	0.152307351	1.459159509
168	Chromium VI	ng	20.774029356	x	43.360042629	63.559872424	1.725205938	260.999684309	0.890161713	425.224492989	4.872157487	0.898829377
169	Chromium VI	µg	22.198274526	x	13.907924910	381.344129922	0.553367413	422.036095253	0.285523295	634.593582828	1.562766002	4.051480653
170	Chromium VI	µg	0.281356507	x	0.095436450	0.143293366	0.003797218	0.355166083	0.001959266	2.179405418	0.010723731	0.000000144
171	Chromium, 25.5% in chromite, 11.6% in crude	mg	0.209253625	x	0.495023406	0.464416188	0.019695952	0.545416840	0.010162603	1.164236426	0.055623377	0.000811303
172	Chromium, ion	ng	286.182713110	x	304.994909941	163.431198874	12.135113291	226.505784846	6.261405087	622.401142251	34.270797349	6.251565371
173	Chrysotile, in ground	ng	77.836860828	x	18.274108426	91.475829047	0.727088777	116.804170799	0.375159033	218.038362410	2.053372847	4.859657479
174	Cinnabar, in ground	ng	6.840063704	x	1.734198625	8.421900186	0.069000157	10.757973445	0.035602299	20.157444797	0.194863480	0.448665027
175	Clay, bentonite, in ground	mg	1.870651523	x	1.327895510	0.778653504	0.052834201	1.238706801	0.027261083	5.684124956	0.149209172	0.009539002
176	Clay, unspecified, in ground	oz	0.000975787	47.408210086	0.000180652	42.336236053	0.000007188	42.336398477	0.000003709	42.337495318	0.000020299	0.000000153
177	Coal, brown, in ground	mg	82.520804670	x	67.104917231	254.197633541	2.669965125	372.624480504	1.377633057	814.307892158	7.540253770	0.312954125
178	Coal, hard, unspecified, in ground	g	0.150928756	x	0.093496719	52.488378916	0.003720040	60.022805096	0.001919445	81.734602002	0.010505772	1.221842869
179	Cobalt	µg	0.072308936	x	0.099065507	0.119804246	0.003941611	0.364550032	0.002033769	5.551010997	0.011131510	0.001972936
180	Cobalt	mg	0.010042614	x	0.006722361	0.765277246	0.000267469	0.814005517	0.000138007	1.209839019	0.000755359	0.001179082
181	Cobalt	ng	0.248896209	x	0.105403566	0.573565766	0.004193789	0.784135498	0.002163887	1.729959291	0.011843687	0.003907970
182	Cobalt-57	nBq	789.215566090	x	23.940198443	184.846189134	0.952530717	229.395609976	0.491481252	437.206873016	2.690043875	0.276052080
183	Cobalt-58	nBq	2.913308991	x	0.088372808	0.682340906	0.003516170	0.846790562	0.001814253	1.613904704	0.009930023	0.001019018
184	Cobalt-58	µBq	119.507059340	x	10.187927165	189.095400859	0.405356438	240.418912912	0.209153454	349.476446832	1.144767915	9.414912155
185	Cobalt-60	nBq	25.736374323	x	0.780691533	6.027847038	0.031062093	7.480606741	0.016027238	14.257346449	0.087722518	0.009002077
186	Cobalt-60	µBq	105.247768605	x	7.965686309	157.566484952	0.316938095	199.717442584	0.163531873	287.782525593	0.895065499	7.928488037
187	Cobalt, in ground	ng	26.550182920	x	40.092133277	3.411917464	1.595182620	4.070375451	0.823073038	11.641257663	4.504958378	0.051462089
188	COD, Chemical Oxygen Demand	mg	11.074253566	x	21.724994694	2.623936617	0.864392366	3.877243661	0.446004139	15.143336630	2.441132184	0.032483829
189	Colemanite, in ground	µg	5.934745550	x	0.307371555	0.909729895	0.012229675	1.326502589	0.006310197	4.205155229	0.034537849	0.017388674
190	Copper	µg	12.770106320	x	2.587563641	1.132421836	0.102953777	2.544065779	0.053121490	24.548567141	0.290751964	0.012185777
191	Copper	µg	0.633579656	x	0.063546589	0.107538301	0.002528387	0.243360537	0.001304582	1.399320438	0.007140422	0.000233718
192	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8	µg	43.371463652	x	4.613161282	19.994690767	0.183548095	28.071583063	0.094706077	86.755014696	0.518358537	0.012340238
193	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8	µg	236.796799762	x	25.408243411	110.678331030	1.010941174	155.446127598	0.521619540	480.617504371	2.855000961	0.068249586
194	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8	µg	62.813734552	x	6.739899563	29.359008767	0.268166589	41.234306537	0.138367035	127.490661002	0.757329793	0.018104177
195	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8	µg	317.063951066	x	33.537434733	145.833324417	1.334384794	204.732170802	0.688508095	632.604444344	3.768438724	0.089750675
196	Copper, ion	µg	16.083984621	x	4.907345895	475.753099477	0.195253089	511.864894860	0.100745552	765.290074023	0.551414634	1.075154639
197	Cumene	ng	370.485489073	x	153.678418228	102.373459328	6.114544718	138.810143310	3.154947175	503.105546454	17.268097783	1.274404543
198	Cumene	µg	0.890269647	x	0.369286650	0.245996723	0.014693148	0.333552065	0.007581285	1.208945484	0.041494948	0.003062102
199	Cyanide	ng	50.695896300	x	24.902023032	29.714736023	0.990799718	39.407613808	0.511227068	114.695878623	2.798119434	0.157121555
200	Cyanide	ng	814.636321501	x	347.258971267	203.340566231	13.816712411	280.455382113	7.129066808	946.740255263	39.019804738	0.376087673
201	Cyanoacetic acid	pg	1.673416165	x	0.027646284	0.811391916	0.001099988	0.940286457	0.000567565	1.433153924	0.003106479	x
202	Cypermethrin	ng	0.533164168	x	0.161743918	0.050350690	0.006435454	0.187243600	0.003320528	1.827209458	0.018174379	0.000386553
203	Diatomite, in ground	ng	4.529199644	x	0.012570231	0.051644576	0.000500143	0.068523415	0.000258061	0.132848103	0.001412456	0.000776955
204	Dichromate	ng	7.339662532	x	2.488406449	3.739860045	0.099008518	9.261640552	0.051085839	56.779988101	0.279610152	0.000023378
205	Diethylamine	pg	1.808516259	x	0.301762316	11.963776867	0.012006495	12.650063417	0.006195041	21.330476646	0.033907566	x
206	Diethylamine	pg	4.340498553	x	0.724242228	28.713570122	0.028816092	30.360685947	0.014868360	51.194045559	0.081379583	x
207	Dimethyl malonate	pg	2.098459699	x	0.034668373	1.017483373	0.001379382	1.179116804	0.000711726	1.797171361	0.003895517	x
208	Dimethylamine	pg	14.896658578	x	0.513077760	17.950285514	0.020414297	19.629080398	0.010533250	31.939828359	0.057652057	x
209	Dinitrogen monoxide	mg	0.214389660	x	0.171778559	1.276277045	0.006834712	1.635837295	0.003526535	3.851677232	0.019301923	0.073159542
210	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	pg	1.198508703	x	0.793798971	2.425791810	0.031583610	4.444015024	0.016296327	542.349933374	0.089195337	0.130474410
211	Dipropylamine	pg	1.056843292	x	0.191143786	7.571648859	0.007605214	8.001715876	0.003924094	13.506731170	0.021477899	x
212	Dipropylamine	pg	2.536446058	x	0.458747792	18.172062816	0.018252621	19.204230049	0.009417881	32.416343117	0.051547262	x
213	DOC, Dissolved Organic Carbon	mg	3.518878210	x	6.621801009	0.845122111	0.263467693	1.249340891	0.135942526	4.898098061	0.744059632	0.010537682
214	Dolomite, in ground	µg	229.745870054	x	182.243293093	112.725747978	7.251081694	160.142394754	3.741370905	616.516605497	20.477794095	0.006623201
215	Energy, gross calorific value, in biomass	kJ	0.143214763	x	0.064516824	2.535013433	0.002566990	2.950758064	0.001324501	4.565833331	0.007249442	0.001548749
216	Energy, gross calorific value, in biomass, prim	J	0.324221592	x	0.100195304	0.019617448	0.003986563	0.103250868	0.002056963	1.114812919	0.011258460	0.000080717
217	Energy, kinetic (in wind), converted	J	33.184772835	x	27.566931516	102.649712300	1.096830885	152.633443709	0.565936413	351.833836097	3.097564263	0.101882128
218	Energy, potential (in hydropower reservoir), co	kJ	0.867270982	x	0.202938285	7.343756858	0.008074492	9.326203317	0.004166230	13.522494942	0.022803190	0.443946196
219	Energy, solar, converted	J	0.913549541	x	0.397138009	1.531229443	0.015801296	2.234669195	0.008153060	4.912723013	0.044624470	0.001492820
220	Ethane	mg	0.197741536	x	0.038745418	0.039086217	0.001541600	0.560775714	0.000795426	6.503117907	0.004353634	0.001072042
221	Ethane, 1,1-difluoro-, HFC-152a	ng	0.326040615	x	0.146187567	0.554289237	0.005816499	0.811437970	0.003001163	1.797071694	0.016426387	0.000000293
222	Ethane, 1,1,1-trichloro-, HCFC-140	pg	2.220152602	x	0.451710870	7.906207946	0.017972636	10.147409709	0.009273416	14.728279145	0.050756558	0.416938326
223	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	13.938404860	x	0.020541027	0.049877622	0.000817285	0.061752270	0.000421698	0.125237480	0.002308095	0.000133121
224	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-11	pg	54.790008590	x	1.196308298	2.748492424	0.047598620	3.000359235	0.024559659	5.499956056	0.134423356	0.000018588
225	Ethane, 1,2-dichloro-	ng	29.740806051	x	11.163374670	15.293422077	0.444167466	22.220518174	0.229178943	92.484588279	1.254374216	0.114025271
226	Ethane, 1,2-dichloro-	ng	1.576970756	x	1.071179340	4.985060028	0.042619999	6.496825324	0.021990819	13.217695754	0.120363222	0.203642469
227	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC	ng	7.448068488	x	1.954610850	35.620019374	0.077769901	45.751489782	0.040127261	66.229827497	0.219630132	1.892127370
228	Ethane, hexafluoro-, HFC-116	ng	64.430068749	x	2.149162882	136.516932415	0.085510722	149.771848895	0.044121325	218.517246102	0.241490999	2.122579878
229	Ethanol	µg	0.171432778	x	0.144589516	0.447796068	0.005752916	0.609376910	0.002968356	3.125755372	0.016246822	0.002519980
230	Ethanol	ng	17.660478882	x	0.391341596	1.191184990	0.015570668	1.312760220	0.008034063	2.341220352	0.043973155	0.000005870
231	Ethene	mg	0.005696393	x	0.005496469	0.009935061	0.000218693	0.210635669	0.000112840	1.826169513	0.000617612	0.000204720
232	Ethene	ng	320.997619350	x	153.946499996	51.168294677	6.125211134	82.499898985	3.160450771	417.128579520	17.298220829	0.425490975
233	Ethene, chloro-	ng	11.319017272	x	3.246732385	8.014000241	0.129180731	11.585652465	0.066653921	49.913752658	0.364819556	0.007238917
234	Ethene, chloro-	pg	107.005496152	x	27.736264901	126.299116422	1.103568308	173.781306618	0.569412749	674.684172994	3.116589434	0.476340236
235	Ethene, tetrachloro-	pg	5.238118760	x	1.098137551	17.464346720	0.043692610	22.497164177	0.022544258	33.179344419	0.123392385	0.895822242
236	Ethyl acetate	µg	2.070749076	x	0.045633686	0.105514889	0.001815669	0.115806508	0.000936839	0.213217027	0.005127636	0.000000703
237	Ethyl acetate	pg	5.638490100	x	0.796959715	30.835600453	0.031709370	32.592874758	0.016361216	54.925979289	0.089550494	0.000000400
238	Ethyl cellulose	ng	4.191171458	x	0.091496024	0.210185340	0.003640437	0.229422910	0.001878371	0.420519788	0.010280964	0.000001422
239	Ethylamine	pg	0.745623297	x	0.031405674	8.894573406	0.001249566	9.246574061	0.000644744	13.740032115	0.003528903	x
240	Ethylamine	pg	1.789507244	x	0.075374174	21.347100863	0.002998982	22.191907488	0.001547397	32.976270238	0.008469430	x
241	Ethylene diamine	pg	28.602684106	x	0.463639181	199.008944487	0.018447239	209.259443748	0.009518299	305.228779485	0.052096884	1.000374606
242	Ethylene diamine	pg	69.217102616	x	1.115915658	478.961478869	0.044399964	503.684486506	0.022909235	734.592448690	0.125390025	2.425150639
243	Ethylene oxide	ng	5.698309464	x	1.979191799	0.803787347	0.078747926	1.489491124	0.040631896	9.116812483	0.222392174	0.006188982
244	Ethylene oxide	ng	1.373747298	x	0.031358951	0.132746448	0.001247707	0.148948088	0.000643785	0.250674010	0.003523653	0.000539413
245	Ethyne	µg	0.107818682	x	0.069306034	1.456782056	0.002757543	34.826411426	0.001422821	303.365468516	0.007787583	0.032759043
246	Feldspar, in ground	ng	0.190663894	x	0.032644821	0.463133042	0.001298870	0.578667212	0.000670183	1.421176163	0.003668140	0.000452711
247	Fenpiclonil	ng	0.362317909	x	0.019516518	10.825599930	0.000776522	11.806498059	0.000400665	16.492553864	0.002192976	0.195084544
248	Fluoride	mg	0.307676098	x	0.031597754	0.722348089	0.001257209	0.821272004	0.000648687	1.257479106	0.003550486	0.011670298
249	Fluoride	µg	1.478960466	x	2.300560032	0.305249532	0.091534500	1.109979714	0.047229438	10.215635819	0.258502762	0.000000293
250	Fluorine	µg	0.450017942	x	0.150409538	0.564156339	0.005984483	0.813164213	0.003087839	1.798259854	0.016900790	0.000027942
251	Fluorine, 4.5% in apatite, 1% in crude ore, in g	µg	3.291526038	x	4.389958225	1.008424631	0.174667310	2.783926787	0.090123821	23.290387770	0.493278294	0.009809120
252	Fluorine, 4.5% in apatite, 3% in crude ore, in g	µg	1.668265385	x	1.936643230	0.622343299	0.077055007	1.429767764	0.039758394	10.601165014	0.217611198	0.005695659

No	Substance	Unit	T0, Tunnel, transport of fuel, at plant, ZA	T1 Tunnel, clay extraction, extracted clay, ZA	T2 Tunnel, mining fuel, stockpiled clay, ZA	T3 Tunnel, clay preparation, wet green brick, ZA rev1	T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA	T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1	T6 Tunnel, dry green brick transport, at firing location, ZA	T7 Tunnel, brick firing, fired brick, ZA rev1	T8 Tunnel, fired brick transport, at saled bay, ZA	T9 Tunnel, factory overheads, additional water and electricity, ZA rev1
253	Fluorspar, 92%, in ground	µg	94.625444920	x	122.504422543	87.828973931	4.874196250	153.296030108	2.514959396	759.937546925	13.765227230	3.251638788
254	Fluosilicic acid	ng	70.878950851	x	2.411227403	159.314848357	0.095937725	174.778733078	0.049501388	254.894058041	0.270937917	2.480763746
255	Fluosilicic acid	ng	127.582111776	x	4.340209373	286.766724326	0.172687906	314.601716193	0.089102500	458.809300744	0.487688256	4.465374554
256	Formaldehyde	µg	2.979814173	x	0.522191484	17.951814283	0.020776913	35.773524745	0.010720351	258.032860048	0.058676122	1.077881042
257	Formaldehyde	ng	57.832218202	x	19.839652506	18.095925509	0.789378521	25.899276562	0.407298932	104.170519233	2.229285435	0.221406289
258	Formamide	pg	0.653094538	x	0.034321907	13.818640759	0.001365597	14.330907515	0.000704613	21.259473691	0.003856586	x
259	Formamide	pg	1.567465005	x	0.082374858	33.165707146	0.003277524	34.395182827	0.001691118	51.024227218	0.009256063	x
260	Formate	pg	405.119041328	x	7.563900317	424.565126374	0.300951866	463.868603828	0.155283391	698.876752379	0.849918758	x
261	Formic acid	ng	23.715206373	x	6.583800908	1.411926886	0.261955748	6.872201158	0.135162402	72.890247265	0.739789745	0.005259266
262	Formic acid	pg	0.455010318	x	0.023912017	9.627421121	0.000951409	9.984316444	0.000490903	14.811435548	0.002686877	x
263	Furan	ng	5.997493469	x	1.853425788	0.362888479	0.073743958	1.909950941	0.038049978	20.621957755	0.208260458	0.001493244
264	Gadolinium, 0.15% in bastnasite, 0.015% in ce	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
265	Gallium, 0.014% in bauxite, in ground	pg	2.518225979	x	1.125818554	4.269567847	0.044793979	6.249963690	0.023112537	13.841405374	0.126502765	0.000002257
266	Gas, mine, off-gas, process, coal mining/m3	cm3	1.467227738	x	0.907762017	211.511051054	0.036117963	259.969995057	0.018635936	349.388029469	0.102000811	4.889224605
267	Gas, natural, in ground	dm3	0.397724713	x	0.114177467	0.104904189	0.004542884	2.629444727	0.002344011	33.690903694	0.012829568	0.001177489
268	Glutaraldehyde	ng	25.423081251	x	43.891984666	4.891571512	1.746370805	54.057563321	0.901082238	655.870058959	4.931929231	0.000007110
269	Glyphosate	ng	284.457237073	x	8.908236235	499.399472047	0.354440197	535.322031733	0.182881989	817.130404591	1.000975258	0.001846530
270	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in grou	ng	4.105404573	x	0.089634564	0.205926283	0.003566373	0.224790194	0.001840156	0.412052526	0.010071801	0.000001393
271	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in grou	ng	7.528421802	x	0.164370363	0.377624137	0.006539955	0.412216460	0.003374448	0.755614987	0.018469500	0.000002553
272	Gold, Au 1.4E-4%, in ore, in ground	ng	9.014052078	x	0.196806587	0.452143070	0.007830525	0.493561714	0.004040349	0.904725213	0.022114201	0.000003058
273	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in grou	ng	13.768013334	x	0.300601269	0.690600817	0.011960299	0.753863413	0.006171206	1.381872143	0.033777105	0.000004671
274	Gold, Au 4.3E-4%, in ore, in ground	ng	3.412271478	x	0.074501180	0.171158865	0.002964247	0.186837903	0.001529475	0.342483935	0.008371336	0.000001158
275	Gold, Au 4.9E-5%, in ore, in ground	ng	8.172825876	x	0.178439821	0.409947344	0.007099749	0.447500637	0.003663287	0.820292707	0.020050416	0.000002774
276	Gold, Au 6.7E-4%, in ore, in ground	ng	12.652862011	x	0.276253830	0.634665052	0.010991565	0.692803645	0.005671364	1.269946317	0.031041302	0.000004293
277	Gold, Au 7.1E-4%, in ore, in ground	ng	14.267413056	x	0.311504832	0.715650619	0.012394130	0.781207914	0.006395051	1.431996145	0.035002286	0.000004840
278	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu	pg	854.933436958	x	18.666024798	42.883292391	0.742682314	46.811623350	0.383204896	85.808222347	2.097410587	0.000290069
279	Granite, in ground	pg	3.244725158	x	0.261745126	26.201355489	0.010414294	29.366904380	0.005373507	50.588194222	0.029411029	0.452574679
280	Gravel, in ground	g	3.344012142	x	0.077791671	1.201812520	0.003095169	1.442758527	0.001597027	3.137992446	0.008741072	0.000066762
281	Gypsum, in ground	µg	0.150331468	x	0.052460447	0.103490741	0.002087292	0.232357707	0.001076989	1.604875953	0.005894726	0.001257307
282	Heat, waste	Wh	18.928598981	x	20.439078073	51.394553696	0.813228418	111.404908625	0.419604863	777.617527772	2.296639976	3.089645701
283	Heat, waste	kJ	1.097072343	x	1.481933399	1.585588300	0.058963049	2.183485199	0.030423410	4.342273581	0.166517662	0.040086240
284	Heat, waste	J	39.007815017	x	15.033389145	12.344620498	0.598147295	51.080080185	0.308628558	443.561263854	1.689228955	0.061260608
285	Helium	µg	6.053396128	x	3.619813593	0.438357881	0.144024856	0.648332349	0.074313107	2.430684334	0.406740880	0.005283042
286	Helium, 0.08% in natural gas, in ground	pg	x	x	x	0.000166737	x	0.000206822	x	0.000247171	x	0.000011394
287	Heptane	µg	15.209744078	x	19.975216103	2.158406507	0.794772314	3.004650177	0.410081990	9.681004275	2.244518058	0.028039501
288	Hexane	µg	33.396544326	x	43.188339402	7.146370591	1.718374223	10.040217481	0.886636725	28.492006888	4.852864029	0.099670796
289	Hydrocarbons, aliphatic, alkanes, cyclic	ng	7.129800040	x	2.628157217	1.379906910	0.104568911	2.265413303	0.053954858	11.288926714	0.295313267	0.020264223
290	Hydrocarbons, aliphatic, alkanes, unspecified	µg	24.282612900	x	12.092599861	69.560462198	0.481139404	145.320138047	0.248255508	767.060140412	1.358786740	4.078158196
291	Hydrocarbons, aliphatic, alkanes, unspecified	µg	8.077450043	x	12.467825917	1.332120189	0.496068869	1.873688036	0.255958726	6.263809910	1.400949070	0.017363829
292	Hydrocarbons, aliphatic, unsaturated	µg	0.668488018	x	0.467975661	61.107904740	0.018619778	109.160938434	0.009607325	394.833883892	0.052584153	4.004858577
293	Hydrocarbons, aliphatic, unsaturated	µg	0.745615560	x	1.150876460	0.122973066	0.045790981	0.172964600	0.023626964	0.578212300	0.129318401	0.001602815
294	Hydrocarbons, aromatic	µg	7.093880516	x	3.036302440	2.377369842	0.120808161	16.113357710	0.062333891	184.316097902	0.341174565	0.006970195
295	Hydrocarbons, aromatic	µg	33.145604917	x	51.181999079	5.470355967	2.036425321	8.252690663	1.050742878	33.212488884	5.751072760	0.070507190
296	Hydrocarbons, chlorinated	ng	40.189573141	x	5.139602915	49.307007133	0.204494113	54.596423259	0.105513682	85.393059592	0.577512228	0.687458112
297	Hydrocarbons, unspecified	µg	4.550990759	x	6.970546154	1.075543933	0.277343538	8.602706605	0.143102103	100.017647114	0.783246431	0.007679543
298	Hydrogen	µg	4.217959002	x	3.459499916	4.291571328	0.137646308	6.526859100	0.071021941	24.171178509	0.388727210	0.178496153
299	Hydrogen-3, Tritium	mBq	65.302366588	x	27.840488991	461.677672792	1.107715168	595.735152562	0.571552422	869.143413762	3.128300589	24.175640669
300	Hydrogen-3, Tritium	Bq	5.260151703	x	2.084513352	33.235711449	0.082938452	42.942801708	0.042794099	63.085614384	0.234226646	1.716434120
301	Hydrogen chloride	mg	0.029757768	x	0.021473733	0.448942533	0.000854395	3.241958357	0.000440846	19.738043046	0.002412899	0.022227761
302	Hydrogen fluoride	mg	0.005990650	x	0.003567219	0.320516427	0.000141932	0.482620422	0.000073233	2.474411937	0.000400831	0.022918634
303	Hydrogen peroxide	ng	3.104728781	x	0.068057729	0.156781712	0.002707876	0.171546217	0.001397194	0.315057379	0.007647317	0.000001054
304	Hydrogen peroxide	ng	27.070038903	x	0.710412697	17.230035469	0.028265844	19.348127131	0.014584446	27.899601520	0.079825626	0.310905243
305	Hydrogen sulfide	mg	0.011025517	x	0.003016856	0.003901744	0.000120034	0.066458489	0.000061935	1.904953591	0.000338989	0.000028382
306	Hydrogen sulfide	µg	0.559433779	x	0.584110765	5.622247750	0.023240553	7.234284941	0.011991525	12.250816533	0.065633691	0.342556217
307	Hydroxide	ng	86.034633821	x	2.011465141	4.866462564	0.080032016	5.507617295	0.041294453	10.378590886	0.226018573	0.000029363
308	Hypochlorite	µg	0.152156613	x	0.112311551	0.435495594	0.004468643	0.634962193	0.002305704	1.384426305	0.012619904	0.000666957
309	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, A	ng	139.402538095	x	0.629115919	10.069154030	0.025031214	10.774339105	0.012915460	17.130431488	0.070690702	-0.000021756
310	Iodide	µg	6.229281116	x	9.602293858	1.097268709	0.382055307	2.267334946	0.197130672	5.734127402	1.078963144	0.013419474
311	Iodine	µg	0.126918560	x	0.101685589	8.406676648	0.004045858	11.265789601	0.002087558	26.087523220	0.011425916	0.547087137
312	Iodine-129	µBq	12.205917682	x	4.870262833	76.625811381	0.193777631	99.060432474	0.099984254	145.852557227	0.547247791	3.941063024
313	Iodine-131	mBq	0.299995511	x	0.246272244	0.916462428	0.009798661	1.353001591	0.005055856	3.010448629	0.027672416	0.000913979
314	Iodine-131	µBq	1.417168210	x	0.233092385	4.673869797	0.009274261	5.967655569	0.004785279	8.504820222	0.026191460	0.250122200
315	Iodine-133	nBq	184.737367069	x	10.517722610	139.148997414	0.418478313	177.079672467	0.215924003	277.946296954	1.181825429	5.432754521
316	Iodine-133	nBq	219.954024395	x	6.672122570	51.516550008	0.265469884	63.932453621	0.136975605	121.849359490	0.749714022	0.076935590
317	Iodine-135	nBq	51.423126158	x	12.217670936	220.001811485	0.486115722	282.555661068	0.250823160	409.363103197	1.372840369	11.661053793
318	Iodine, 0.03% in water	ng	1.632984655	x	0.182637088	18.445858125	0.007266750	19.258545821	0.003749455	29.841007666	0.020522043	x
319	Iron	mg	0.008955910	x	0.003715403	0.022850713	0.000147828	0.322230480	0.000076276	5.081879727	0.000417482	0.000290165
320	Iron	mg	0.080542019	x	0.101780457	0.955566788	0.004049633	1.048070783	0.002089506	1.851773520	0.011436576	0.000610860
321	Iron-59	nBq	60.470063505	x	1.834309138	14.163000929	0.072983347	17.576398265	0.037657522	33.498993879	0.206112413	0.021151239
322	Iron, 46% in ore, 25% in crude ore, in ground	mg	128.923141480	x	72.695647027	44.640187176	2.892408639	64.545393854	1.492408166	259.451909930	8.168456936	0.002340186
323	Iron, ion	mg	1.231900261	x	0.631587336	71.400896030	0.025129547	76.467133378	0.012966197	114.299955016	0.070968403	0.057436495
324	Isocyanic acid	ng	5.551389720	x	2.666381196	102.499949694	0.106089764	113.098830065	0.054739578	174.302280014	0.299608310	0.000005819
325	Isoprene	pg	278.307751236	x	86.006384778	16.839392444	3.422015217	88.629269012	1.765671484	956.941372005	9.664119916	0.069287702
326	Isopropylamine	pg	0.240001036	x	0.006437443	0.750994787	0.000256132	0.792028373	0.000132158	1.184995526	0.000723344	x
327	Isopropylamine	pg	0.576005629	x	0.015450066	1.802428852	0.000614726	1.900911112	0.000317183	2.844053391	0.001736049	x
328	Kaolinite, 24% in crude ore, in ground	µg	62.519803018	x	1.143099786	596.533330992	0.045481564	650.604345732	0.023467312	908.973798213	0.128444573	10.789900649
329	Kieserite, 25% in crude ore, in ground	µg	1.144081098	x	0.005567034	1.440482536	0.000221501	1.573857022	0.000114289	2.207483567	0.000625541	0.026016316
330	Krypton-85	mBq	2.661649750	x	1.948067654	7.285630232	0.077509561	10.739517233	0.039992932	23.867980349	0.218894905	0.007290518
331	Krypton-85m	mBq	1.974901403	x	0.090048582	0.570090473	0.003582846	0.734895091	0.001848656	1.455514685	0.010118322	0.000793434
332	Krypton-87	µBq	458.443279148	x	36.772905370	188.956815534	1.463117443	255.289716662	0.754930818	528.186695842	4.131992852	0.238230131
333	Krypton-88	µBq	591.239298432	x	35.822317360	202.296185988	1.425295522	267.316640689	0.735415683	542.044972112	4.025179893	0.267723207
334	Krypton-89	µBq	244.360205920	x	8.901727443	62.546221649	0.354181226	78.974575869	0.182748366	153.229444948	1.000243897	0.090544346
335	Lactic acid	pg	0.827872460	x	0.149730666	5.931178086	0.005957472	6.268067173	0.003073902	10.580367565	0.016824508	x
336	Lactic acid	pg	1.986904269	x	0.359356105	14.234927522	0.014298032	15.043466825	0.007377415	25.393060739	0.040379101	x
337	Lanthanum-140	nBq	11.510063965	x	0.349148229	2.695830582	0.013891882	3.345547473	0.007167852	6.376304898	0.039232091	0.004025994
338	Lanthanum-140	nBq	373.172198849	x	11.319868495	87.402557396	0.450394030	108.467277890	0.232391689	206.728626389	1.271958667	0.130528290
339	Lanthanum, 7.2% in bastnasite, 0.72% in crud	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
340	Lead	µg	2.127311708	x	0.569781454	1.099250741	0.022670419	6.472104092	0.011697351	124.539510506	0.064023576	0.020215695
341	Lead	µg	3.000123132	x	1.277617831	23.506865824	0.050833757	26.351124806	0.026228906	41.775303698	0.143559713	0.145803846
342	Lead	ng	277.055264988	x	1.305709229	5.681781537	0.051951455	7.055168528	0.026805609	13.818235472	0.146716207	0.053716170
343	Lead-210	mBq	0.044562658	x	0.028435090	0.473388055	0.001131373	3.678738553	0.000583759	53.772627763	0.003195113	0.019553577
344	Lead-210	µBq	54.588262484	x	61.467665555	57.967222628	2.445670603	99.176428184	1.261902875	415.743095115	6.906823167	0.233474590
345	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In	µg	873.708778636	x	5.555228732	7.107019195	0.221031000	14.047785574	0.114046288	79.042152513	0.624214083	0.000008825
346	Linuron	ng	19.693935891	x	0.323756230	9.001944266	0.012881587	10.504416383	0.006646566	16.020306420	0.036378916	0.001477901
347	Lithium, 0.15% in brine, in ground	pg	18.894202124	x	0.992939442	399.775502398	0.039506996	414.595466490	0.020384590	615.040005788	0.111571785	x
348	Lithium, ion	ng	283.215485091	x	10.978795886	34.807790222	0.436823460	39.748113334	0.225389625	76.617126556	1.233633994	0.293104162
349	m-Xylene	ng	8.474332127	x	5.174184658	20.599393886	0.205870049	30.383344303	0.106223629	74.045897521	0.581398010	0.035366191
350	m-Xylene	pg	9.605142996	x	0.397051101	36.702213693	0.015797838	38.161729804	0.008151276	57.107157477	0.044614705	0.008260208
351	Magnesite, 60% in crude ore, in ground	mg	1.632983392	x	0.980458735	0.661874469	0.039010414	0.947435614	0.020128366	3.761345651	0.110169388	0.000047768
352	Magnesium	mg	0.001219340	x	0.000604254	0.011889255	0.000024042	0.265198600	0.000012405	4.331601122	0.000067897	0.000248156
353	Magnesium	mg	4.149777941	x	2.640864807	385.933297937	0.105074520	410.400886767	0.054215739	607.810188534	0.296741158	0.724448689
354	Magnesium	µg	20.971016080	x	35.968954573	4.174970340	1.431129912	15.115075752	0.738426078	142.672012628	4.041656804	0.003440317
355	Magnesium, 0.13% in water	ng	16.679469142	x	2.669530041	41.131370655	0.106215050	49.473783505	0.054804223	81.423243053	0.299962131	0.000014726
356	Mancozeb	ng	9.048191914	x	0.596218904	355.898735966	0.023722310	388.044969414	0.012240100	541.863013555	0.066994224	6.437273094
357	Manganese	µg	0.359039808	x	0.162520480	0.537806787	0.006466352	2.196997156	0.003336471	36.769043311	0.018261637	0.009824849
358	Manganese	mg	0.340263417	x	0.173318682	30.038122594	0.006895990	31.756504687	0.003558153	47.332499737	0.019474979	0.002196080
359	Manganese	µg	1.212328244	x	1.904744559	0.622710111	0.075785825	1.367575794	0.039103529	8.627821559	0.214026899	0.000810133
360	Manganese-54	nBq	1.071377023	x	0.032499332	0.250932658	0.001293081	0.311409450	0.000667196	0.593517689	0.003651792	0.000374747
361	Manganese-54	µBq	7.222797992	x	0.626620856	13.520621623	0.024931941	17.135287926	0.012864238	24.314551205	0.070410343	0.708909349
362	Manganese, 35.7% in sedimentary deposit, 14	µg	74.637958517	x	327.737664010	273.172115556	13.040000186	304.560362606	6.728303357	522.152550869	36.826290213	0.004664188
363	Mercury	µg	0.162695249	x	0.100337262	0.582843926	0.003992211	0.934487442	0.002059878	5.034404385	0.011274411	0.034208436
364	Mercury	µg	0.110141114	x	0.075475259	10.442822042	0.003003004	11.053551752	0.001549472	16.518822936	0.008480788	0.000747344
365	Mercury	pg	34.922564195	x	1.534070178	105.636814364	0.061037463	116.948894588	0.031493754	169.536625072	0.172376018	1.777161338
366	Metaldehyde	pg	90.027070342	x	1.633849486	162.235453850	0.065007474	179.932577666	0.033542178	257.224446183	0.183587735	2.222166952
367	Metamorphous rock, graphite containing, in gr	µg	3.789776364	x	0.139710859	8.425520460	0.005558805	9.260793570	0.002868200	13.663563870	0.015968631	0.130747394
368	Methane, biogenic	µg	18.881680672	x	9.173837507	521.937335138	0.365007919	656.462398711	0.188334661	858.469473708	1.030819584	33.322592034
369	Methane, bromo-, Halon 1001	pg	0.000042572	x	0.000001650	0.000005138	0.000000066	0.000005877	0.000000034	0.000011372	0.000000185	0.000000044
370	Methane, bromochlorodifluoro-, Halon 1211	µg	0.258926404	x	0.002757864	0.004870369	0.000109730	0.134776074	0.000056618	1.734278247	0.000309888	0.000051383
371	Methane, bromotrifluoro-, Halon 1301	ng	48.869558204	x	51.715956919	5.769265247	2.057670393	8.041124148	1.061704786	25.971592542	5.811071010	0.073441162
372	Methane, chlorodifluoro-, HCFC-22	µg	0.809740180	x	0.010441725	0.021556908	0.000415455	0.469170184	0.000214364	5.961249484	0.001173286	0.000181823
373	Methane, dichloro-, HCC-30	pg	79.354980312	x	11.772609524	160.491115545	0.468407654	201.142784133	0.241686254	318.173894862	1.322830979	6.596185593
374	Methane, dichloro-, HCC-30	µg	0.652477669	x	1.132140771	0.105512626	0.045045527	0.440408247	0.023242329	4.426414891	0.127213162	0.000000108
375	Methane, dichlorodifluoro-, CFC-12	pg	0.198944466	x	0.018373512	0.039593945	0.000731044	0.486952328	0.000377200	5.958936983	0.002064542	0.000331837
376	Methane, dichlorofluoro-, HCFC-21	pg	0.361667622	x	0.009818927	0.027687734	0.000390675	0.033224941	0.000201578	0.064142397	0.001103305	0.000000125
377	Methane, fossil	mg	8.804915533	x	3.291436117	143.206782611	0.130959399	186.439338067	0.067571668	424.540090946	0.369842697	3.318453561
378	Methane, monochloro-, R-40	pg	61.494176629	x	12.493237157	210.352262738	0.497079929	270.011230537	0.256480407	393.217430741	1.403804408	11.042673038

No	Substance	Unit	T0, Tunnel, transport of fuel, at plant, ZA	T1 Tunnel, clay extraction, extracted clay, ZA	T2 Tunnel, mining fuel, stockpiled clay, ZA	T3 Tunnel, clay preparation, wet green brick, ZA rev1	T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA	T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1	T6 Tunnel, dry green brick transport, at firing location, ZA	T7 Tunnel, brick firing, fired brick, ZA rev1	T8 Tunnel, fired brick transport, at saled bay, ZA	T9 Tunnel, factory overheads, additional water and electricity, ZA rev1
379	Methane, tetrachloro-, CFC-10	ng	2.570975653	x	0.958961260	6.591477510	0.038155075	8.496474494	0.019687033	14.347930546	0.107753821	0.422391366
380	Methane, tetrafluoro-, CFC-14	µg	0.545835691	x	0.018575705	1.226860748	0.000739089	1.345955395	0.000381351	1.962950112	0.002087262	0.019103206
381	Methane, trichlorofluoro-, CFC-11	pg	0.587148058	x	0.015940503	0.044949556	0.000634239	0.053938916	0.000327251	0.104131755	0.001791157	0.000000203
382	Methane, trifluoro-, HFC-23	pg	115.076061339	x	3.124203971	8.809733448	0.124305580	10.571571975	0.064138469	20.408944233	0.351051633	0.000039836
383	Methanesulfonic acid	pg	1.691035672	x	0.027937374	0.819935104	0.001111570	0.950186785	0.000573541	1.448243681	0.003139187	x
384	Methanol	µg	1.092912929	x	0.570854975	1.164769647	0.022713132	1.499693082	0.011719390	6.874055067	0.064144202	0.012966581
385	Methanol	µg	0.280809240	x	0.040778279	0.072198515	0.001622483	1.820673630	0.000837159	23.342300595	0.004582057	0.000794556
386	Methyl acetate	pg	0.068672942	x	0.001160658	0.031639386	0.000046180	0.036881172	0.000023828	0.056564682	0.000130417	x
387	Methyl acetate	pg	0.164812061	x	0.002785530	0.075933139	0.000110830	0.088513197	0.000057186	0.135752275	0.000312996	x
388	Methyl acrylate	ng	1.309835854	x	0.028599511	0.065706759	0.001137915	0.071728006	0.000587135	0.131484548	0.003213588	0.000000444
389	Methyl acrylate	ng	25.588027180	x	0.558699839	1.283600802	0.022229505	1.401227628	0.011469850	2.568589219	0.062778389	0.000008681
390	Methyl amine	pg	3.367811329	x	0.162074777	0.420036898	0.006448618	0.557975122	0.003327321	1.826983772	0.018211556	0.000000846
391	Methyl amine	pg	8.082642028	x	0.388967677	1.008097158	0.015476215	1.339142546	0.007985327	4.384667092	0.043706409	0.000002030
392	Methyl borate	pg	0.144926607	x	0.007168405	2.803783724	0.000285216	2.908427208	0.000147164	4.314900571	0.000805479	0.000000000
393	Methyl ethyl ketone	µg	2.070743556	x	0.045633280	0.105500793	0.001815653	0.115791585	0.000936830	0.213192069	0.005127590	0.000000703
394	Methyl formate	pg	5.252903603	x	0.119912558	3.908156496	0.004771071	4.066795324	0.002461750	6.129872942	0.013473992	0.000001740
395	Methyl formate	pg	2.097181979	x	0.047874182	1.560301876	0.001904814	1.623637227	0.000982835	2.447305347	0.005379389	0.000000695
396	Methyl lactate	pg	0.908860553	x	0.164379508	6.511454106	0.006540319	6.881302333	0.003374636	11.615496405	0.018470527	x
397	Metolachlor	ng	142.496150777	x	2.342294203	65.152987594	0.093195016	76.027541244	0.048086222	115.948956010	0.263192228	0.010696913
398	Metribuzin	ng	0.318592633	x	0.020993249	12.531422589	0.000835278	13.663312090	0.000430982	19.079343982	0.002358910	0.226660518
399	Molybdenum	µg	0.033287459	x	0.036131313	0.065355939	0.001437590	0.399346990	0.000741759	3.460928732	0.004059900	0.001472215
400	Molybdenum	µg	2.611515784	x	1.165088118	182.473879247	0.046356434	195.708037644	0.023918723	290.880427784	0.130915296	0.043649265
401	Molybdenum	pg	85.827580762	x	22.957402769	182.934636060	0.913427321	232.785757286	0.471304910	459.152204366	2.579611896	2.071697635
402	Molybdenum-99	nBq	128.661763101	x	3.902847680	30.134525477	0.155286194	37.397188905	0.080123666	71.275592536	0.438544046	0.045003353
403	Molybdenum, 0.010% in sulfide, Mo 8.2E-3%	µg	5.892222418	x	0.623249724	2.710123275	0.024797811	3.804681975	0.012795030	11.756133436	0.070031546	0.001667900
404	Molybdenum, 0.014% in sulfide, Mo 8.2E-3%	µg	0.825063331	x	0.088529109	0.385632885	0.003522389	0.541615852	0.001817462	1.674599829	0.009947586	0.000237800
405	Molybdenum, 0.022% in sulfide, Mo 8.2E-3%	µg	0.845314408	x	3.586445891	2.976924324	0.142697225	3.324462823	0.073628083	5.703510864	0.402991513	0.001685947
406	Molybdenum, 0.025% in sulfide, Mo 8.2E-3%	µg	3.023286596	x	0.324397973	1.413077853	0.012907121	1.984647569	0.006659741	6.136250424	0.036451025	0.000871372
407	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% a	µg	1.678566398	x	7.237649852	6.006670582	0.287971038	6.707925930	0.148585619	11.508019230	0.813259577	0.003402612
408	Monoethanolamine	ng	59.713996727	x	2.458927119	15.070924992	0.097835597	17.759656887	0.050480642	29.050497475	0.276297703	0.366669617
409	Napropamide	pg	159.278331323	x	2.890650771	287.031356660	0.115012984	318.341586846	0.059343730	455.088453548	0.324808394	3.931517786
410	Neodymium, 4% in bastnasite, 0.4% in crude	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
411	Nickel	µg	1.304395977	x	1.184485979	1.151842173	0.047128234	3.315796401	0.024316952	40.941578733	0.133094939	0.019208813
412	Nickel	ng	90.727195697	x	0.753964811	3.544680743	0.029998692	4.442115529	0.015478550	8.827027168	0.084719366	0.034662472
413	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.7	µg	0.754006167	x	0.168704957	6.678481741	0.006712419	7.380143832	0.003463435	10.873857808	0.018956557	0.117387103
414	Nickel, 1.98% in silicates, 1.04% in crude ore,	mg	1.145071238	x	1.719770967	1.381717116	0.068426111	1.716433417	0.035306106	4.609120878	0.193242314	0.001322988
415	Nickel, ion	mg	0.040125907	x	0.031947455	3.579446608	0.001271123	3.814997152	0.000655867	5.657296676	0.003589780	0.008114511
416	Niobium-95	nBq	0.127181783	x	0.003857954	0.029787892	0.000153500	0.036967014	0.000079202	0.070455718	0.000433500	0.000044486
417	Niobium-95	µBq	0.573945866	x	0.097693126	5.060268006	0.003887006	6.348739022	0.002005595	8.204113825	0.010977302	0.316001545
418	Nitrate	µg	0.081901563	x	0.026539891	0.624460303	0.001055967	0.716990637	0.000544852	1.118060034	0.002982159	0.009450975
419	Nitrate	mg	0.330013052	x	0.213009631	39.319157039	0.008475210	41.517086146	0.004372990	61.799557008	0.023934858	0.002290328
420	Nitrite	µg	0.242748266	x	0.035440763	0.499437686	0.001410114	0.599836038	0.000727583	1.027168436	0.003982306	0.015443600
421	Nitrobenzene	pg	5.428826750	x	0.909079904	35.873634342	0.036170399	37.934568737	0.018662992	64.006198953	0.102148895	x
422	Nitrobenzene	pg	21.755972381	x	3.643129205	143.763253732	0.144952536	152.022429023	0.074791765	256.504243017	0.409360742	x
423	Nitrogen	µg	4.291858331	x	5.812926752	11.569774026	0.231284269	14.741039651	0.119336710	28.479649166	0.653170359	0.138496494
424	Nitrogen oxides	mg	28.230937208	x	60.572499090	139.386919357	2.410053790	186.627170061	1.243525520	334.811271905	6.806237657	7.857179291
425	Nitrogen, organic bound	µg	5.958184715	x	7.041932999	2.020496071	0.280183872	3.202023871	0.144567642	13.113718815	0.791267824	0.012375411
426	NMVOC, non-methane volatile organic compo	mg	4.341454903	x	8.759145302	5.479002811	0.348508179	7.553180201	0.179821220	27.444544781	0.984222634	0.093914188
427	Noble gases, radioactive, unspecified	Bq	117.280633091	x	46.801468216	736.542060895	1.862133106	952.177978136	0.960812596	###########	5.258853773	37.885603326
428	o-Xylene	pg	5.813193854	x	0.225338923	0.701543012	0.008965767	0.802475855	0.004626104	1.552806484	0.025320241	0.006016801
429	Occupation, arable, non-irrigated	mm2a	0.666022308	x	0.012095691	1.206324007	0.000481262	1.337789442	0.000248319	1.912214232	0.001359134	0.016552138
430	Occupation, construction site	mm2a	0.235802766	x	0.186898810	1.324036619	0.007436315	1.978369692	0.003836947	5.768552334	0.021000912	0.087076703
431	Occupation, dump site	mm2a	1.252242490	x	0.626261819	97.774624307	0.024917656	124.713408310	0.012856867	165.554833012	0.070370000	2.597054905
432	Occupation, dump site, benthos	mm2a	0.330500057	x	0.570595801	0.063590430	0.022702820	0.702748323	0.011714069	8.526310768	0.064115080	0.000000092
433	Occupation, forest, intensive	mm2a	2.253661162	x	0.083940929	7.079905528	0.003339835	7.734026266	0.001723269	10.920978312	0.009432035	0.126721398
434	Occupation, forest, intensive, normal	cm2a	0.140907335	x	0.065480872	10.546008956	0.002605348	12.028641986	0.001344292	17.464692848	0.007357768	0.000683153
435	Occupation, forest, intensive, short-cycle	mm2a	0.081329452	x	0.025133518	0.004920950	0.001000010	0.025899998	0.000515980	0.279645553	0.002824131	0.000020248
436	Occupation, industrial area	mm2a	3.128149136	x	4.904397565	52.402232866	0.195135781	62.597448331	0.100685024	98.320370355	0.551083345	0.000931770
437	Occupation, industrial area, benthos	mm2a	0.038466847	x	0.004397123	0.000533088	0.000174952	0.006758521	0.000090271	0.083066020	0.000494083	0.000000001
438	Occupation, industrial area, built up	mm2a	0.735142947	x	0.406036883	0.387409551	0.016155363	0.493225220	0.008335750	1.464658385	0.045624393	0.000003863
439	Occupation, industrial area, vegetation	mm2a	0.593092808	x	0.163832623	0.575188979	0.006518559	0.677014381	0.003363408	1.246254021	0.018409077	0.000014320
440	Occupation, mineral extraction site	m2a	0.000001622	0.174227000	0.000000579	0.155694392	0.000000023	0.155708718	0.000000012	0.155755790	0.000000065	0.000002542
441	Occupation, permanent crop, fruit, intensive	mm2a	0.119280858	x	0.036107253	0.006196653	0.001436633	0.036516340	0.000741265	0.403919857	0.004057197	0.000015248
442	Occupation, shrub land, sclerophyllous	mm2a	0.086472512	x	0.013438489	1.303781721	0.000534690	1.680827639	0.000275886	2.090977046	0.001510018	0.087036613
443	Occupation, traffic area, rail embankment	mm2a	0.214174258	x	0.092337683	7.397624968	0.003673924	7.899734877	0.001895650	11.726584774	0.010375537	0.000000262
444	Occupation, traffic area, rail network	mm2a	0.236827316	x	0.102104171	8.180066143	0.004062513	8.735283844	0.002096152	12.966896753	0.011472950	0.000000290
445	Occupation, traffic area, road embankment	mm2a	9.884360877	x	0.081367583	10.454532887	0.003237447	11.921929114	0.001670439	17.333790646	0.009142880	0.002762626
446	Occupation, traffic area, road network	mm2a	47.995014592	x	2.051684088	0.603886701	0.081632244	1.652543693	0.042120130	2.934841617	0.230537781	0.000001011
447	Occupation, urban, discontinuously built	mm2a	0.000658268	x	0.000146959	0.001766349	0.000005847	0.001912909	0.000003017	0.003490000	0.000016513	0.000000000
448	Occupation, water bodies, artificial	mm2a	1.101017628	x	0.588392457	73.065475850	0.023410912	91.475691215	0.012079426	112.639013035	0.066114804	4.898067840
449	Occupation, water courses, artificial	mm2a	1.713449297	x	0.532294345	0.835468702	0.021178885	1.489725555	0.010927758	2.801765107	0.059811331	0.003068848
450	Oil, crude, in ground	g	1.132131618	x	1.504260266	0.163835071	0.059851388	0.228161951	0.030881771	0.738797176	0.169026423	0.002109773
451	Oils, biogenic	µg	0.297256086	x	0.121104431	10.882709199	0.004818493	12.026355161	0.002486218	17.718747934	0.013607917	0.001187064
452	Oils, unspecified	mg	3.139541317	x	6.541712383	0.682607758	0.260281134	1.010860805	0.134298344	3.886845712	0.735060462	0.009004072
453	Oils, unspecified	mg	3.145446244	x	6.911539872	0.716623311	0.274995800	0.999212882	0.141890732	3.267870602	0.776616181	0.009496408
454	Olivine, in ground	ng	24.369364957	x	2.152352057	2.352719253	0.085637613	3.646265749	0.044186797	16.727875914	0.241849351	0.016432518
455	Orbencarb	ng	1.720431871	x	0.113365633	67.670926305	0.004510583	73.783241907	0.002327344	103.030352042	0.012738346	1.223989269
456	Ozone	µg	3.916369071	x	1.667405239	135.410048982	0.066342587	169.457414172	0.034231062	213.771035588	0.187358232	8.800689993
457	PAH, polycyclic aromatic hydrocarbons	µg	0.413231402	x	4.514320615	0.951589100	0.179615431	1.988869376	0.092676924	12.806702914	0.507252292	0.029444423
458	PAH, polycyclic aromatic hydrocarbons	ng	349.262816727	x	575.111272934	72.210946825	22.882481722	98.755666126	11.806769662	316.117468126	64.622461706	0.778398810
459	Paraffins	pg	x	x	x	0.000003845	x	0.000004769	x	0.000005700	x	0.000000263
460	Paraffins	pg	x	x	x	0.000011158	x	0.000013841	x	0.000016541	x	0.000000763
461	Particulates, < 2.5 um	mg	1.051550808	x	5.617783570	2.458610969	0.223519927	4.407957258	0.115330510	11.905796631	0.631243067	0.112214303
462	Particulates, > 10 um	mg	1.260504887	x	0.895915325	68.149060760	0.035646608	76.807501610	0.018392729	147.562679121	0.100669656	0.515239136
463	Particulates, > 2.5 um, and < 10um	mg	0.865901564	x	0.512316457	0.633281076	0.020384007	2.154310426	0.010517621	13.772613738	0.057566513	0.016050961
464	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni	ng	1.781774771	x	1.888998094	0.244085893	0.075159306	0.324511143	0.038780261	0.972452434	0.212257545	0.002574608
465	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni	ng	4.281924657	x	4.539601542	0.586586478	0.180621306	0.779863817	0.093195930	2.336984101	0.510092987	0.006187536
466	Peat, in ground	µg	33.276545350	x	1.004697621	28.518730405	0.039974829	50.805574613	0.020625980	308.500413697	0.112892994	0.394229856
467	Pentane	mg	0.085530883	x	0.110535763	0.055873535	0.004397988	0.169791348	0.002269248	1.443244977	0.012420367	0.002871163
468	Phenol	µg	0.078289952	x	0.011053306	0.051979226	0.000439788	0.058775449	0.000226919	53.663527434	0.001242006	0.000639478
469	Phenol	µg	5.771200843	x	9.189366869	1.017778441	0.365625800	1.435646443	0.188653471	4.864308278	1.032564543	0.013382440
470	Phenol, 2,4-dichloro-	pg	0.597355671	x	0.098703914	0.152603625	0.003927224	0.252981047	0.002026346	1.283211812	0.011090880	x
471	Phenol, pentachloro-	ng	1.596882430	x	1.330861580	4.956088129	0.052952215	7.310159489	0.027321976	16.176808122	0.149542455	0.004934743
472	Phosphate	mg	1.188415108	x	0.758421949	131.612265231	0.030176032	139.203113100	0.015570053	207.045943380	0.085220192	0.072696499
473	Phosphine	pg	0.997895159	x	0.021788467	0.050058531	0.000866918	0.054645803	0.000447307	0.100171181	0.002448264	0.000000339
474	Phosphorus	µg	0.045175551	x	0.039133903	0.252759668	0.001557057	4.502112163	0.000803401	72.428375047	0.004397287	0.004259425
475	Phosphorus	ng	555.728129242	x	544.083490006	196.180542975	21.647950755	272.351112256	11.169783563	922.124400356	61.136020371	2.682471786
476	Phosphorus	µg	1.375279089	x	2.291544186	0.428971382	0.091175778	1.195784151	0.047044347	9.538042400	0.257489695	0.000343029
477	Phosphorus, 18% in apatite, 12% in crude ore	µg	7.563050403	x	7.727771787	2.838480807	0.307471971	6.119493324	0.158647597	42.866024356	0.868332199	0.022860833
478	Phosphorus, 18% in apatite, 4% in crude ore,	µg	13.166104149	x	17.559832894	4.033698534	0.698669239	11.135707162	0.360495285	93.161551107	1.973113173	0.039236482
479	Pirimicarb	pg	123.365941543	x	2.027839554	56.406152825	0.080683519	65.820789942	0.041630612	100.382726514	0.227858486	0.009260845
480	Platinum	pg	0.193681855	x	0.069992571	0.274027763	0.002784859	0.399024251	0.001436915	0.884184442	0.007864725	0.000263077
481	Plutonium-238	nBq	0.001665085	x	0.000664383	0.010453001	0.000026434	0.013513446	0.000013639	0.019896649	0.000074653	0.000537625
482	Plutonium-alpha	nBq	0.003816995	x	0.001523013	0.023962175	0.000060598	0.030977857	0.000031267	0.045610539	0.000171134	0.001232436
483	Polonium-210	mBq	0.076306031	x	0.050238220	0.840838126	0.001998874	6.692827098	0.001031368	98.246304430	0.005645025	0.034516422
484	Polonium-210	µBq	75.262784398	x	87.820000748	64.700779123	3.494175226	116.722436288	1.802904184	557.324762023	9.867907138	0.303484048
485	Polychlorinated biphenyls	ng	1.959016884	x	1.156855322	0.746846318	0.046028868	1.075199509	0.023749707	4.315130353	0.129990216	0.000048095
486	Potassium	mg	0.003010116	x	0.001513131	0.009171618	0.000060204	0.095826843	0.000031064	1.458294547	0.000170023	0.000089389
487	Potassium	µg	9.502280961	x	15.960861456	2.685331788	0.635049490	7.901378145	0.327669138	65.621062398	1.793444516	0.001907944
488	Potassium-40	mBq	0.008208289	x	0.006501641	0.338339852	0.000258687	1.315829768	0.000133476	15.898042988	0.000730558	0.019865909
489	Potassium-40	µBq	23.683005035	x	20.325188067	58.215690527	0.808696971	86.625864832	0.417266754	216.513573315	2.283842709	0.141844897
490	Potassium, ion	mg	2.551387242	x	1.691760209	269.941682722	0.067311621	288.417208531	0.034731058	424.299022000	0.190094882	0.843281974
491	Praseodymium, 0.42% in bastnasite, 0.042% i	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
492	Propanal	pg	185.959348825	x	96.299653518	324.593501094	3.831562978	415.398274786	1.976987552	702.165940537	10.820724553	11.542134708
493	Propanal	pg	1.240689761	x	0.065202026	26.251622013	0.002594253	27.224787514	0.001338568	40.387159643	0.007326435	x
494	Propane	mg	0.107126855	x	0.091997401	0.028502832	0.003660385	0.242803499	0.001888664	2.549797355	0.010337301	0.000888537
495	Propene	µg	3.798328078	x	4.192565556	6.332657739	0.166813466	40.970348968	0.086071441	312.328984976	0.471098238	0.332986610
496	Propene	µg	1.246818105	x	0.147149525	0.099356375	0.005854774	0.134251254	0.003020912	0.476005977	0.016534478	0.001142511
497	Propionic acid	µg	0.026599115	x	0.029809218	0.050490424	0.001186047	1.704675360	0.000611970	22.107968772	0.003349517	0.000268575
498	Propionic acid	pg	2.397277098	x	0.252414453	1.078722087	0.010043046	1.401609965	0.005181953	4.271678339	0.028362587	x
499	Propylamine	pg	0.206822346	x	0.010869059	4.376082241	0.000432457	4.538306731	0.000223137	6.732442639	0.001221303	x
500	Propylamine	pg	0.496371318	x	0.026085498	10.502477345	0.001037888	10.891811876	0.000535523	16.157678063	0.002931101	x
501	Propylene oxide	ng	486.441635677	x	4.858245381	3.442654346	0.193299482	4.339392971	0.099737541	9.874898491	0.545897448	0.004418048
502	Propylene oxide	µg	1.170462952	x	0.011689248	0.008281629	0.000465091	0.010439065	0.000239975	0.023756518	0.001313464	0.000010631
503	Protactinium-234	µBq	2.062681373	x	0.661366004	10.460096489	0.026314378	13.510317394	0.013577540	19.917695623	0.074314487	0.535508653
504	Protactinium-234	µBq	37.940335344	x	12.195133776	192.788611236	0.485219016	249.014272223	0.250360482	367.138182331	1.370307978	9.868474789

No	Substance	Unit	T0, Tunnel, transport of fuel, at plant, ZA	T1 Tunnel, clay extraction, extracted clay, ZA	T2 Tunnel, mining fuel, stockpiled clay, ZA	T3 Tunnel, clay preparation, wet green brick, ZA rev1	T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA	T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1	T6 Tunnel, dry green brick transport, at firing location, ZA	T7 Tunnel, brick firing, fired brick, ZA rev1	T8 Tunnel, fired brick transport, at saled bay, ZA	T9 Tunnel, factory overheads, additional water and electricity, ZA rev1
505	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni	pg	37.523831238	x	46.009577962	15.800485355	1.830625439	22.791710313	0.944555454	57.865130483	5.169872910	0.059259819
506	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni	pg	134.519775663	x	164.940464198	56.643355512	6.562638110	81.706295353	3.386151794	207.441540480	18.533559214	0.212437746
507	Radioactive species, alpha emitters	nBq	121.702769411	x	149.960120726	42.279195996	5.966601392	104.601082578	3.078612239	808.816590132	16.850290744	0.571935860
508	Radioactive species, Nuclides, unspecified	mBq	11.951516022	x	4.744011718	74.493038729	0.188754362	96.310876380	0.097392377	141.851575363	0.533061566	3.828982659
509	Radioactive species, other beta emitters	mBq	7.264522749	x	0.020190328	0.082941376	0.000803331	0.110064537	0.000414498	0.213429621	0.002268689	0.001246283
510	Radium-224	mBq	3.106711556	x	4.795317661	0.512353919	0.190795719	0.720649245	0.098445664	2.409157659	0.538826565	0.006678396
511	Radium-226	mBq	0.077502633	x	0.028726226	0.456555678	0.001142957	1.381348709	0.000589736	14.514784084	0.003227827	0.022158741
512	Radium-226	mBq	28.623701152	x	15.321326049	120.776664246	0.609603706	156.118209701	0.314539770	232.608327822	1.721583027	6.149091690
513	Radium-228	mBq	0.006397038	x	0.005708123	0.219571735	0.000227114	4.565843392	0.000117185	74.290870891	0.000641394	0.005988755
514	Radium-228	mBq	6.213913907	x	9.590654345	1.024767067	0.381592195	1.441366240	0.196891718	4.818446413	1.077655268	0.013357300
515	Radon-220	mBq	0.340813705	x	0.264333672	1.037568704	0.010517287	1.578198488	0.005426649	4.454614103	0.029701891	0.002142082
516	Radon-222	Bq	271.955480680	x	87.441628680	############	3.479120588	############	1.795136380	############	9.825391306	70.737909736
517	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni	pg	22.723432427	x	43.215213906	6.292761171	1.719443504	8.825631298	0.887188446	25.808418933	4.855883787	0.058854589
518	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni	pg	71.172341538	x	135.354901537	19.709647997	5.385490089	27.642884856	2.778773813	80.834885700	15.209173169	0.184340106
519	Rhenium, in crude ore, in ground	pg	40.557671255	x	60.670468681	6.824601648	2.413951797	9.047812631	1.245536790	27.274593334	6.817246024	0.083861212
520	Rubidium	ng	621.342310695	x	959.063531980	108.052278386	38.159143757	151.053151682	19.689132775	490.105528456	107.765313054	1.717095711
521	Ruthenium-103	nBq	0.027942671	x	0.000847618	0.006544595	0.000033725	0.008121895	0.000017401	0.015479583	0.000095243	0.000009774
522	Ruthenium-103	nBq	27.148790270	x	0.823535996	6.358656154	0.032766785	7.891143519	0.016906815	15.039791676	0.092536742	0.009496112
523	Samarium, 0.3% in bastnasite, 0.03% in crude	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
524	Sand, unspecified, in ground	µg	2.390120145	x	0.636085461	2.037287074	0.025308518	3.016579850	0.013058542	7.363371876	0.071473835	0.001230498
525	Scandium	µg	0.025151742	x	0.008174112	0.035411097	0.000325231	0.133611715	0.000167811	1.539667811	0.000918485	0.000082342
526	Scandium	µg	1.121241871	x	0.495839896	144.674052297	0.019728438	170.244548926	0.010179365	225.808184858	0.055715122	4.918193080
527	Selenium	µg	0.068801699	x	0.058577581	1.949237164	0.002330680	3.066665189	0.001202571	13.359296884	0.006582078	0.126900237
528	Selenium	µg	1.719985558	x	0.734070447	138.051083427	0.029207137	150.424587796	0.015070128	217.642685810	0.082483932	1.146847955
529	Shale, in ground	ng	154.432605807	x	17.291270582	16.301879373	0.687983703	25.216530452	0.354981824	116.304654089	1.942936130	0.138152048
530	Silicon	mg	0.004186005	x	0.002059174	0.048197546	0.000081930	1.103402741	0.000042274	18.052740217	0.000231379	0.001042824
531	Silicon	g	0.009446347	x	0.005583469	0.747679893	0.000222155	0.881318887	0.000114626	1.169959811	0.000627387	0.026470578
532	Silicon	µg	3.648232227	x	4.953808049	2.901858388	0.197101722	5.177618382	0.101699399	25.195413540	0.556635361	0.015015239
533	Silicon tetraflouride	pg	97.725941491	x	132.711412227	28.427757184	5.280311146	81.975196978	2.724504195	700.971773440	14.912137108	0.296644984
534	Silver	ng	1.092235146	x	0.357772798	1.415390520	0.014235036	2.046169471	0.007344911	4.484248855	0.040201192	0.000012294
535	Silver-110	nBq	0.276933265	x	0.008400541	0.064861948	0.000334240	0.080494199	0.000172459	0.153414519	0.000943928	0.000096866
536	Silver-110	µBq	102.043792032	x	7.425091446	124.906234782	0.295428950	158.803191505	0.152433709	235.162693252	0.834321479	5.867191400
537	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn,	ng	90.865237690	x	2.100364542	5.008926188	0.083569138	5.641651957	0.043119517	10.604088092	0.236007767	0.000030968
538	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and T	ng	64.794783607	x	1.499917270	3.579775937	0.059678589	4.034182574	0.030792611	7.584656937	0.168538422	0.000022092
539	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in gro	ng	5.982221404	x	0.138354870	0.330017762	0.005504853	0.371739532	0.002840362	0.698659817	0.015546265	0.000002040
540	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in gro	ng	13.662703905	x	0.315986564	0.753722508	0.012572448	0.849010217	0.006487059	1.595658405	0.035505876	0.000004659
541	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in gro	ng	13.391739306	x	0.309719789	0.738774362	0.012323106	0.832172287	0.006358405	1.564012649	0.034801709	0.000004566
542	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, C	ng	8.836597431	x	0.204369963	0.487483495	0.008131456	0.549112531	0.004195621	1.032020644	0.022964061	0.000003014
543	Silver, ion	µg	0.134609897	x	0.090185063	0.799969789	0.003588276	0.859709211	0.001851458	1.354393529	0.010133658	0.000138710
544	Sodium	µg	1.544693304	x	1.628266874	3.188778765	0.064785353	45.865696222	0.033427569	730.691568490	0.182960444	0.047142585
545	Sodium	µg	87.728970984	x	89.483265896	8.494217476	3.560353088	34.975160777	1.837050252	350.021255435	10.054800168	0.000008551
546	Sodium-24	nBq	973.489196887	x	29.529985943	228.005852722	1.174936739	282.957100246	0.606237016	539.290133318	3.318141159	0.340507365
547	Sodium chlorate	ng	1.253149561	x	1.430472934	1.470847825	0.056915544	2.334086668	0.029366951	9.569796383	0.160735299	0.056847048
548	Sodium chloride, in ground	mg	22.052718835	x	1.262916813	3.881555287	0.050248834	5.068609820	0.025927101	11.371720748	0.141907831	0.183235060
549	Sodium dichromate	ng	2.015012085	x	0.671069851	1.071424101	0.026700474	2.565665426	0.013776755	15.386003242	0.075404861	0.001239513
550	Sodium formate	ng	0.052311670	x	0.013396584	1.193714064	0.000533022	1.303535828	0.000275026	1.841318086	0.001505309	0.021409099
551	Sodium formate	ng	0.125675572	x	0.032184471	2.867825240	0.001280553	3.131665328	0.000660732	4.423654383	0.003616413	0.051434054
552	Sodium hydroxide	ng	11.579017430	x	0.253230365	0.582433977	0.010075510	0.636414327	0.005198703	1.167521565	0.028454267	0.000003929
553	Sodium nitrate, in ground	pg	8.679161225	x	0.215475569	0.657614894	0.008573325	1.976833991	0.004423614	17.561565294	0.024211944	0.000245295
554	Sodium sulphate, various forms, in ground	µg	23.756777124	x	34.793901309	6.549483419	1.384376986	20.801548048	0.714302775	186.948118974	3.909621774	0.082643591
555	Sodium, ion	mg	29.775334911	x	31.364903121	421.226941302	1.247944278	449.500464239	0.643907021	672.097293946	3.524321894	0.979925384
556	Solids, inorganic	mg	0.351670818	x	0.271720534	3.211832313	0.010811195	3.900699398	0.005578297	6.515234202	0.030531917	0.048871330
557	Solved solids	mg	0.059051482	x	0.102717416	3.361634101	0.004086912	3.928366958	0.002108741	5.614118768	0.011541857	0.014240072
558	Stibnite, in ground	pg	470.681531756	x	1.306318141	5.366985400	0.051975683	7.121060842	0.026818110	13.805783425	0.146784628	0.088742392
559	Strontium	µg	0.075228384	x	0.047399259	0.786709770	0.001885918	13.547693604	0.000973085	158.640029289	0.005326025	0.020498235
560	Strontium	mg	0.221917151	x	0.244510974	14.318261015	0.009728583	15.410668271	0.005019698	22.539696673	0.027474511	0.081640941
561	Strontium	µg	0.260605631	x	0.451486232	0.042074367	0.017963698	0.174499300	0.009268804	1.750075100	0.050731316	0.000005451
562	Strontium-89	µBq	2.260084860	x	0.132358632	4.372054773	0.005266275	5.480563639	0.002717262	7.412443391	0.014872497	0.246853633
563	Strontium-90	mBq	8.291725713	x	6.806969434	26.527903053	0.270835160	38.879728259	0.139743949	84.974287311	0.764866109	0.106589406
564	Styrene	ng	4.960501510	x	1.877156365	1.697427262	0.074688149	2.021620282	0.038537156	4.620916932	0.210926948	0.001740629
565	Sulfate	µg	19.623930288	x	6.651527029	16.966731944	0.264650430	24.534088544	0.136552788	63.351564376	0.747399801	0.349962213
566	Sulfate	g	0.029288091	x	0.017527564	3.057256424	0.000697385	3.237036656	0.000359833	4.814553201	0.001969487	0.002116335
567	Sulfide	ng	87.672039673	x	114.583418560	62.283590914	4.559035971	87.069439946	2.352344831	191.484845015	12.875182467	1.144665431
568	Sulfite	µg	0.413899957	x	0.304907105	1.186663400	0.012131620	1.729565009	0.006259602	3.777016358	0.034260931	0.001953226
569	Sulfur	µg	8.424036121	x	17.550381690	1.897861932	0.698293195	3.335198392	0.360301256	18.016297284	1.972051187	0.022651264
570	Sulfur	µg	15.718237701	x	26.890352000	3.032102149	1.069911193	11.100852313	0.552046547	106.169681962	3.021538308	0.006661105
571	Sulfur dioxide	mg	4.454267527	x	7.592156474	219.491529888	0.302076120	308.801750671	0.155863477	863.592249223	0.853093765	14.725011768
572	Sulfur hexafluoride	µg	0.042478932	x	0.024828146	2.129108188	0.000987860	2.667775341	0.000509710	3.340301842	0.002789818	0.141932948
573	Sulfur trioxide	pg	44.971580395	x	7.322381258	289.137593741	0.291342325	305.806676979	0.150325116	515.759714718	0.822780433	x
574	Sulfur, in ground	µg	1.806785283	x	0.260241243	0.455289095	0.010354458	0.634397215	0.005342633	2.006923386	0.029242045	0.003165076
575	Sulfuric acid	ng	2.423784282	x	0.053339243	0.123201329	0.002122258	0.135110513	0.001095030	0.248600133	0.005993472	0.000000823
576	Sulfuric acid	pg	1.496842725	x	0.032682698	0.075087794	0.001300377	0.081968701	0.000670961	0.150256754	0.003672396	0.000000508
577	Suspended solids, unspecified	mg	0.858918278	x	1.391043082	0.218989302	0.055346712	1.651582181	0.028557474	19.006859090	0.156304758	0.002391298
578	Sylvite, 25 % in sylvinite, in ground	µg	12.089534293	x	1.207423922	15.140364738	0.048040887	17.472334044	0.024787857	35.003232893	0.135672364	0.242139424
579	t-Butyl methyl ether	ng	5.355021873	x	0.133738423	5.389267945	0.005321174	6.172325257	0.002745588	9.318818425	0.015027537	0.001687386
580	t-Butyl methyl ether	ng	95.092888289	x	208.741653555	21.784121605	8.305396359	30.352448707	4.285370046	99.041311062	23.455286217	0.289243741
581	t-Butylamine	pg	1.314379626	x	0.024540491	1.377459931	0.000976415	1.504976846	0.000503805	2.267438287	0.002757496	x
582	t-Butylamine	pg	3.154558146	x	0.058898079	3.305959988	0.002343432	3.612005390	0.001209150	5.441943561	0.006618091	x
583	Talc, in ground	µg	0.727943281	x	0.121632487	63.062025584	0.004839504	68.763679668	0.002497059	96.047844641	0.013667252	1.139463573
584	Tantalum, 81.9% in tantalite, 1.6E-4% in crude	ng	71.663979079	x	1.639281509	3.883285246	0.065223603	4.349746400	0.033653695	8.139471884	0.184198105	0.000024410
585	Tebutam	ng	0.377415708	x	0.006849500	0.680131076	0.000272527	0.754321787	0.000140617	1.078348383	0.000769645	0.009315872
586	Technetium-99m	µBq	2.956943746	x	0.090439593	0.695212264	0.003598403	0.863439790	0.001856683	1.646989513	0.010162258	0.001036812
587	Teflubenzuron	ng	0.021239509	x	0.001399550	0.835428163	0.000055685	0.910887461	0.000028732	1.271956252	0.000157261	0.015110701
588	Tellurium-123m	µBq	0.396404766	x	0.139823106	3.576198014	0.005563271	4.549809888	0.002870504	6.244442779	0.015711244	0.206402805
589	Tellurium-132	nBq	7.449770255	x	0.225982591	1.744848556	0.008991377	2.165371116	0.004639319	4.126997614	0.025392567	0.002605783
590	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu a	ng	9.719379572	x	0.224991353	0.536975345	0.008951938	0.605137480	0.004618969	1.137717539	0.025281186	0.000003314
591	Terpenes	ng	2.631600431	x	0.813252451	0.159228579	0.032357624	0.838053687	0.016695698	9.048571474	0.091381230	0.000655165
592	Thallium	µg	0.000765699	x	0.000223593	0.005011829	0.000008896	0.110537748	0.000004590	1.805648565	0.000025124	0.000103349
593	Thallium	µg	0.128645950	x	0.036228379	8.857484058	0.001441452	10.662265715	0.000743752	13.789360340	0.004070807	0.380674907
594	Thiram	pg	11.980944302	x	3.702512052	0.724923399	0.147315256	3.815425175	0.076010868	41.195627402	0.416033304	0.002982784
595	Thorium	µg	0.000290114	x	0.000206176	0.005495087	0.000008203	0.132277597	0.000004233	1.677357893	0.000023167	0.000124169
596	Thorium-228	mBq	0.001812796	x	0.001477484	0.033932858	0.000058786	0.406212738	0.000030332	6.315301446	0.000166018	0.001298207
597	Thorium-228	mBq	12.427329836	x	19.181884869	2.049572822	0.763207314	2.883006148	0.393795265	9.639930764	2.155375279	0.026715217
598	Thorium-230	µBq	7.794528555	x	2.685498362	38.678630854	0.106850396	50.039558053	0.055132045	74.838802907	0.301756414	1.977337977
599	Thorium-230	mBq	5.176588587	x	1.663907003	26.304124182	0.066203400	33.975566821	0.034159245	50.092421530	0.186965152	1.346457053
600	Thorium-232	mBq	0.002557973	x	0.002044598	0.038598719	0.000081350	0.280509828	0.000041975	4.051128508	0.000229742	0.001702802
601	Thorium-232	µBq	3.526595207	x	2.660485089	10.564939259	0.105855170	15.398531778	0.054618534	34.301264111	0.298945793	0.023443301
602	Thorium-234	µBq	2.063115646	x	0.661492046	10.462777322	0.026319393	13.513744986	0.013580127	19.922539544	0.074328650	0.533657147
603	Thorium-234	µBq	37.944978330	x	12.196481254	192.817266249	0.485272629	249.050909363	0.250388145	367.189959699	1.370459387	9.870061983
604	Tin	ng	41.379747742	x	19.345415065	49.044368019	0.769713841	101.364364184	0.397152465	849.680346780	2.173750373	0.447888053
605	Tin	pg	228.930056706	x	8.575549291	418.582086742	0.341203275	460.926679270	0.176052079	667.290867820	0.963592841	8.147505912
606	Tin, 79% in cassiterite, 0.1% in crude ore, in g	µg	3.473914618	x	0.136000767	0.781104766	0.005411188	0.850238506	0.002792033	1.499340363	0.015281746	0.000455046
607	Tin, ion	µg	1.221501370	x	0.215082960	19.647127032	0.008557704	24.362903709	0.004415554	31.757936653	0.024167828	1.001107651
608	TiO2, 54% in ilmenite, 2.6% in crude ore, in gr	µg	384.605622095	x	72.071133927	67.704595406	2.867560561	109.815841964	1.479587199	471.899777711	8.098283430	0.180511271
609	TiO2, 95% in rutile, 0.40% in crude ore, in gro	ng	4.662942546	x	0.026485621	0.347792050	0.001053808	0.371183019	0.000543738	0.593226636	0.002976061	0.000452831
610	Titanium	µg	0.581364664	x	0.183492794	1.673026206	0.007300797	27.219365575	0.003767023	434.694706909	0.020618194	0.024768379
611	Titanium	ng	12.202019301	x	7.824688803	31.071347845	0.311328098	45.913016072	0.160637259	112.086845021	0.879222294	0.048276570
612	Titanium, ion	mg	0.084576533	x	0.013810683	5.103571054	0.000549498	6.478655506	0.000283527	7.884507178	0.001551839	0.318050751
613	TOC, Total Organic Carbon	mg	3.531593554	x	6.632369349	0.851342172	0.263888186	1.256611473	0.136159489	4.911492887	0.745247145	0.010633785
614	Toluene	µg	10.517096331	x	12.967305676	33.467027091	0.515942130	65.042412299	0.266212816	335.829920921	1.457073185	2.034463467
615	Toluene	µg	7.767718549	x	12.167755033	1.290584123	0.484129672	1.813981508	0.249798409	6.098522600	1.367231561	0.016901407
616	Toluene, 2-chloro-	pg	1.944809461	x	0.273637147	10.804984859	0.010887453	11.441065337	0.005617645	19.257870424	0.030747278	x
617	Toluene, 2-chloro-	pg	3.744158806	x	0.567246639	22.486570487	0.022569564	23.793744170	0.011645312	40.071825499	0.063738751	x
618	Transformation, from arable	mm2	0.001299231	x	0.000183207	0.002618519	0.000007289	0.003083980	0.000003761	0.005462499	0.000020586	0.000033650
619	Transformation, from arable, non-irrigated	mm2	1.230553659	x	0.022333073	2.217330965	0.000888587	2.459203891	0.000458488	3.515582703	0.002509459	0.030371078
620	Transformation, from arable, non-irrigated, fall	mm2	0.000309676	x	0.000015379	0.000692927	0.000000612	0.000760815	0.000000316	0.001115861	0.000001728	0.000010724
621	Transformation, from dump site, inert material	mm2	0.014380208	x	0.000721049	0.003700189	0.000028689	0.005115422	0.000014803	0.019741715	0.000008021	0.000000488
622	Transformation, from dump site, residual mate	mm2	0.002808941	x	0.001910879	0.256494100	0.000076030	0.330326740	0.000039229	0.397420513	0.000214716	0.017374248
623	Transformation, from dump site, sanitary landf	mm2	0.000035179	x	0.000048288	0.000141446	0.000001921	0.000181954	0.000000991	0.000364718	0.000005426	0.000004681
624	Transformation, from dump site, slag compartr	mm2	0.000065680	x	0.000004424	0.000010219	0.000000176	0.000012890	0.000000091	0.000032591	0.000000497	0.000000107
625	Transformation, from forest	mm2	1.163215753	x	1.941050008	0.184834497	0.077230344	0.856633743	0.039848863	8.891019150	0.218106366	0.000000713
626	Transformation, from forest, extensive	mm2	0.122983557	x	0.048604483	7.150686700	0.001933871	8.154723823	0.000997828	11.855329580	0.005461450	0.001424462
627	Transformation, from forest, intensive, clear-c	mm2	0.002904636	x	0.000897630	0.000175749	0.000035715	0.000925004	0.000018428	0.009987386	0.000100862	0.000000723
628	Transformation, from industrial area	mm2	0.002761882	x	0.001078685	0.004020837	0.000042919	0.016977273	0.000022145	0.165553946	0.000121207	0.000162293
629	Transformation, from industrial area, benthos	mm2	0.000364750	x	0.000001537	0.000002458	0.000000061	0.000083023	0.000000032	0.001076646	0.000000173	0.000000000
630	Transformation, from industrial area, built up	mm2	0.000004615	x	0.000006267	0.000001342	0.000000249	0.000003871	0.000000129	0.000033101	0.000000704	0.000000014

No	Substance	Unit	T0, Tunnel, transport of fuel, at plant, ZA	T1 Tunnel, clay extraction, extracted clay, ZA	T2 Tunnel, mining fuel, stockpiled clay, ZA	T3 Tunnel, clay preparation, wet green brick, ZA rev1	T4 Tunnel, wet green brick transport, wet bricks ready for drying, ZA	T5 Tunnel, drying of wet green brick, dry green brick, ZA rev1	T6 Tunnel, dry green brick transport, at firing location, ZA	T7 Tunnel, brick firing, fired brick, ZA rev1	T8 Tunnel, fired brick transport, at saled bay, ZA	T9 Tunnel, factory overheads, additional water and electricity, ZA rev1
631	Transformation, from industrial area, vegetatic	mm2	0.000007872	x	0.000010691	0.000002290	0.000000425	0.000006604	0.000000219	0.000056467	0.000001201	0.000000024
632	Transformation, from mineral extraction site	cm2	0.000180163	59.000000000	0.000044104	52.687190414	0.000001755	52.687435982	0.000000905	52.687777555	0.000004956	0.000000718
633	Transformation, from pasture and meadow	cm2	0.000336195	59.000000000	0.000064282	52.689699404	0.000002558	52.690676565	0.000001320	52.693164011	0.000007223	0.000174041
634	Transformation, from pasture and meadow, int	mm2	0.001004150	x	0.000018224	0.001809552	0.000000725	0.002006944	0.000000374	0.002869047	0.000002048	0.000024786
635	Transformation, from sea and ocean	mm2	0.331509302	x	0.570790902	0.063650097	0.022710583	0.702981679	0.011718074	8.528655180	0.064137003	0.000000115
636	Transformation, from shrub land, sclerophyllou	mm2	0.020879530	x	0.003719290	0.264789326	0.000147983	0.341672253	0.000076355	0.430157015	0.000417919	0.017398687
637	Transformation, from tropical rain forest	mm2	0.002904636	x	0.000897630	0.000175749	0.000035715	0.000925004	0.000018428	0.009987386	0.000100862	0.000000723
638	Transformation, from unknown	mm2	0.307337375	x	0.072300574	3.779121635	0.002876690	4.494300029	0.001484298	6.277791510	0.008124065	0.071068479
639	Transformation, to arable	mm2	0.007724144	x	0.005816107	0.017863568	0.000231411	0.171230149	0.000119402	1.801397994	0.000653528	0.000042950
640	Transformation, to arable, non-irrigated	mm2	1.231558960	x	0.022351323	2.219140463	0.000889313	2.461210773	0.000458862	3.518451689	0.002511510	0.030395862
641	Transformation, to arable, non-irrigated, fallow	mm2	0.000435594	x	0.000035392	0.000819961	0.000001408	0.000910023	0.000000727	0.001406814	0.000003977	0.000011570
642	Transformation, to dump site	mm2	0.008371731	x	0.004616189	0.777292055	0.000183669	0.984415763	0.000094768	1.317492824	0.000518699	0.017943997
643	Transformation, to dump site, benthos	mm2	0.330500057	x	0.570595801	0.063590430	0.022702820	0.702748323	0.011714069	8.526310768	0.064115580	0.000000092
644	Transformation, to dump site, inert material lar	mm2	0.014380208	x	0.000721049	0.003700189	0.000028689	0.005115422	0.000014803	0.019741715	0.000081021	0.000000488
645	Transformation, to dump site, residual materia	mm2	0.002809022	x	0.001910883	0.256494236	0.000076030	0.330326884	0.000039230	0.397420741	0.000214717	0.017374248
646	Transformation, to dump site, sanitary landfill	mm2	0.000035179	x	0.000048288	0.000141446	0.000001921	0.000181954	0.000000991	0.000364718	0.000005426	0.000004681
647	Transformation, to dump site, slag compartme	mm2	0.000065680	x	0.000004424	0.000010219	0.000000176	0.000012890	0.000000091	0.000032591	0.000000497	0.000000107
648	Transformation, to forest	mm2	0.025396478	x	0.003423958	0.264870265	0.000136232	0.341850493	0.000070292	0.435485612	0.000384734	0.017395999
649	Transformation, to forest, intensive	mm2	0.015021436	x	0.000559134	0.047164089	0.000022247	0.051521642	0.000011479	0.072751992	0.000062827	0.000844178
650	Transformation, to forest, intensive, clear-cutti	mm2	0.002904636	x	0.000897630	0.000175749	0.000035715	0.000925004	0.000018428	0.009987386	0.000100862	0.000000723
651	Transformation, to forest, intensive, normal	mm2	0.104760477	x	0.047052886	7.033267196	0.001872136	8.022708878	0.000965974	11.660663898	0.005287104	0.000552308
652	Transformation, to forest, intensive, short-cycl	mm2	0.002904636	x	0.000897630	0.000175749	0.000035715	0.000925004	0.000018428	0.009987386	0.000100862	0.000000723
653	Transformation, to heterogeneous, agricultura	mm2	0.107395123	x	0.090211545	0.008617450	0.003589330	0.041611516	0.001852001	0.436923920	0.010136633	0.000000008
654	Transformation, to industrial area	mm2	0.020234851	x	0.008337849	1.517358950	0.000331746	1.769697923	0.000171172	2.698845427	0.000936884	0.000011407
655	Transformation, to industrial area, benthos	mm2	0.001009245	x	0.000195101	0.000059667	0.000007763	0.000233356	0.000004005	0.002344413	0.000021923	0.000000023
656	Transformation, to industrial area, built up	mm2	0.015733223	x	0.009148040	0.012938529	0.000363981	0.016229617	0.000187805	0.035670147	0.001027921	0.000322330
657	Transformation, to industrial area, vegetation	mm2	0.012963913	x	0.004575821	0.010373391	0.000182062	0.012361098	0.000093940	0.023877820	0.000514163	0.000000158
658	Transformation, to mineral extraction site	cm2	0.011704396	59.000000000	0.018635725	52.698142787	0.000741477	52.704527412	0.000382583	52.769457036	0.002094006	0.000209809
659	Transformation, to pasture and meadow	cm2	0.000015253	29.500000000	0.000003031	26.343504214	0.000000121	26.343622629	0.000000062	26.345080993	0.000000341	0.000000002
660	Transformation, to permanent crop, fruit, inten	mm2	0.001679133	x	0.000508287	0.000087231	0.000020224	0.000514045	0.000010435	0.005686034	0.000057114	0.000000215
661	Transformation, to sea and ocean	mm2	0.000364750	x	0.000001537	0.000002458	0.000000061	0.000083023	0.000000032	0.001076646	0.000000173	0.000000000
662	Transformation, to shrub land, sclerophyllous	mm2	0.017290008	x	0.002684640	0.260345953	0.000106816	0.335637005	0.000055114	0.417559536	0.000301660	0.017379524
663	Transformation, to traffic area, rail embankme	mm2	0.000498367	x	0.000214863	0.017213704	0.000008549	0.018382075	0.000004411	0.027286861	0.000024143	0.000000001
664	Transformation, to traffic area, rail network	mm2	0.000547792	x	0.000236171	0.018920849	0.000009397	0.020205092	0.000004848	0.029992996	0.000026537	0.000000001
665	Transformation, to traffic area, road embankm	mm2	0.025341164	x	0.000511379	0.069730058	0.000020347	0.079509778	0.000010498	0.115607478	0.000057461	0.000019365
666	Transformation, to traffic area, road network	mm2	0.086468035	x	0.024400586	0.007843296	0.000970849	0.020704114	0.000500933	0.041895997	0.002741775	0.000000011
667	Transformation, to unknown	mm2	0.005628958	x	0.001352448	0.004359157	0.000053811	0.005695168	0.000027765	0.010413987	0.000151968	0.000162556
668	Transformation, to urban, discontinuously buil	mm2	0.000013112	x	0.000002927	0.000035185	0.000000116	0.000038104	0.000000060	0.000069519	0.000000329	0.000000000
669	Transformation, to water bodies, artificial	cm2	0.000267133	29.500000000	0.000051778	26.348330492	0.000002060	26.349560625	0.000001063	26.351043034	0.000005818	0.000319112
670	Transformation, to water courses, artificial	mm2	0.016765528	x	0.005158270	0.009857813	0.000205237	0.016398033	0.000105897	0.031619239	0.000579610	0.000037985
671	Tributyltin compounds	ng	65.695485781	x	96.770613910	21.762327146	3.850301512	131.861957709	1.986656152	185.551632823	10.873644086	0.157239208
672	Triethylene glycol	µg	0.179775225	x	0.028054227	0.054725997	0.001116219	1.505048989	0.000575940	19.361311819	0.003152317	0.000619865
673	Trimethylamine	pg	0.121623934	x	0.002066227	0.056140685	0.000082211	0.065430605	0.000042419	0.100445724	0.000232172	x
674	Trimethylamine	pg	0.291897443	x	0.004958945	0.134737643	0.000197306	0.157033451	0.000101805	0.241069737	0.000557213	x
675	Tungsten	ng	2.813731171	x	0.904415516	3.587761820	0.035984813	5.182894503	0.018567234	11.351474119	0.101624781	x
676	Tungsten	µg	1.606632204	x	0.238268382	20.309191418	0.009480203	25.570436672	0.004891540	33.250107354	0.026773061	1.031214449
677	Ulexite, in ground	ng	97.027390855	x	51.005698521	186.094937567	2.029410688	276.620431584	1.047123508	640.080844419	5.731262722	0.000111850
678	Uranium	µg	0.000234152	x	0.000189464	0.007264627	0.000007538	0.176062213	0.000003890	2.107401416	0.000021289	0.000165336
679	Uranium-234	µBq	24.120447486	x	7.931563966	121.616411769	0.315580438	157.165268233	0.162831357	232.779923104	0.891231337	6.222834932
680	Uranium-234	µBq	45.528403135	x	14.634160690	231.346333606	0.582262825	298.817126866	0.300432582	440.565819664	1.644369591	11.842169746
681	Uranium-235	µBq	1.160974286	x	0.373171098	5.899331367	0.014847702	7.619836562	0.007661031	11.234428200	0.041931425	0.301975319
682	Uranium-235	µBq	75.121865070	x	24.146365078	381.721441306	0.960733659	493.048247986	0.495713758	726.933588806	2.713209819	19.539579459
683	Uranium-238	mBq	0.030560117	x	0.013020041	0.207458424	0.000518040	0.927673525	0.000267295	11.766319862	0.001462999	0.009608741
684	Uranium-238	mBq	0.142190013	x	0.068094170	0.610887596	0.002709325	0.801341443	0.001397942	1.318570388	0.007651411	0.029920166
685	Uranium alpha	mBq	0.111808282	x	0.035950260	0.567419056	0.001430386	0.732949384	0.000738042	1.080915437	0.004039556	0.029030098
686	Uranium alpha	mBq	2.185782238	x	0.702591720	11.105863131	0.027954664	14.344881752	0.014423885	21.149965319	0.078946821	0.568468389
687	Uranium, in ground	µg	8.476354329	x	2.693609691	42.518461545	0.107173129	54.921717849	0.055298567	81.025543744	0.302667844	2.176016827
688	Urea	pg	1.579966162	x	0.077544840	30.236969441	0.003085348	31.367019316	0.001591960	46.536326403	0.008713337	x
689	Vanadium	µg	1.350869481	x	1.690116898	2.231859602	0.067246237	5.356719332	0.034697322	62.911711788	0.189910231	0.020278692
690	Vanadium	ng	0.349260323	x	0.223967372	0.889360398	0.008911196	1.314175964	0.004597947	3.208280794	0.025166126	0.001381829
691	Vanadium, ion	µg	8.504402572	x	4.222397493	604.774307192	0.168000417	743.310588061	0.086683877	943.981981705	0.474450307	30.287843622
692	Vermiculite, in ground	µg	0.067464391	x	0.011527035	1.148354869	0.000458637	1.346047727	0.000236645	1.943925703	0.001295237	0.000000024
693	VOC, volatile organic compounds, unspecified	µg	21.838064250	x	33.597744343	4.072786116	1.336784388	5.672589034	0.689746224	17.788549277	3.775215422	0.071739073
694	Volume occupied, final repository for low-activ	mm3	0.017220199	x	0.005550015	0.082463416	0.000220824	0.106785247	0.000113939	0.159241211	0.000623628	0.004131733
695	Volume occupied, final repository for radioacti	mm3	0.003906840	x	0.001402351	0.022238526	0.000055797	0.028731628	0.000028790	0.042292786	0.000157575	0.001143372
696	Volume occupied, reservoir	cm3y	17.139610980	x	3.250438955	321.821684196	0.129328207	405.600030509	0.066730015	554.297416453	0.365236045	21.021058052
697	Volume occupied, underground deposit	mm3	0.047115461	x	0.023337490	0.050895206	0.000928550	0.118775487	0.000479108	0.887476533	0.002622321	0.000710893
698	Water	mg	0.063399805	x	0.027546279	17.843122720	0.001096009	19.453270226	0.000565512	27.155955487	0.003095242	0.322824867
699	Water, cooling, unspecified natural origin/m3	cm3	15.364241552	x	12.130463028	59.218146243	0.482645901	78.673329157	0.249032821	132.304397737	1.363041240	2.491391701
700	Water, fresh	cm3	x	x	x	x	x	x	x	x	x	25.770900000
701	Water, lake	cm3	0.070430226	x	0.012137356	1.814385690	0.000482920	2.168051039	0.000249174	2.944022604	0.001363816	0.041369825
702	Water, process, drinking	g	x	x	x	99.927737000	x	99.927737000	x	99.927737000	x	x
703	Water, rain	cm3	x	x	x	26.964286000	x	26.964286000	x	26.964286000	x	83.964600000
704	Water, river	cm3	4.276017786	x	2.315196648	85.585114542	0.092116861	102.076528637	0.047529921	125.751420356	0.260147408	3.771916962
705	Water, salt, ocean	cm3	0.790320241	x	0.669810030	2.889028383	0.026650348	5.603188397	0.013750892	30.628540442	0.075263301	0.145553887
706	Water, salt, sole	cm3	0.730983796	x	1.193607720	0.163805527	0.047491169	0.219986971	0.024504217	0.696809635	0.134119905	0.001658184
707	Water, turbine use, unspecified natural origin	dm3	5.908480683	x	1.731774070	23.991122465	0.068903689	30.683841755	0.035552524	46.012968058	0.194591045	1.164231460
708	Water, unspecified natural origin/m3	cm3	9.367004372	x	4.889086318	3.164657449	0.194526579	4.347419195	0.100370691	14.862502122	0.549362894	0.019464700
709	Water, well, in ground	cm3	1.479014212	x	0.563014509	59.578847392	0.022401177	65.278922314	0.011558429	75.200376767	0.063263207	0.432033901
710	Wood, hard, standing	mm3	3.904111784	x	1.986336679	180.524039680	0.079032206	207.465178839	0.040778578	307.023488216	0.223195009	0.024570102
711	Wood, primary forest, standing	mm3	0.030074604	x	0.009294057	0.001819705	0.000369791	0.009577492	0.000190803	0.103409392	0.001044328	0.000007487
712	Wood, soft, standing	mm3	8.992525125	x	4.130288966	20.907665750	0.164335610	28.105556240	0.084792931	62.308587687	0.464100520	0.112831495
713	Wood, unspecified, standing/m3	mm3	0.000187708	x	0.000051301	0.000032600	0.000002041	0.000051470	0.000001053	0.000247997	0.000005764	0.000000169
714	Xenon-131m	mBq	2.378330861	x	0.168412465	0.900503896	0.006700782	1.205070393	0.003457430	2.472007426	0.018923691	0.001159751
715	Xenon-133	mBq	86.286087176	x	5.337029818	29.912503929	0.212349319	39.594645357	0.109566765	80.414767164	0.599696131	0.039443308
716	Xenon-133m	µBq	102.689880435	x	23.398964749	96.420346657	0.930996154	138.102944504	0.480369974	300.138183676	2.629228072	0.104999562
717	Xenon-135	mBq	34.566401125	x	2.189802284	12.167742672	0.087127680	16.138031679	0.044955633	32.835249528	0.246057452	0.015977411
718	Xenon-135m	mBq	21.704850192	x	1.288682995	7.332323924	0.051274017	9.672600591	0.026456069	19.582510272	0.144803052	0.009738477
719	Xenon-137	µBq	668.937398413	x	24.405962855	171.354184060	0.971062515	216.393123107	0.501043181	419.915375316	2.742379561	0.247993138
720	Xenon-138	mBq	5.024780644	x	0.217152232	1.407821172	0.008640036	1.805977141	0.004458035	3.559865517	0.024400342	0.001978018
721	Xylene	µg	7.985960269	x	9.244606420	254.998669007	0.367823667	324.221794739	0.189787514	448.912780904	1.038771543	16.972298967
722	Xylene	µg	6.235850269	x	9.830115668	1.048456410	0.391119863	1.480871151	0.201807749	5.013244540	1.104562375	0.013682203
723	Zinc	µg	7.648276540	x	2.676804269	2.011424845	0.106504476	2.837131916	0.054953559	179.860517110	0.300779500	0.023032047
724	Zinc	µg	19.236280207	x	0.737552317	0.277605647	0.029345673	0.527167137	0.015141610	3.145395229	0.082875173	0.001624124
725	Zinc-65	nBq	5.349646077	x	0.162277069	1.252967798	0.006456667	1.554943132	0.003331474	2.963578183	0.018234286	0.001871201
726	Zinc-65	µBq	13.198311233	x	0.400359805	3.091243555	0.015929484	3.836258157	0.008219202	7.311554194	0.044986488	0.004616509
727	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In,	µg	495.941049894	x	39.119937309	125.191608305	1.556500963	138.414371659	0.803114303	236.460394640	4.395717437	0.906374288
728	Zinc, ion	mg	0.260562530	x	0.053095222	4.361848508	0.002112549	4.649294130	0.001090020	7.165395307	0.005966052	0.000822136
729	Zirconium	ng	2.278364790	x	1.273376510	0.789422290	0.050665004	1.139003072	0.026141833	4.559575473	0.143083136	0.000135656
730	Zirconium-95	nBq	5.229075943	x	0.158619674	1.224728454	0.006311147	1.519897879	0.003256389	2.896785161	0.011823323	0.001829028
731	Zirconium-95	nBq	152.840136458	x	4.636278545	35.797465167	0.184467883	44.424942688	0.095180664	84.669843040	0.520956112	0.053460471
732	Zirconium, 50% in zircon, 0.39% in crude ore,	ng	98.352909764	x	2.157887988	4.974049570	0.085857876	5.445307431	0.044300447	10.004962528	0.242471397	0.000033381

Appendix 5.3: Inventory of emitted substances for the TVA kiln firing technology for the cradle to gate phase

No	Substance	Unit	TVA0, transport of fuel, at plant, ZA	TVA1, clay extraction, extracted clay, ZA	TVA2, mining fuel, stockpiled clay, ZA	TVA3, clay preparation, wet green brick, ZA rev1	TVA4, wet green brick transport, wet green brick ready for drying, ZA	TVA5, drying of wet green brick, dry green brick, ZA rev1	TVA6, dry green brick transport, at firing location, ZA	TVA7, brick firing, fired brick, ZA rev1	TVA8, fired brick transport, at sales bay, ZA	TVA9, factory overheads, additional water and electricity, ZA
1	1-Butanol	pg	0.054460501	x	0.021075204	0.157794868	0.001624569	0.157795063	0.002101679	0.310760068	0.007020367	0.000000071
2	1-Butanol	ng	1.330786208	x	0.116095063	0.615302777	0.008949114	0.615322654	0.011577330	1.211749952	0.038672459	0.000007224
3	1-Pentanol	pg	0.051351344	x	0.013151429	12.123605946	0.001013770	12.123605946	0.001311498	23.876160164	0.004380876	x
4	1-Pentanol	pg	0.123243749	x	0.031563469	29.096656694	0.002433050	29.096656694	0.003147599	57.302789166	0.010514116	x
5	1-Pentene	pg	0.038805194	x	0.009938280	9.161575519	0.000766086	9.161575519	0.000991074	18.042754393	0.003310543	x
6	1-Pentene	pg	0.093132873	x	0.023851852	21.987719352	0.001838605	21.987719352	0.002378575	43.302488651	0.007945297	x
7	1-Propanol	pg	3.603838992	x	3.779490832	122.564267405	0.291339651	122.564347281	0.376901582	241.377269006	1.258987256	0.000029028
8	1-Propanol	pg	0.487153695	x	0.065460260	40.442672709	0.005045963	40.442672709	0.006527883	79.647568143	0.021805486	x
9	1,4-Butanediol	pg	4.384467108	x	0.499243496	2.462450184	0.038483868	2.462513146	0.049785982	4.849459813	0.166303142	0.000022882
10	1,4-Butanediol	pg	1.753799531	x	0.199698842	0.984987198	0.015393658	0.985012383	0.019914537	1.939797956	0.066521738	0.000009153
11	2-Aminopropanol	pg	0.026543133	x	0.002011070	0.203368083	0.000155022	0.203368083	0.000200550	0.400511936	0.000669908	x
12	2-Aminopropanol	pg	0.066750741	x	0.005045469	0.501988614	0.000388927	0.501988614	0.000503148	0.988613497	0.001680697	x
13	2-Butene, 2-methyl-	pg	0.000008607	x	0.000002204	0.002032146	0.000000170	0.002032146	0.000000220	0.004002096	0.000000734	x
14	2-Methyl-1-propanol	pg	0.123853065	x	0.039855781	20.994415933	0.003072258	20.994415933	0.003974532	41.346282576	0.013276370	x
15	2-Methyl-1-propanol	pg	0.297242474	x	0.095653143	50.385554308	0.007373362	50.385554308	0.009538804	99.229022270	0.031863046	x
16	2-Methyl-2-butene	pg	0.000020658	x	0.000005291	0.004877222	0.000000408	0.004877222	0.000000528	0.009605174	0.000001762	x
17	2-Nitrobenzoic acid	pg	0.047553249	x	0.003512631	0.219240511	0.000270769	0.219240511	0.000350290	0.431771003	0.001170094	x
18	2-Propanol	ng	79.026265910	x	6.822749143	35.872109860	0.525927286	35.873289295	0.680383961	70.644914828	2.272727889	0.000428625
19	2-Propanol	pg	0.215986597	x	0.024978213	6.671886232	0.001925430	6.671886232	0.002490899	13.139574553	0.008320500	x
20	2,4-D	pg	131.761182271	x	229.447996492	103.324398308	17.686853152	105.379182425	22.881207196	201.026748152	76.431486763	0.746741504
21	4-Methyl-2-pentanone	pg	0.173459704	x	0.030004451	0.215278213	0.002312874	0.224185114	0.002992129	0.413305719	0.009994791	0.003236910
22	Acenaphthene	pg	0.111558064	x	0.328260928	3.131626663	0.025303785	3.232163310	0.032735114	6.047061316	0.109347090	0.036536630
23	Acenaphthene	pg	82.789637338	x	418.055205007	103.287434254	32.225520089	109.760348539	41.689654787	195.665347148	139.258487135	2.352360869
24	Acenaphthylene	pg	5.177679876	x	26.145253162	6.459616038	2.015390243	6.864433347	2.607279052	12.236948507	8.709252648	0.147117103
25	Acetaldehyde	µg	0.219490870	x	0.075050768	0.841947347	0.005785241	0.853924693	0.007484276	1.643788717	0.025000182	0.004352759
26	Acetaldehyde	ng	2.501393728	x	0.225222338	2.591822095	0.017361121	2.591858384	0.022459813	5.104276122	0.075023877	0.000013188
27	Acetic acid	µg	0.334772093	x	0.767388299	2.330827011	0.059153640	2.388684488	0.076526145	4.521059638	0.255624932	0.021026335
28	Acetic acid	ng	19.822537558	x	23.914129721	45.788666298	1.843405508	46.479630351	2.384785073	89.348820546	7.966042490	0.251107419
29	Acetone	ng	116.616100618	x	72.872629408	492.494370373	5.617340377	500.915177887	7.267065993	959.835547488	24.274622115	3.060256510
30	Acetone	pg	22.660977258	x	1.699528777	139.411852633	0.131007097	139.433081860	0.169481846	274.531490427	0.566130510	0.007715042
31	Acetonitrile	pg	391.774154002	x	683.915583360	307.555172768	52.719198581	313.680640063	68.202008328	598.364753803	227.819312679	2.226093060
32	Acetonitrile	pg	0.224679080	x	0.016223735	1.090209728	0.001250596	1.090209728	0.001617877	2.147052780	0.005404293	x
33	Acetyl chloride	pg	0.096816426	x	0.024795279	22.857430432	0.001911328	22.857430432	0.002472656	45.015292675	0.008259562	x
34	Acidity, unspecified	ng	11.485073052	x	12.412965010	12.223533214	0.956845528	12.669724930	1.237856197	23.538827337	4.134886272	0.162153226
35	Aclonifen	ng	0.409782177	x	0.029437231	1.875035534	0.002269150	1.876530136	0.002935564	3.690895120	0.009805844	0.000543162
36	Acrolein	ng	0.079602314	x	0.144076099	1.163690628	0.011106015	1.383765289	0.014367679	2.028327838	0.047993230	0.079978662
37	Acrylate, ion	pg	483.884001375	x	41.808780468	219.927282496	3.222803301	219.934504706	4.169290572	433.114878838	13.926934642	0.002624667
38	Acrylic acid	pg	204.450678272	x	17.665047739	92.923681950	1.361698991	92.926733506	1.761608833	182.999711473	5.884409030	0.001108984
39	Actinides, radioactive, unspecified	µBq	0.035638547	x	0.032794876	1.367179141	0.002527972	1.703733484	0.003270398	2.289646564	0.010924310	0.122309246
40	Actinides, radioactive, unspecified	µBq	3.129144758	x	5.543811958	207.544328281	0.427341225	257.419099670	0.552844706	349.034634849	1.846700763	18.125291852
41	Aerosols, radioactive, unspecified	µBq	0.384316663	x	0.826450923	31.569687476	0.063706445	39.231598320	0.082416038	53.001566381	0.275299300	2.784461288
42	Aldehydes, unspecified	ng	3.358620739	x	5.168713907	60.874760462	0.398427030	74.678113602	0.515438860	103.363271140	1.721751746	5.016359920
43	Aldrin	pg	5.257732634	x	0.455028557	2.396267451	0.035075587	2.396345955	0.045376743	4.719101353	0.151574691	0.000028529
44	Aluminium	mg	0.008497142	x	0.014828218	18.956390688	0.001143024	20.598895821	0.001478712	60.886029431	0.004939432	0.596912709
45	Aluminium	mg	0.139080757	x	0.296945777	206.072676736	0.022889877	260.043918956	0.029612278	341.232746492	0.098915692	19.614015054
46	Aluminium	µg	5.305970859	x	31.439924206	7.947805493	2.423526599	8.000927262	3.135278717	15.588772348	10.472962011	0.019305303
47	Aluminium, 24% in bauxite, 11% in cruc	mg	0.452259670	x	0.088869436	9.270559990	0.006850444	9.959071713	0.008862313	17.433213326	0.029603323	0.250216203
48	Ammonia	mg	0.010829653	x	0.031527011	7.528812380	0.002430240	8.180069403	0.003143963	14.047620908	0.010501972	0.236677248
49	Ammonium carbonate	pg	66.889275886	x	97.369622862	303.140952550	7.505675566	304.181273839	9.709975896	595.758711881	32.434822507	0.378069442
50	Ammonium, ion	µg	1.761952412	x	5.751681389	99.066258104	0.443364709	110.411917319	0.573574037	181.519341385	1.915944208	4.123194529
51	Anhydrite, in ground	ng	9.808215860	x	4.280382393	9.326524206	0.329950559	9.709125496	0.426851914	17.909594881	1.425839385	0.139043445
52	Aniline	pg	0.529214607	x	0.474300961	42.970155861	0.036561188	42.970155861	0.047298642	84.625178875	0.157994527	x
53	Aniline	pg	1.289210351	x	1.139767232	103.222332645	0.087858234	103.222332645	0.113660832	203.285470786	0.379668184	x
54	Anthranilic acid	pg	0.034663446	x	0.002565363	0.159924149	0.000197749	0.159924149	0.000255825	0.314953700	0.000854549	x
55	Antimony	µg	0.005281116	x	0.002698760	0.039402957	0.000208032	0.042693602	0.000269128	4.366671423	0.000898985	0.001195873
56	Antimony	µg	0.191305066	x	0.164829154	48.674398746	0.012705751	56.627064425	0.016437232	86.339442808	0.054906286	2.890126259
57	Antimony	pg	0.390109152	x	0.085119701	0.537858169	0.006561398	0.549621219	0.008488379	1.045173930	0.028354248	0.004274881
58	Antimony-122	nBq	11.467063446	x	1.700306441	30.093246904	0.131067043	30.311219501	0.169559397	59.004542948	0.566389558	0.079214738
59	Antimony-124	nBq	0.028442792	x	0.004217423	0.074642994	0.000325097	0.075183651	0.000420573	0.146354289	0.001404867	0.000196483
60	Antimony-124	µBq	0.900710581	x	0.901186071	41.131913065	0.069467356	51.391079134	0.089868840	68.724346519	0.300194346	3.728345494
61	Antimony-125	nBq	0.296824429	x	0.044012357	0.778962364	0.003392665	0.784604575	0.004389037	1.527329983	0.014660968	0.002050470
62	Antimony-125	µBq	0.859007308	x	0.820891070	54.189553451	0.063277867	68.769306688	0.081861594	89.268083725	0.273447256	5.298516167
63	AOX, Adsorbable Organic Halogen as C	ng	14.826984121	x	55.299523389	199.694290174	4.262728655	230.869255543	5.514625849	355.959185059	18.420839818	11.329482423
64	Argon-41	mBq	0.140169232	x	0.436111414	3.731279374	0.033617371	3.749367702	0.043490271	7.326707612	0.145273196	0.006573589
65	Arsenic	µg	0.042802022	x	0.056379349	0.629276944	0.004345966	0.718384913	0.005622309	64.573783863	0.018780541	0.032383265
66	Arsenic	ng	2.144977855	x	12.565843046	2.998349467	0.968630034	3.006425857	1.253101630	5.895263920	4.185811518	0.002935090
67	Arsenic, ion	µg	0.679457793	x	1.019197176	247.056593920	0.078564167	247.118149517	0.101637243	486.478158199	0.339505059	0.022370291
68	Arsine	pg	0.002383143	x	0.000205909	0.001083148	0.000015872	0.001083184	0.000020534	0.002133104	0.000068591	0.000000013
69	Atrazine	pg	1.379317773	x	0.119372565	0.628638726	0.009201758	0.628659320	0.011904172	1.238012836	0.039764229	0.000007484
70	Barite	µg	35.379191077	x	249.152994106	63.575979636	19.205800384	63.576428349	24.846245637	125.205608183	82.995424070	0.000163070
71	Barite, 15% in crude ore, in ground	mg	0.888354251	x	5.381737688	1.185146280	0.414847833	1.188589895	0.536682198	2.329897878	1.792712158	0.001251465
72	Barium	µg	0.014564705	x	0.034447542	2.232946336	0.002655367	2.742092500	0.003435207	218.438609294	0.011474830	0.185031882
73	Barium	mg	0.013734345	x	0.064356389	1.863444171	0.004960871	1.878391884	0.006417802	3.651963314	0.021437775	0.005432239
74	Barium	µg	2.625140555	x	15.670616703	3.342838270	1.207959541	3.342865219	1.562718495	6.583333545	5.220043546	0.000009794
75	Barium-140	nBq	19.307987460	x	2.862938302	50.670342715	0.220687782	51.037360158	0.285500355	99.350542734	0.953674184	0.133380025
76	Barium-140	nBq	50.231826443	x	7.448244916	131.824399953	0.574143231	132.779235691	0.742760180	258.471227530	2.481086963	0.347002622
77	Basalt, in ground	µg	52.993466334	x	47.460472634	144.045683772	3.658460404	144.080608059	4.732893399	283.640795531	15.809571412	0.012692046
78	Benomyl	pg	0.837804869	x	1.462546213	0.657703473	0.112739446	0.670802719	0.145849271	1.279596675	0.487189181	0.004760476
79	Bentazone	ng	0.209133882	x	0.015023402	0.956931465	0.001158069	0.957694241	0.001498176	1.883662261	0.005004450	0.000277205
80	Benzal chloride	pg	0.000029228	x	0.000005056	0.000036274	0.000000390	0.000037775	0.000000504	0.000069642	0.000001684	0.000000545
81	Benzaldehyde	pg	36.613006471	x	65.372875386	444.141997692	5.039226599	534.069651701	6.519169178	767.043835312	21.776376940	32.681151795
82	Benzene	µg	1.934582533	x	7.500747789	114.384800125	0.578190382	145.954195206	0.747995916	783.730466574	2.498576210	11.472824506
83	Benzene	µg	1.049859005	x	4.807367862	1.458063503	0.370572900	1.547311881	0.479404404	2.764667926	1.601383663	0.032434292
84	Benzene, 1-methyl-2-nitro-	pg	0.041064852	x	0.003033347	0.189326309	0.000233824	0.189326309	0.000302494	0.372858145	0.001010439	x
85	Benzene, 1,2-dichloro-	pg	0.911324037	x	0.082333289	24.108454450	0.006346609	24.108454450	0.008210510	47.479052144	0.027426065	x
86	Benzene, 1,2-dichloro-	pg	572.982186008	x	50.606976154	428.901087066	3.901006631	428.909581826	5.046671684	844.665167996	16.857704086	0.003087132
87	Benzene, chloro-	ng	11.789054457	x	1.041178836	7.725015798	0.080258610	7.725191210	0.103829317	15.213391732	0.346827375	0.000063747
88	Benzene, ethyl-	µg	0.328560943	x	1.401344689	0.362360927	0.108021766	0.384313498	0.139746080	0.687353419	0.466802324	0.007977916
89	Benzene, ethyl-	µg	0.319479850	x	1.613219805	0.398577992	0.124354025	0.423556342	0.160874870	0.755057141	0.537380104	0.009077533
90	Benzene, hexachloro-	ng	0.193166675	x	0.470712007	0.714238458	0.036284536	0.714617878	0.046940741	1.406162908	0.156799009	0.000137887
91	Benzene, pentachloro-	pg	2.904408123	x	1.500668994	7.952637506	0.115678117	8.299430143	0.149650983	15.246750766	0.499888271	0.126030006
92	Benzo(a)pyrene	ng	2.407194628	x	31.168939520	44.357973093	2.402637916	46.384880639	3.108255353	323.432635276	10.382694226	0.736610711
93	Beryllium	µg	0.000230053	x	0.000333759	0.008095974	0.000025728	0.008751325	0.000033283	3.020267031	0.000111178	0.000238165
94	Beryllium	µg	0.107278743	x	0.217348576	111.324722672	0.016754177	116.716465939	0.021674619	212.788152773	0.072401046	1.959445980
95	BOD5, Biological Oxygen Demand	mg	2.180612357	x	14.889697212	3.771200479	1.147762857	4.003702267	1.484842981	7.148666794	4.959911234	0.084494879
96	Borate	ng	0.012031262	x	0.002594465	2.222113528	0.000199993	2.222113528	0.000258727	4.376217664	0.000864243	x
97	Borax, in ground	ng	3.165681180	x	2.740724482	11.311820978	0.211267007	11.357042969	0.273312845	22.223297717	0.912963504	0.016434397
98	Boron	mg	0.000379601	x	0.001225397	0.098135858	0.000094459	0.125365193	0.000122200	1.496276924	0.000408192	0.009895577
99	Boron	µg	9.214932393	x	6.859004364	413.744998894	0.528721997	528.853715013	0.683999435	677.037572215	2.284804876	41.832353638
100	Boron	ng	60.608828496	x	325.465862762	107.590716737	25.088329419	107.594456158	32.456382078	211.884045274	108.416025251	0.001358966
101	Boron trifluoride	pg	0.000032615	x	0.000002818	0.000014823	0.000000217	0.000014823	0.000000281	0.000029192	0.000000939	0.000000000
102	Bromate	µg	0.064258377	x	0.068348431	0.804115183	0.005268595	1.004204002	0.006815900	1.344105996	0.022767565	0.072715486
103	Bromide	ng	0.823508526	x	0.385902977	114.598724677	0.029747086	114.598724677	0.038483343	225.690072405	0.128548249	x
104	Bromine	µg	0.042347759	x	0.134265393	25.100762586	0.010349763	32.645207278	0.013389327	63.012169769	0.044725183	2.741772205
105	Bromine	µg	9.554942920	x	47.322016695	74.909450681	3.647787616	95.109413083	4.719086179	123.346127784	15.763450315	7.340990319
106	Bromine, 0.0023% in water	ng	0.924035841	x	0.382888513	136.325931558	0.029514718	136.325931558	0.038182732	268.479509295	0.127544100	x
107	Butadiene	pg	2.398038662	x	0.454872697	9.040044034	0.035063573	9.043639503	0.045361200	17.799106980	0.151522772	0.001306651
108	Butane	µg	14.649515572	x	62.779696935	29.733756623	4.839333085	33.566154738	6.260570043	53.969962489	20.912562535	1.392754942
109	Butene	µg	0.327688657	x	1.399884133	0.349995651	0.107909180	0.371849916	0.139600430	0.663119010	0.466315798	0.007942190
110	Butene	ng	0.319271503	x	0.049223449	0.555622627	0.003794358	0.574812303	0.004908702	1.071269245	0.016396837	0.006973836
111	Butyl acetate	ng	1.729868809	x	0.150860362	0.799385180	0.011628975	0.799411021	0.015044225	1.574273640	0.050253138	0.000009391
112	Butyrolactone	pg	1.222385775	x	0.107894840	0.575709131	0.008317005	0.575727411	0.010759581	1.133776367	0.035940881	0.000006643
113	Butyrolactone	pg	2.933779314	x	0.258952324	1.381727070	0.019961176	1.381770943	0.025823463	2.721112818	0.086259682	0.000015944
114	Cadmium	µg	0.021211322	x	0.057119124	0.102748571	0.004402991	0.108380024	0.005696082	3.963920590	0.019026968	0.002046560
115	Cadmium	ng	1.523674586	x	0.083907824	0.885785691	0.006467981	0.906802641	0.008367527	1.719303140	0.027950559	0.007637897
116	Cadmium, 0.30% in sulfide, Cd 0.18%,	µg	1.589467511	x	0.024103541	0.949007206	0.001858006	0.948997942	0.002403674	1.868980407	0.008029137	-0.000003366
117	Cadmium, ion	µg	0.239204047	x	0.215962409	43.631905037	0.016647325	43.657918091	0.021536386	85.897285501	0.071939299	0.009453561
118	Calcite, in ground	mg	20.208340459	x	23.451078932	107.214950412	1.807711532	107.712413790	2.338608331	210.552952491	7.811795511	0.180786170
119	Calcium	mg	0.000497068	x	0.000920370	0.012328669	0.000070946	0.012992672	0.000091782	3.028592519	0.000306585	0.000241309
120	Calcium	µg	21.511821910	x	126.604206061	38.752642644	9.759204854	38.991800841	12.625331731	76.032944636	42.173162754	0.086913925
121	Calcium, ion	g	0.001781858	x	0.005265230	1.097587666	0.000405867	1.099947250	0.000525064	2.158758361	0.001753902	0.000857510
122	Carbetamide	ng	0.074990396	x	0.005643517	0.790857645	0.000435027	0.830299616	0.000562788	1.510296994	0.001879914	0.014333845
123	Carbofuran	pg	459.316527778	x	801.823519701	360.578084849	61.808057004	367.759590776	79.960123294	701.523616039	267.095658576	2.609874436
124	Carbon	µg	16.081519981	x	94.352539447	27.312219794	7.273105607	27.928784952	9.409103752	53.050473155	31.429801001	0.224069667
125	Carbon-14	mBq	2.443024109	x	3.373052720	124.424060542	0.260009628	153.954511019	0.336370417	209.690972481	1.123598542	10.731839335
126	Carbon dioxide, biogenic	mg	2.061735658	x	4.419264589	43.207696650	0.340656205	44.843985286	0.440701642	83.134287061	1.472102472	0.594653534
127	Carbon dioxide, fossil	g	0.799795255	x	3.505980854	44.391206463	0.270256308	57.735750478	0.349626388	298.025420775	1.167878270	4.849621325

No	Substance	Unit	TVA0, transport of fuel, at plant, ZA	TVA1, clay extraction, extracted clay, ZA	TVA2, mining fuel, stockpiled clay, ZA	TVA3, clay preparation, wet green brick, ZA rev1	TVA4, wet green brick transport, wet green brick ready for drying, ZA	TVA5, drying of wet green brick, dry green brick, ZA rev1	TVA6, dry green brick transport, at firing location, ZA	TVA7, brick firing, fired brick, ZA rev1	TVA8, fired brick transport, at sales bay, ZA	TVA9, factory overheads, additional water and electricity, ZA
128	Carbon dioxide, in air	mg	2.405677277	x	4.832180920	376.635511224	0.372485599	377.739688507	0.481878833	740.422020991	1.609649148	0.401275734
129	Carbon dioxide, land transformation	µg	8.668541473	x	19.016370238	83.591048691	1.465864828	84.053814612	1.896366559	164.069776716	6.334548448	0.168176558
130	Carbon disulfide	µg	0.815046529	x	0.471257573	3.325969382	0.036326591	3.347106634	0.046995146	6.524842522	0.156980743	0.007681616
131	Carbon disulfide	ng	0.004261444	x	0.001414980	1.400924514	0.000109073	1.400924514	0.000141106	2.758972721	0.000471344	x
132	Carbon monoxide, biogenic	µg	0.819718212	x	0.754452840	194.051533020	0.058156518	249.875778055	0.075236184	315.340259755	0.253115998	20.287425997
133	Carbon monoxide, fossil	g	0.001952324	x	0.012389711	0.018928718	0.000955053	0.021096564	0.001235537	11.959712261	0.004127140	0.000787830
134	Carbon, in organic matter, in soil	µg	0.580176271	x	1.012806967	0.455456827	0.078071582	0.464527999	0.100999993	0.886115196	0.337376414	0.003296609
135	Carbonate	µg	0.223809618	x	0.122691728	2.510814477	0.009457614	3.069151357	0.012235168	4.276433069	0.040869876	0.202908577
136	Carboxylic acids, unspecified	µg	55.069747438	x	291.449423443	71.758521219	22.466193789	76.223918523	29.064165942	135.975563345	97.084799564	1.622796999
137	Cerium-141	nBq	4.680692938	x	0.694041019	12.283637303	0.053499711	12.372610633	0.069211746	24.084818996	0.231192199	0.032334335
138	Cerium-141	nBq	20.083505298	x	2.977930083	52.705549876	0.229551850	53.087308813	0.296967663	103.341021683	0.991979129	0.138737321
139	Cerium-144	nBq	6.114075856	x	0.906579313	16.045293147	0.069883091	16.161513053	0.090406669	31.460386827	0.301990890	0.042236178
140	Cerium, 24% in bastnasite, 2.4% in cru	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
141	Cesium	ng	13.310231058	x	67.211447729	16.605696803	5.180951781	17.646358270	6.702516845	31.457451259	22.388824291	0.378193068
142	Cesium-134	nBq	0.224175094	x	0.033240101	0.588307240	0.002562292	0.592568490	0.003314798	1.153507959	0.011072620	0.001548607
143	Cesium-134	µBq	0.428977958	x	0.758086942	55.457933393	0.058436651	70.782380374	0.075598587	90.874597690	0.252526555	5.569149818
144	Cesium-136	nBq	3.564430114	x	0.528524453	9.354206165	0.040740972	9.421960923	0.052705963	18.341013887	0.176056930	0.024623166
145	Cesium-137	nBq	3.973895611	x	0.589238937	10.428774766	0.045421109	10.504312882	0.058760584	20.447946027	0.196281548	0.027451763
146	Cesium-137	mBq	0.365206136	x	0.637740908	23.916278596	0.049159853	29.664337753	0.063597338	40.219939156	0.212438054	2.088936890
147	Chloramine	pg	0.235139808	x	0.050224898	42.829665230	0.003871554	42.829665230	0.005008570	84.348497575	0.016730430	x
148	Chloramine	pg	2.127176188	x	0.450244403	382.304821546	0.034706804	382.304821546	0.044899653	752.908927495	0.149981040	x
149	Chlorate	µg	0.504037658	x	0.574036474	6.265447828	0.044249237	7.815040033	0.057244551	10.484216934	0.191217452	0.563146661
150	Chloride	g	0.007274112	x	0.034984658	0.714400940	0.002696770	0.776208447	0.003488770	1.332951217	0.011653749	0.022461839
151	Chloride	mg	1.454250309	x	0.122197598	0.093609359	0.009419524	0.093610760	0.012185892	0.184351984	0.040705276	0.000000509
152	Chlorinated solvents, unspecified	ng	0.372130039	x	0.367194869	2.466043229	0.028304983	2.912419359	0.036617717	4.322281671	0.122316386	0.162220245
153	Chlorine	µg	0.303909617	x	0.418545392	0.645074229	0.032263306	0.684878526	0.041738538	1.222758156	0.139421774	0.014465520
154	Chlorine	µg	0.005833597	x	0.004361575	1.836232613	0.000336209	2.116595221	0.000434949	3.280661417	0.001452886	0.101888269
155	Chloroacetic acid	ng	0.063739282	x	0.007388705	1.080244682	0.000569554	1.080244682	0.000736823	2.127427694	0.002461254	x
156	Chloroacetic acid	ng	4.650815682	x	0.343427108	26.102435909	0.026472861	26.102435909	0.034247529	51.405987499	0.114399101	x
157	Chloroacetyl chloride	pg	0.089023549	x	0.006729001	0.669495470	0.000518701	0.669495470	0.000671035	1.318500539	0.002241499	x
158	Chloroform	ng	0.215904823	x	0.054022780	1.018214647	0.004164312	1.175097122	0.005387305	1.817471854	0.017995543	0.057013607
159	Chloroform	pg	27.133809468	x	2.353830987	24.546002544	0.181443567	24.546404601	0.234730725	48.340275236	0.784085303	0.000146114
160	Chlorosilane, trimethyl-	pg	29.852704198	x	23.763724015	72.775954186	1.831811580	72.776009259	2.369786188	143.324410540	7.915940802	0.000020014
161	Chlorosulfonic acid	pg	0.327627636	x	0.023657496	1.589746508	0.001823623	1.589746508	0.002359193	3.130837646	0.007880555	x
162	Chlorosulfonic acid	pg	0.817021101	x	0.058995853	3.964429350	0.004547658	3.964429350	0.005883234	7.807524402	0.019652125	x
163	Chlorothalonil	ng	0.958590867	x	0.321707626	445.757939376	0.024798628	484.374091749	0.032081600	831.648150181	0.107164118	14.033729128
164	Chromium	µg	0.175371981	x	1.289090271	2.867896361	0.099368705	2.938991036	0.128551750	26.813317410	0.429409224	0.025836945
165	Chromium	ng	33.612194588	x	157.715727542	43.839899857	12.157416737	44.103224110	15.727861194	86.022830799	52.536730441	0.095696257
166	Chromium-51	nBq	0.299937973	x	0.044474025	0.787133298	0.003428252	0.792834693	0.004435076	1.543350927	0.014814755	0.002071978
167	Chromium-51	µBq	3.835880011	x	0.949915821	49.089825284	0.073223658	60.458506547	0.094728309	83.068481115	0.316426727	4.131561110
168	Chromium VI	ng	3.834574303	x	30.386842388	103.086933677	2.342350455	110.089940974	3.030262401	409.286473334	10.122169630	2.545005171
169	Chromium VI	mg	0.003846169	x	0.009746714	0.616856367	0.000751319	0.648422478	0.000971970	1.177047577	0.003246731	0.011471631
170	Chromium VI	ng	45.556260774	x	66.882138132	229.924406789	5.155567160	229.925530810	6.669677154	452.810435810	22.279127878	0.000408487
171	Chromium, 25.5% in chromite, 11.6% ir	mg	0.039810847	x	0.346913824	0.746183914	0.026741632	0.752504979	0.034595234	1.461963718	0.115560562	0.002297176
172	Chromium, ion	ng	57.116860518	x	213.741308720	269.890685215	16.476113096	318.598214203	21.314891592	473.216418020	71.199427573	17.701097242
173	Chrysotile, in ground	ng	12.685608345	x	12.806547661	152.728948620	0.987184597	190.591770730	1.277105379	255.460295103	4.265992700	13.759956827
174	Cinnabar, in ground	ng	1.119343548	x	1.215331376	14.062819366	0.093683048	17.558482217	0.121196304	23.510796043	0.404839377	1.270379946
175	Clay, bentonite, in ground	mg	0.340912933	x	0.930592987	1.256474795	0.071734170	1.330795573	0.092801381	2.385529432	0.309990092	0.027009363
176	Clay, unspecified, in ground	oz	0.000203720	47.267114223	0.000126601	42.773671207	0.000009759	42.773672395	0.000012625	42.774765485	0.000042172	0.000000432
177	Coal, brown, in ground	mg	14.355306479	x	47.027318696	408.262033459	3.625071008	410.700338300	4.689698055	801.110135139	15.665283382	0.886119087
178	Coal, hard, unspecified, in ground	g	0.026925454	x	0.065522769	85.717444509	0.005050781	95.237131728	0.006534117	157.416021756	0.021826308	3.459607019
179	Cobalt	µg	0.013984196	x	0.069425392	0.194650181	0.005351612	0.210021825	0.006923298	11.097468741	0.023126312	0.005586302
180	Cobalt	mg	0.001770900	x	0.004711050	1.229391393	0.000363148	1.238577918	0.000469799	2.410159760	0.001569299	0.003338531
181	Cobalt	ng	0.038358932	x	0.073867122	0.925113559	0.005694000	0.955561542	0.007366240	1.785465930	0.024605898	0.011065285
182	Cobalt-57	nBq	113.148457629	x	16.777359817	296.937790135	1.293272131	299.088581800	1.673086068	582.212967675	5.588711056	0.781632187
183	Cobalt-58	nBq	0.417676023	x	0.061931917	1.096115650	0.004773983	1.104055078	0.006176027	2.149179951	0.020630158	0.002885316
184	Cobalt-58	µBq	17.398466537	x	7.139728613	314.943277726	0.550361448	388.297242617	0.711994056	532.440030292	2.378317010	26.658007348
185	Cobalt-60	nBq	3.689779048	x	0.547110868	9.683161915	0.042173694	9.753299378	0.054559453	18.986005227	0.182248256	0.025489079
186	Cobalt-60	µBq	15.282236411	x	5.582375840	262.533124936	0.430313898	324.305983088	0.556690406	443.086796242	1.859546789	22.449247412
187	Cobalt, in ground	ng	5.697340610	x	28.096682131	5.537667126	2.165814906	5.938621295	2.801881102	10.425891967	9.359293701	0.145713176
188	COD, Chemical Oxygen Demand	mg	2.312803639	x	15.224938668	4.250042011	1.173604732	4.503131748	1.518274213	8.067049976	5.071583610	0.091976870
189	Colemanite, in ground	µg	1.042935163	x	0.215406868	1.481009837	0.016604502	1.616489399	0.021480986	2.754518108	0.071754243	0.049235446
190	Copper	µg	1.827008222	x	1.813372030	1.831973991	0.139782632	1.926916468	0.180834619	40.461819620	0.604052868	0.034503619
191	Copper	ng	124.642759898	x	44.533632111	172.838946515	3.432846761	174.659901126	4.441020532	338.208261124	14.834610741	0.661764111
192	Copper, 0.99% in sulfide, Cu 0.36% an	µg	7.524511079	x	3.232916674	32.098041414	0.249207330	32.194187331	0.322395651	63.098604399	1.076917784	0.034940969
193	Copper, 1.18% in sulfide, Cu 0.39% an	µg	41.062820813	x	17.806169945	177.674981354	1.372577307	178.206731162	1.775681942	349.275543779	5.931418288	0.193246409
194	Copper, 1.42% in sulfide, Cu 0.81% an	µg	10.892499936	x	4.723340969	47.130827566	0.364095740	47.271881796	0.471025004	92.650328721	1.573393441	0.051261369
195	Copper, 2.19% in sulfide, Cu 1.83% an	µg	55.002770645	x	23.503130568	234.110040314	1.811723900	234.809310554	2.343799068	460.217890349	7.829134446	0.254126021
196	Copper, ion	mg	0.002802089	x	0.003439082	0.764699608	0.000265099	0.773076410	0.000342955	1.495967686	0.001145594	0.003044264
197	Cumene	ng	72.553828258	x	107.698276802	165.826111977	8.301853298	175.755320510	10.739978661	314.691249649	35.875403332	3.608433633
198	Cumene	ng	174.345541090	x	258.797144643	398.469039780	19.949213606	422.326654939	25.807987775	756.183919055	86.207989773	8.670239995
199	Cyanide	ng	8.607863235	x	17.451409250	47.871847866	1.345230804	49.096021690	1.740304195	92.813154532	5.813243853	0.444884402
200	Cyanide	ng	147.591614748	x	243.360084264	326.579328761	18.759257606	329.509523067	24.268560181	639.655877270	81.065746241	1.064879607
201	Cyanoacetic acid	pg	0.268314670	x	0.019374596	1.301942525	0.001493478	1.301942525	0.001932090	2.564038134	0.006453877	x
202	Cypermethrin	pg	66.513638686	x	113.350601875	81.264681682	8.737559189	84.276417158	11.303644603	156.437000522	37.758250929	1.094512977
203	Diatomite, in ground	pg	589.145648874	x	8.809253909	83.818671919	0.679055745	89.872125800	0.878483870	157.825792938	2.934453052	2.199922230
204	Dichromate	ng	1.188529706	x	1.743882386	6.000895722	0.134426067	6.001077865	0.173904914	11.817910886	0.580905153	0.000066194
205	Diethylamine	pg	0.249575614	x	0.211475898	19.196829459	0.016301485	19.196829459	0.021088978	37.806126002	0.070444796	x
206	Diethylamine	pg	0.598989282	x	0.507551033	46.073202043	0.039124249	46.073202043	0.050614433	90.736300253	0.169070468	x
207	Dimethyl malonate	pg	0.336465928	x	0.024295695	1.632632574	0.001872818	1.632632574	0.002422836	3.215297218	0.008093146	x
208	Dimethylamine	pg	2.349071444	x	0.359566368	28.802656123	0.027716945	28.802656123	0.035856981	56.723785876	0.119775254	x
209	Dinitrogen monoxide	mg	0.027996978	x	0.120382908	2.137443156	0.009279640	2.707447674	0.012004926	7.104660246	0.040100784	0.207148784
210	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	0.000213302	x	0.000556297	0.004052090	0.000042882	0.005068649	0.000055475	1.199266218	0.000185308	0.000369434
211	Dipropylamine	pg	0.143655849	x	0.133954114	12.149311511	0.010325768	12.149311511	0.013358285	23.926784515	0.044621493	x
212	Dipropylamine	pg	0.344777242	x	0.321491770	29.158516996	0.024781989	29.158516996	0.032060074	57.424616391	0.107092214	x
213	DOC, Dissolved Organic Carbon	mg	0.731574616	x	4.640577163	1.368960770	0.357715945	1.451062519	0.462771561	2.597744469	1.545823966	0.029837092
214	Dolomite, in ground	µg	42.317902940	x	127.716623135	180.885335015	9.844954818	180.936938054	12.736265128	356.172745801	42.543720319	0.018753372
215	Energy, gross calorific value, in biomas	kJ	0.023685069	x	0.045213576	4.069524755	0.003485260	4.081591452	0.004508826	8.000053838	0.015061107	0.004385231
216	Energy, gross calorific value, in biomas	J	0.040223191	x	0.070217156	0.031576447	0.005412645	0.032205333	0.007002255	0.061433650	0.023390057	0.000228547
217	Energy, kinetic (in wind), converted	J	5.744214773	x	19.318984768	164.833780209	1.489191677	165.627569669	1.926544141	323.672497733	6.435352460	0.288475821
218	Energy, potential (in hydropower reser	kJ	0.132287211	x	0.142219733	12.327076905	0.010962918	15.785974142	0.014182556	20.136444726	0.047374855	1.257018732
219	Energy, solar, converted	J	0.144918320	x	0.278315457	2.458798676	0.021453770	2.470429611	0.027754409	4.828421216	0.092709740	0.004226868
220	Ethane	mg	0.008669256	x	0.027152900	0.064029076	0.002093064	0.072381626	0.002707764	1.904854531	0.009044910	0.003035451
221	Ethane, 1,1-difluoro-, HFC-152a	ng	0.051886035	x	0.102448666	0.889398534	0.007897190	0.889400817	0.010216473	1.751573592	0.034126704	0.000000830
222	Ethane, 1,1,1-trichloro-, HCFC-140	pg	0.344247961	x	0.316560275	13.196508249	0.024401848	16.444980331	0.031568292	22.100584528	0.105449482	1.180546856
223	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	1.811469850	x	0.014395211	0.080195215	0.001109646	0.081232392	0.001435531	0.156694440	0.004795193	0.000376927
224	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-,	pg	9.703150688	x	0.838376291	4.410121725	0.064625704	4.410266550	0.083605270	8.685094976	0.279271762	0.000052632
225	Ethane, 1,2-dichloro-	ng	5.533853734	x	7.823325026	24.679028958	0.603056043	25.567428718	0.780164236	47.539288569	2.606030004	0.322858721
226	Ethane, 1,2-dichloro-	ng	0.266444809	x	0.750685557	8.248199461	0.057866120	9.834829505	0.074860500	14.344700918	0.250061078	0.576606806
227	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro	ng	1.135899409	x	1.369796896	59.471284864	0.105589924	74.213328381	0.136600045	99.475627472	0.456293430	5.357495058
228	Ethane, hexafluoro-, HFC-116	ng	11.403539843	x	1.506139519	221.650473679	0.116099809	238.188031044	0.150196519	416.721095557	0.501710560	6.010013588
229	Ethanol	µg	0.031532768	x	0.101328748	0.721607370	0.007810862	0.741241175	0.010104791	1.397626991	0.033753648	0.007135240
230	Ethanol	ng	3.120638095	x	0.274253314	1.911334186	0.021140643	1.911379924	0.027349321	3.764115804	0.091356599	0.000016622
231	Ethene	mg	0.001133207	x	0.003851941	0.016192191	0.000296924	0.017787218	0.000384127	3.607488245	0.001283121	0.000579658
232	Ethene	ng	63.503533615	x	107.886149275	82.624278072	8.316335329	85.939386016	10.758713839	158.751447702	35.937985584	1.204763397
233	Ethene, chloro-	ng	2.018287103	x	2.275319379	12.867923879	0.175391550	12.924324118	0.226901324	25.274501275	0.757932279	0.020496751
234	Ethene, chloro-	pg	18.501929169	x	19.437654091	203.239585864	1.498339226	206.950873272	1.938378184	395.816307555	6.474882431	1.348741368
235	Ethene, tetrachloro-	pg	0.817134270	x	0.769577949	29.119494925	0.059322428	36.099072873	0.076744503	48.992949216	0.256354327	2.536490570
236	Ethyl acetate	ng	366.705848109	x	31.980218439	169.305022850	2.465174837	169.310500780	3.189158395	333.421779991	10.652939575	0.001990768
237	Ethyl acetate	pg	0.813292680	x	0.558511657	49.478166889	0.043052517	49.478170008	0.055696372	97.442014792	0.186045975	0.000001134
238	Ethyl cellulose	pg	742.244903482	x	64.120676513	337.255043650	4.942701644	337.266121898	6.394296343	664.174880416	21.359256620	0.004026013
239	Ethylamine	pg	0.116033744	x	0.022009187	14.272049058	0.001696564	14.272049058	0.002194819	28.107291733	0.007331486	x
240	Ethylamine	pg	0.278482837	x	0.052822438	34.253117813	0.004071784	34.253117813	0.005267604	67.457894183	0.017595697	x
241	Ethylene diamine	pg	3.770789718	x	0.324919669	320.550220872	0.025046226	328.344392766	0.032401914	621.959854138	0.108234083	2.832527075
242	Ethylene diamine	ng	0.009124301	x	0.000782037	0.771500373	0.000060283	0.790395335	0.000077987	1.496770439	0.000260505	0.006866733
243	Ethylene oxide	ng	1.088312266	x	1.387023296	1.297312429	0.106917810	1.345532357	0.138317910	2.497198474	0.462031721	0.017523895
244	Ethylene oxide	pg	241.585832246	x	21.976443122	213.660724140	1.694040167	217.863426424	2.191553451	415.751406991	7.320579161	1.527329416
245	Ethyne	µg	0.018838862	x	0.048569867	2.377623117	0.003743977	2.632857115	0.004843525	600.628410041	0.016179122	0.092756129
246	Feldspar, in ground	ng	0.032419951	x	0.022877584	0.743687174	0.001763504	0.747214363	0.002281418	1.460391054	0.007620759	0.001281837
247	Fenpiclonil	ng	0.051859732	x	0.013677232	17.609339796	0.001054301	19.129292881	0.001363932	32.860292092	0.004556027	0.552375329
248	Fluoride	mg	0.054068141	x	0.022143797	1.173350036	0.001706941	1.264276282	0.002208242	2.201946708	0.007376326	0.033044056
249	Fluoride	µg	0.293313607	x	1.612239077	0.489795094	0.124278426	0.489797379	0.160777069	0.964596826	0.537053413	0.000000830
250	Fluorine	µg	0.070227500	x	0.105407436	0.905264998	0.008125265	0.905482698	0.010511529	1.782563049	0.035112301	0.000079116
251	Fluorine, 4.5% in apatite, 1% in crude o	µg	0.634847720	x	3.076495330	1.630098302	0.237149690	1.706523642	0.306796870	3.118822064	1.024812226	0.027774195
252	Fluorine, 4.5% in apatite, 3% in crude o	µg	0.313174295	x	1.357205137	1.005568439	0.104619296	1.049944759	0.135344359	1.927240515	0.452098985	0.016127066
253	Fluorspar, 92%, in ground	µg	18.043804262	x	85.851451106	144.908682162	6.617804608	170.243023425	8.561351029	255.056164657	28.598001068	9.206905946
254	Fluosilicic acid	ng	12.544632834	x	1.689795088	258.669993276	0.130256782	277.998251863	0.168511175	486.286551172	0.562888118	7.024199172

No	Substance	Unit	TVA0, transport of fuel, at plant, ZA	TVA1, clay extraction, extracted clay, ZA	TVA2, mining fuel, stockpiled clay, ZA	TVA3, clay preparation, wet green brick, ZA rev1	TVA4, wet green brick transport, wet green brick ready for drying, ZA	TVA5, drying of wet green brick, dry green brick, ZA rev1	TVA6, dry green brick transport, at firing location, ZA	TVA7, brick firing, fired brick, ZA rev1	TVA8, fired brick transport, at sales bay, ZA	TVA9, factory overheads, additional water and electricity, ZA
255	Fluosilicic acid	ng	22.580339140	x	3.041631192	465.605983308	0.234462210	500.396847294	0.303320119	875.315784830	1.013198623	12.643557975
256	Formaldehyde	µg	0.567360687	x	0.365953292	30.124519682	0.028209277	38.522563849	0.036493904	287.774817075	0.121902804	3.051983945
257	Formaldehyde	ng	10.980729283	x	13.903685448	29.307330460	1.071756766	31.032362925	1.386515081	55.652745542	4.631460577	0.626904465
258	Formamide	pg	0.093917189	x	0.024052891	22.173106186	0.001854102	22.173106186	0.002398623	43.667588422	0.008012265	x
259	Formamide	pg	0.225406604	x	0.057728537	53.217010206	0.004449968	53.217010206	0.005756854	104.805275328	0.019229969	x
260	Formate	ng	0.065145370	x	0.005300803	0.681248391	0.000408609	0.681248391	0.000528611	1.341646677	0.001765752	x
261	Formic acid	ng	3.079691413	x	4.613946583	2.271975813	0.355663143	2.312952084	0.460115884	4.425364491	1.536953046	0.014891434
262	Formic acid	pg	0.065432022	x	0.016757610	15.447961528	0.001291750	15.447961528	0.001671117	30.423127021	0.005582132	x
263	Furan	ng	0.744053871	x	1.298886114	0.584109189	0.100123812	0.595743431	0.129528620	1.136414235	0.432672320	0.004228070
264	Gadolinium, 0.15% in bastnasite, 0.015	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
265	Gallium, 0.014% in bauxite, in ground	pg	0.400625489	x	0.788976876	6.850840924	0.060817782	6.850858508	0.078679019	13.491985414	0.262816309	0.000006390
266	Gas, mine, off-gas, process, coal minin	cm3	0.262426702	x	0.636162228	345.371231217	0.049038162	383.464418290	0.063439908	634.573151453	0.211912179	13.843675150
267	Gas, natural, in ground	cm3	30.043043154	x	80.015896655	169.767698956	6.167974598	178.941811244	7.979412932	323.357657137	26.654117881	3.334019547
268	Glutaraldehyde	ng	4.367801355	x	30.759628895	7.848886353	2.371086467	7.848941749	3.067437732	15.457482449	10.246348648	0.000020132
269	Glyphosate	µg	0.037889610	x	0.006242918	0.801328194	0.000481231	0.801342581	0.000622562	1.578113938	0.002079580	0.000005228
270	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore,	pg	727.055366224	x	62.816159764	330.421129614	4.842143799	330.431981196	6.264206220	650.716480780	20.924708679	0.003943639
271	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore,	ng	1.333261893	x	0.115191222	0.605920683	0.008879442	0.605940574	0.011487197	1.193272895	0.038371381	0.000007229
272	Gold, Au 1.4E-4%, in ore, in ground	ng	1.596362750	x	0.137922621	0.725490802	0.010631678	0.725514626	0.013754036	1.428748891	0.045943443	0.000008658
273	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore,	ng	2.438275645	x	0.210662233	1.108110628	0.016238764	1.108147020	0.021007837	2.182263128	0.070173756	0.000013226
274	Gold, Au 4.3E-4%, in ore, in ground	pg	604.303484776	x	52.210640918	274.634713915	4.024624111	274.643734059	5.206593699	540.853227147	17.391901308	0.003278065
275	Gold, Au 4.9E-5%, in ore, in ground	ng	1.447384005	x	0.125051139	0.657785218	0.009639488	0.657806830	0.012470455	1.295412551	0.041655820	0.000007854
276	Gold, Au 6.7E-4%, in ore, in ground	ng	2.240785546	x	0.193599478	1.018358322	0.014923493	1.018391768	0.019306291	2.005508980	0.064489977	0.000012155
277	Gold, Au 7.1E-4%, in ore, in ground	ng	2.526717901	x	0.218303481	1.148304545	0.016827785	1.148342257	0.021769844	2.261419216	0.072719134	0.000013705
278	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.6	pg	151.406257864	x	13.081203780	68.808826866	1.008356289	68.811086870	1.304494869	135.509002208	4.357483477	0.000821322
279	Granite, in ground	pg	0.589556256	x	0.183431736	42.596148672	0.014139719	46.122272609	0.018292335	79.667704304	0.061102997	1.281449993
280	Gravel, in ground	g	0.741576774	x	0.054516626	1.928466627	0.004202380	1.928986791	0.005436553	3.797282625	0.018160049	0.000189036
281	Gypsum, in ground	ng	26.421255649	x	36.764431556	167.597952300	2.833962868	177.393951799	3.666253743	318.340237127	12.246610155	3.560023333
282	Heat, waste	Wh	3.361040824	x	14.323764607	86.248686314	1.104138302	110.320898413	1.428406571	810.168962112	4.771393264	8.748227966
283	Heat, waste	kJ	0.218618369	x	1.038543181	2.593266976	0.080055442	2.905589026	0.103566482	4.733303799	0.345949412	0.113502842
284	Heat, waste	J	6.313023181	x	10.535442283	19.882767812	0.812117880	20.360064723	1.050624287	38.585663658	3.509464148	0.173457353
285	Helium	µg	1.317368139	x	2.536775761	0.709844688	0.195545749	0.751006204	0.252974498	1.348692087	0.845026088	0.014958755
286	Helium, 0.08% in natural gas, in ground	pg	x	x	x	0.000281491	x	0.000370266	x	0.000448100	x	0.000032262
287	Heptane	µg	3.275579344	x	13.998688807	3.497646272	1.079080040	3.716109123	1.395989087	6.626735860	4.663107173	0.079392904
288	Hexane	µg	7.138836677	x	30.266512274	11.588891824	2.333074885	12.365452234	3.018262739	21.893524089	10.082086432	0.282214508
289	Hydrocarbons, aliphatic, alkanes, cyclic	ng	1.274472282	x	1.841820125	2.238968221	0.141975535	2.396851916	0.183671545	4.220411902	0.613529221	0.057377467
290	Hydrocarbons, aliphatic, alkanes, unsp	µg	3.934783970	x	8.474528708	116.607378759	0.653253666	148.381342043	0.845104120	787.862732266	2.822952646	11.547167872
291	Hydrocarbons, aliphatic, alkanes, unsp	µg	1.730330038	x	8.737488206	2.158740586	0.673523732	2.294026576	0.871327190	4.089468666	2.910547158	0.049165099
292	Hydrocarbons, aliphatic, unsaturated	µg	0.114299614	x	0.327958687	102.954869874	0.025280487	134.157737260	0.032704974	761.659184647	0.109246411	11.339622463
293	Hydrocarbons, aliphatic, unsaturated	ng	159.723518990	x	806.537528395	199.281400087	62.171433372	211.769337688	80.430217657	377.515092954	268.665943341	4.538316815
294	Hydrocarbons, aromatic	µg	1.020513896	x	2.127849469	3.823204809	0.164023926	3.877511366	0.212195205	7.464389756	0.708808536	0.019735874
295	Hydrocarbons, aromatic	µg	7.087853255	x	35.868491930	8.863899091	2.764899930	9.413238462	3.576908093	16.798931120	11.948163454	0.199638738
296	Hydrocarbons, chlorinated	ng	7.466007573	x	3.601848482	79.958474268	0.277646204	85.314634512	0.359186581	151.058221510	1.199812763	1.946514539
297	Hydrocarbons, unspecified	µg	0.788715657	x	4.884978762	1.735189801	0.376555487	1.795023062	0.487143984	3.345649445	1.627236652	0.021744367
298	Hydrogen	µg	0.749482497	x	2.424427476	7.104658089	0.186885453	8.495366822	0.241770808	12.327142005	0.807601719	0.505405859
299	Hydrogen-3, Tritium	Bq	0.010378765	x	0.019510695	0.770391604	0.001503970	0.958750143	0.001945662	1.291732561	0.006499213	0.068452514
300	Hydrogen-3, Tritium	Bq	0.829684668	x	1.460832943	55.430402838	0.112607380	68.803575744	0.145678418	93.156127108	0.486618473	4.860025523
301	Hydrogen chloride	mg	0.005433287	x	0.015048853	0.747572931	0.001160031	0.920755047	0.001500714	37.517048918	0.005012928	0.062937159
302	Hydrogen fluoride	mg	0.001059947	x	0.002499917	0.539900724	0.000192705	0.702883098	0.000249299	5.089641661	0.000832748	0.059230409
303	Hydrogen peroxide	pg	549.827140256	x	47.695051668	251.565720534	3.676542780	251.573930018	4.756286288	495.422254718	15.887712100	0.002983458
304	Hydrogen peroxide	ng	4.728953018	x	0.497859258	28.027506863	0.038377165	30.449848346	0.049647942	52.297577646	0.165842038	0.880317746
305	Hydrogen sulfide	mg	0.000891452	x	0.002114222	0.006295379	0.000162973	0.006516508	0.000210836	2.397139211	0.000704269	0.000080362
306	Hydrogen sulfide	µg	0.088235581	x	0.409346502	9.440668483	0.031554215	12.109610718	0.040821198	15.397574348	0.136357529	0.969936415
307	Hydroxide	ng	15.230831477	x	1.409640547	7.808540844	0.108661247	7.808769616	0.140573367	15.377821514	0.469565760	0.000083139
308	Hypochlorite	µg	0.026142470	x	0.078708258	0.699601445	0.006067176	0.704797875	0.007849011	1.371570720	0.026218530	0.001888466
309	Indium, 0.005% in sulfide, In 0.003%, P	ng	26.510433086	x	0.440886243	16.156719832	0.033985436	16.156550323	0.043966431	31.819153776	0.146863741	-0.000061602
310	Iodide	µg	1.333765634	x	6.729315110	1.777075867	0.518724983	1.881630384	0.671066454	3.374607141	2.241604052	0.037996788
311	Iodine	µg	0.022084540	x	0.071261553	14.158873734	0.005493152	18.421368168	0.007106405	49.971105415	0.023737956	1.549058842
312	Iodine-129	µBq	1.926448122	x	3.413094179	127.776401271	0.263096198	158.482221347	0.340363465	214.886091706	1.136936764	11.158987499
313	Iodine-131	mBq	0.051950467	x	0.172588296	1.471650649	0.013303859	1.478771694	0.017210996	2.889736120	0.057490936	0.002587902
314	Iodine-131	µBq	0.210759262	x	0.163351813	7.805767932	0.012591871	9.754533337	0.016289908	13.039889194	0.054414168	0.708212604
315	Iodine-133	nBq	26.760996638	x	7.370850208	229.925691343	0.568177309	272.253657640	0.735042159	402.146165074	2.455305990	15.382661840
316	Iodine-133	nBq	31.534424407	x	4.675842657	82.756428932	0.360434363	83.355853596	0.466288337	162.262492975	1.557571265	0.217840537
317	Iodine-135	nBq	7.970031279	x	8.562178877	367.284554181	0.660010123	458.138777397	0.853844845	614.572176473	2.852149818	33.017881906
318	Iodine, 0.03% in water	ng	0.232124082	x	0.127992596	29.597843619	0.009866228	29.597843619	0.012763786	58.289823793	0.042635650	x
319	Iron	mg	0.001429164	x	0.002603765	0.037020904	0.000200710	0.039281655	0.000259655	10.611928317	0.000867341	0.000821593
320	Iron	mg	0.016137556	x	0.071328037	1.534030177	0.005498276	1.538789539	0.007113035	3.015413118	0.023760102	0.001729628
321	Iron-59	nBq	8.669487416	x	1.285489112	22.751511498	0.099091112	22.916306157	0.128192633	44.609428197	0.428209640	0.059889022
322	Iron, 46% in ore, 25% in crude ore, in g	mg	23.209403661	x	50.945318192	71.631543726	3.927087512	71.649776711	5.080412115	141.048922318	16.970409298	0.006626159
323	Iron, ion	mg	0.213359805	x	0.442618219	114.638708341	0.034118944	115.086210616	0.044139148	225.233139253	0.147440680	0.162629504
324	Isocyanic acid	ng	0.955508833	x	1.868607599	164.469261068	0.144040431	164.469306408	0.186342868	323.904766825	0.622452404	0.000016477
325	Isoprene	pg	34.527083986	x	60.273521431	27.104861337	4.646146137	27.644699370	6.010647090	52.733932222	20.077729707	0.196185800
326	Isopropylamine	pg	0.039009789	x	0.004511379	1.205030704	0.000347757	1.205030704	0.000449888	2.373180571	0.001502787	x
327	Isopropylamine	pg	0.093624030	x	0.010827451	2.892140059	0.000834627	2.892140059	0.001079744	5.695764077	0.003606735	x
328	Kaolinite, 24% in crude ore, in ground	mg	0.008259371	x	0.000801088	0.970393130	0.000061751	1.054459979	0.000079887	1.810455505	0.000266851	0.030551241
329	Kieserite, 25% in crude ore, in ground	µg	0.149083300	x	0.003901393	2.343215407	0.000300736	2.545915113	0.000389058	4.372075848	0.001299594	0.073664324
330	Krypton-85	mBq	0.451988251	x	1.365211406	11.699257845	0.105236455	11.756060116	0.136142767	22.972456287	0.454765956	0.020642856
331	Krypton-85m	mBq	0.284274405	x	0.063106305	0.915724793	0.004864509	0.921906641	0.006293140	1.796023158	0.021021359	0.002246582
332	Krypton-87	µBq	66.588201145	x	25.770557682	303.487081216	1.986507079	305.343192494	2.569913352	595.463856596	8.584437731	0.674540608
333	Krypton-88	µBq	85.439248417	x	25.104382875	324.927274982	1.935155417	327.013174289	2.503480505	637.412981664	8.362528053	0.758049263
334	Krypton-89	µBq	35.089636397	x	6.238356154	100.471026009	0.480879724	101.176479939	0.622106629	197.022596417	2.078060576	0.256373273
335	Lactic acid	pg	0.112532146	x	0.104931681	9.517045961	0.008088592	9.517045961	0.010464086	18.742815814	0.034953822	x
336	Lactic acid	pg	0.270078466	x	0.251837790	22.841070949	0.019412756	22.841070949	0.025113981	44.983074325	0.083889757	x
337	Lanthanum-140	nBq	1.650177773	x	0.244684081	4.330594963	0.018861317	4.361962500	0.024400593	8.491100254	0.081506783	0.011399466
338	Lanthanum-140	nBq	53.501046529	x	7.932996348	140.403880470	0.611509987	141.420859436	0.791100972	275.293218472	2.642562649	0.369586467
339	Lanthanum, 7.2% in bastnasite, 0.72%	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
340	Lead	µg	0.335357213	x	0.399304479	1.788578611	0.030780132	1.946084213	0.039819779	260.914505844	0.133012428	0.057240062
341	Lead	µg	0.525782701	x	0.895358245	37.897071672	0.069018122	39.033066358	0.089287672	73.274447583	0.298253037	0.412838689
342	Lead	ng	58.320676527	x	0.915044777	9.182602947	0.070535646	9.601119228	0.091250869	17.583185161	0.304810824	0.152095529
343	Lead-210	mBq	0.007469790	x	0.019927393	0.783523945	0.001536090	0.935870812	0.001987216	112.263473714	0.006638019	0.055365295
344	Lead-210	µBq	10.143150731	x	43.076716534	93.298509457	3.320541348	95.117569114	4.295732765	181.564061421	14.349297182	0.661075455
345	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag	µg	113.633536277	x	3.893120248	11.403735542	0.300098703	11.403804299	0.388233031	22.458364920	1.296838383	0.000024988
346	Linuron	ng	3.158186328	x	0.226889296	14.446140767	0.017489617	14.457655468	0.022626046	28.436363144	0.075579157	0.004184627
347	Lithium, 0.15% in brine, in ground	ng	0.002717051	x	0.000695855	0.641471533	0.000053640	0.641471533	0.000069393	1.263310365	0.000231796	x
348	Lithium, ion	ng	44.477802481	x	7.693971684	56.210486128	0.593084923	58.494134885	0.767264753	107.966978753	2.562941076	0.829914585
349	m-Xylene	ng	1.391987168	x	3.626083466	33.096552237	0.279514342	33.372099185	0.361603363	64.850317689	1.207885685	0.100138181
350	m-Xylene	pg	1.485854007	x	0.278254552	58.901722395	0.021449075	58.966079770	0.027748336	115.923676287	0.092689452	0.023388502
351	Magnesite, 60% in crude ore, in ground	mg	0.284054319	x	0.687108297	1.060172996	0.052965307	1.060545169	0.068520395	2.087453065	0.228882838	0.000135254
352	Magnesium	mg	0.000200423	x	0.000423463	0.019381019	0.000032642	0.021314467	0.000042229	9.075026552	0.000141060	0.000702646
353	Magnesium	g	0.000738258	x	0.001850726	0.620147410	0.000142662	0.625791773	0.000184560	1.214558247	0.000616496	0.002051252
354	Magnesium	µg	4.256685423	x	25.207146654	6.703255757	1.943076898	6.730060140	2.513728401	13.169266395	8.396759725	0.009741143
355	Magnesium, 0.13% in water	ng	2.871366274	x	1.870814318	65.998506483	0.144210534	65.998621216	0.186562928	129.976941814	0.623187485	0.000041696
356	Mancozeb	µg	0.001245012	x	0.000417832	0.578947718	0.000032208	0.629102143	0.000041667	1.080139593	0.000139184	0.018226922
357	Manganese	µg	0.060226583	x	0.113894819	0.874978738	0.008779510	0.951526628	0.011357915	76.759231008	0.037939535	0.027818731
358	Manganese	mg	0.059509012	x	0.121462230	48.201239762	0.009362839	48.218349980	0.012112559	94.906764263	0.040460318	0.006218128
359	Manganese	µg	0.240029033	x	1.334850457	1.000176090	0.102896100	1.006488044	0.133115086	1.962185317	0.444652412	0.002293865
360	Manganese-54	nBq	0.153601453	x	0.022775625	0.403099405	0.001755645	0.406019151	0.002271250	0.790366564	0.007586795	0.001061082
361	Manganese-54	µBq	1.052075114	x	0.439137695	22.562682136	0.033850650	28.085974402	0.043792061	37.823228340	0.146281281	2.007252996
362	Manganese, 35.7% in sedimentary dep	µg	15.703924050	x	229.679496081	435.732068273	17.704698151	435.768408142	22.904292994	858.084701984	76.508601656	0.013206491
363	Mercury	µg	0.028653114	x	0.070316641	0.977094115	0.005420314	1.243620701	0.007012176	9.618860807	0.023423196	0.096860036
364	Mercury	µg	0.018870116	x	0.052893278	16.757250032	0.004077245	16.763072777	0.005274668	32.994662304	0.017619295	0.002116079
365	Mercury	pg	5.151998483	x	1.075080786	171.678082506	0.082871920	185.524396546	0.107210116	321.527274828	0.358120464	5.031972600
366	Metaldehyde	pg	14.365668305	x	1.145006411	263.039834788	0.088262092	280.353300263	0.114183298	497.304275679	0.381413408	6.291991040
367	Metamorphous rock, graphite containin	µg	0.666997511	x	0.097909771	13.679462599	0.007547313	14.698148658	0.009763841	25.720849788	0.032614752	0.370206852
368	Methane, biogenic	mg	0.003054958	x	0.006429052	0.878280289	0.000495579	1.137905042	0.000641123	1.418899592	0.002141583	0.094351799
369	Methane, bromo-, Halon 1001	pg	0.000006686	x	0.000001156	0.000008298	0.000000089	0.000008641	0.000000115	0.000015930	0.000000385	0.000000125
370	Methane, bromochlorodifluoro-, Halon	ng	4.691804777	x	1.932718938	7.877753793	0.148982412	8.278090607	0.192736233	15.035179025	0.643808550	0.145488819
371	Methane, bromotrifluoro-, Halon 1301	ng	10.543201818	x	36.242691118	9.347113105	2.793744837	9.919311799	3.614224301	17.723206507	12.072813051	0.207946183
372	Methane, chlorodifluoro-, HCFC-22	ng	15.298028343	x	7.317591074	34.812185587	0.564071863	36.228817226	0.729731007	66.863135492	2.437564825	0.514826659
373	Methane, dichloro-, HCC-30	pg	13.101919429	x	8.250278561	265.594978928	0.635967485	316.987531337	0.822741258	461.542408087	2.748252616	18.676877818
374	Methane, dichloro-, HCC-30	ng	132.910888633	x	793.407503646	169.302779295	61.159313749	169.303621176	79.120854222	333.422878752	264.292197097	0.000305953
375	Methane, dichlorodifluoro-, CFC-12	pg	27.673170241	x	12.876209985	63.937474879	0.992554473	66.522903774	1.284052304	122.823219980	4.289197936	0.939586327
376	Methane, dichlorofluoro-, HCFC-21	pg	0.063968474	x	0.006881132	0.044426790	0.000530428	0.044427765	0.000686206	0.087492696	0.002292176	0.000000354
377	Methane, fossil	mg	1.142438617	x	2.306647882	233.848805543	0.177806488	259.703717624	0.230025491	465.366285825	0.768368126	9.396089731
378	Methane, monochloro-, R-40	pg	9.615150799	x	8.755296476	351.044121335	0.674896471	437.080383485	0.873103081	588.355639992	2.916479276	31.266957580
379	Methane, tetrachloro-, CFC-10	ng	0.430446829	x	0.672042805	11.093601120	0.051803993	14.384559223	0.067018021	17.908274001	0.223864368	1.195986958
380	Methane, tetrafluoro-, CFC-14	µg	0.096605368	x	0.013017907	1.991979460	0.001003477	2.140817374	0.001298183	3.744828362	0.004336399	0.054090085
381	Methane, trichlorofluoro-, CFC-11	pg	0.103849400	x	0.011171150	0.072124519	0.000861121	0.072126102	0.001114019	0.142039716	0.003721225	0.000000576

No	Substance	Unit	TVA0, transport of fuel, at plant, ZA	TVA1, clay extraction, extracted clay, ZA	TVA2, mining fuel, stockpiled clay, ZA	TVA3, clay preparation, wet green brick, ZA rev1	TVA4, wet green brick transport, wet green brick ready for drying, ZA	TVA5, drying of wet green brick, dry green brick, ZA rev1	TVA6, dry green brick transport, at firing location, ZA	TVA7, brick firing, fired brick, ZA rev1	TVA8, fired brick transport, at sales bay, ZA	TVA9, factory overheads, additional water and electricity, ZA
382	Methane, trifluoro-, HFC-23	pg	20.353605438	x	2.189451114	14.135796593	0.168772449	14.136106964	0.218338296	27.838584812	0.729328678	0.000112794
383	Methanesulfonic acid	pg	0.271139773	x	0.019578592	1.315650747	0.001509203	1.315650747	0.001952433	2.591035029	0.006521830	x
384	Methanol	µg	0.208413906	x	0.400056806	1.884835529	0.030838125	1.985861444	0.039894803	3.591052396	0.133263035	0.036714438
385	Methanol	ng	19.880878136	x	28.577534687	116.820293548	2.202881120	123.010877676	2.849833088	222.654773618	9.519470632	2.249757561
386	Methyl acetate	pg	0.011011549	x	0.000813392	0.050767897	0.000062700	0.050767897	0.000081114	0.099982005	0.000270949	x
387	Methyl acetate	pg	0.026427238	x	0.001952107	0.121840728	0.000150477	0.121840728	0.000194670	0.239952430	0.000650267	x
388	Methyl acrylate	pg	231.968108694	x	20.042619728	105.430455043	1.544972618	105.433917349	1.998707079	207.629986720	6.676402705	0.001258258
389	Methyl acrylate	ng	4.531564968	x	0.391538451	2.059614839	0.030181493	2.059682475	0.039045329	4.056112645	0.130425484	0.000024580
390	Methyl amine	pg	0.570229393	x	0.113582469	0.673979960	0.008755433	0.673986549	0.011326767	1.327324351	0.037835488	0.000002395
391	Methyl amine	pg	1.368533084	x	0.272589665	1.617565707	0.021012401	1.617581521	0.027183417	3.185605625	0.090802420	0.000005747
392	Methyl borate	pg	0.021064189	x	0.005023639	4.498893580	0.000387244	4.498893581	0.000500972	8.860095267	0.001673426	0.000000000
393	Methyl ethyl ketone	ng	366.704974925	x	31.979933951	169.282404645	2.465152907	169.287882576	3.189130025	333.377235829	10.652844809	0.001990768
394	Methyl formate	pg	0.924528411	x	0.084035065	6.270942521	0.006477790	6.270956079	0.008380216	12.349942066	0.027992944	0.000004927
395	Methyl formate	pg	0.369110966	x	0.033550364	2.503626297	0.002586209	2.503631710	0.003345738	4.930620816	0.011175971	0.000001967
396	Methyl lactate	pg	0.123540628	x	0.115197631	10.448144887	0.008879936	10.448144887	0.011487836	20.576516708	0.038373515	x
397	Metolachlor	ng	22.850379801	x	1.641486504	104.556216645	0.126532945	104.639559004	0.163693706	205.812648746	0.546796032	0.030287950
398	Metribuzin	ng	0.043837671	x	0.014712129	20.385120208	0.001134075	22.151089703	0.001467135	38.032407270	0.004900762	0.641781638
399	Molybdenum	µg	0.006198283	x	0.025320928	0.106670788	0.001951848	0.118141185	0.002525075	6.635862080	0.008434661	0.004168526
400	Molybdenum	µg	0.451271226	x	0.816497099	292.847249102	0.062939161	293.187331577	0.081423414	576.324605504	0.271983579	0.123591426
401	Molybdenum	pg	12.521297708	x	16.088613786	296.068709544	1.240180580	312.209830465	1.604402353	563.754485972	5.359282672	5.865942226
402	Molybdenum-99	nBq	18.446012314	x	2.735126862	48.408243869	0.210835518	48.758876387	0.272754635	94.915191875	0.911098880	0.127425481
403	Molybdenum, 0.010% in sulfide, Mo 8.2	µg	1.022155175	x	0.436775196	4.350631598	0.033668539	4.363626629	0.043556466	8.552552864	0.145494309	0.004722603
404	Molybdenum, 0.014% in sulfide, Mo 8.2	µg	0.143073841	x	0.062041454	0.619067120	0.004782426	0.620919878	0.006186950	1.216969340	0.020666646	0.000673322
405	Molybdenum, 0.022% in sulfide, Mo 8.2	µg	0.177368699	x	2.513391579	4.778772549	0.193743194	4.791908192	0.250642561	9.395563022	0.837236577	0.004773704
406	Molybdenum, 0.025% in sulfide, Mo 8.2	µg	0.524266695	x	0.227339031	2.268452901	0.017524285	2.275241979	0.022670895	4.459351083	0.075728969	0.002467260
407	Molybdenum, 0.11% in sulfide, Mo 4.18	µg	0.353106173	x	5.072165800	9.642339674	0.390984681	9.668850283	0.505810808	18.957833511	1.689590579	0.009634380
408	Monoethanolamine	ng	10.363073886	x	1.723223186	24.631255062	0.132833565	27.488070902	0.171844720	45.088934555	0.574023361	1.038212696
409	Napropamide	pg	25.416129474	x	2.025776361	465.377196015	0.156155685	496.008646729	0.202016184	879.844187499	0.674806935	11.131960480
410	Neodymium, 4% in bastnasite, 0.4% in	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
411	Nickel	µg	0.247578477	x	0.830091175	1.871732579	0.063987051	2.021393308	0.082779054	74.341702956	0.276511905	0.054389109
412	Nickel	ng	18.942286170	x	0.528380705	5.730137891	0.040729891	6.000201985	0.052691628	10.961623561	0.176009045	0.098145623
413	Nickel, 1.13% in sulfide, Ni 0.76% and	µg	0.132708282	x	0.118228918	10.859847209	0.009113601	11.774439854	0.011790124	20.292518839	0.039383268	0.332377636
414	Nickel, 1.98% in silicates, 1.04% in cru	mg	0.213673285	x	1.205220432	2.218689759	0.092903652	2.228997493	0.120188011	4.357136000	0.401471318	0.003745996
415	Nickel, ion	mg	0.007015762	x	0.022388868	5.753439143	0.001725832	5.816661354	0.002232682	11.255110773	0.007457962	0.022975965
416	Niobium-95	nBq	0.018233830	x	0.002703665	0.047851410	0.000208410	0.048198009	0.000269617	0.093823394	0.000900619	0.000125960
417	Niobium-95	µBq	0.085754413	x	0.068463623	8.506420927	0.005277475	10.968468991	0.006827387	13.805332651	0.022805937	0.894747754
418	Nitrate	µg	0.012717817	x	0.018599232	1.013564670	0.001433710	1.087199611	0.001854768	1.907964662	0.006195595	0.026760119
419	Nitrate	mg	0.056990686	x	0.149277761	63.093511785	0.011506981	63.111356309	0.014886403	124.234640608	0.049725957	0.006484986
420	Nitrite	µg	0.034309982	x	0.024836988	0.820291768	0.001914543	0.940616767	0.002476815	1.471444364	0.008273456	0.043728034
421	Nitrobenzene	pg	0.748803022	x	0.637085807	57.562093321	0.049109355	57.562093321	0.063532010	113.362456942	0.212219833	x
422	Nitrobenzene	pg	3.000821103	x	2.553115408	230.679550016	0.196805280	230.679550016	0.254603934	454.298984754	0.850468993	x
423	Nitrogen	µg	0.807957283	x	4.073715761	18.734127427	0.314019793	19.813188682	0.406242529	35.603205855	1.356996605	0.392148167
424	Nitrogen oxides	mg	5.964980063	x	42.449381305	233.275430066	3.272183610	294.492703717	4.233173110	529.232269996	14.140325367	22.247339094
425	Nitrogen, organic bound	µg	1.189214474	x	4.935006868	3.257186880	0.380411872	3.353606839	0.492132929	6.299266558	1.643901528	0.035040560
426	NMVOC, non-methane volatile organic	mg	0.824265656	x	6.138434180	8.906454302	0.473177302	9.638163525	0.612142126	18.453190709	2.044775539	0.265914867
427	Noble gases, radioactive, unspecified	Bq	18.510873514	x	32.798603322	1228.215481523	2.528259516	1523.391811407	3.270770065	2065.503369713	10.925551994	107.271812542
428	o-Xylene	pg	0.912945808	x	0.157918164	1.133043227	0.012173021	1.179921649	0.015748049	2.175293255	0.052604164	0.017036370
429	Occupation, arable, non-irrigated	mm2a	0.106275833	x	0.008476695	1.955904220	0.000653421	2.084866118	0.000845320	3.697574334	0.002823674	0.046866822
430	Occupation, construction site	mm2a	0.030690479	x	0.130979223	2.231113084	0.010096450	2.909549732	0.013061621	3.581827176	0.043630526	0.246554759
431	Occupation, dump site	mm2a	0.225012154	x	0.438886081	160.066137005	0.033831255	180.300449467	0.043766969	291.012102523	0.146197466	7.353473682
432	Occupation, dump site, benthos	mm2a	0.056781418	x	0.399875176	0.102035523	0.030824124	0.102036243	0.039876691	0.200947272	0.133202532	0.000000262
433	Occupation, forest, intensive	mm2a	0.309981246	x	0.058826044	11.515389435	0.004534568	12.502707938	0.005866301	21.496482136	0.019595560	0.358807379
434	Occupation, forest, intensive, normal	cm2a	0.024742812	x	0.045889183	16.922744617	0.003537339	16.928067238	0.004576200	33.321184932	0.015286159	0.001934326
435	Occupation, forest, intensive, short-cyc	mm2a	0.010089797	x	0.017613641	0.007920812	0.001357736	0.008078568	0.001756482	0.015410355	0.005867285	0.000057331
436	Occupation, industrial area	mm2a	0.611165868	x	3.437015897	84.084680727	0.264940189	84.091940380	0.342749007	165.587199054	1.144905334	0.002638274
437	Occupation, industrial area, benthos	mm2a	0.001097905	x	0.003081517	0.000855380	0.000237537	0.000855386	0.000307298	0.001684571	0.001026485	0.000000002
438	Occupation, industrial area, built up	mm2a	0.127166420	x	0.284551814	0.621629291	0.021934496	0.621659387	0.028376317	1.224195904	0.094787135	0.000010937
439	Occupation, industrial area, vegetation	mm2a	0.118980443	x	0.114814373	0.922950897	0.008850393	0.923062469	0.011449616	1.817520074	0.038245848	0.000040547
440	Occupation, mineral extraction site	cm2a	0.003332886	465.390000000	0.004059103	422.927658231	0.000312893	423.125702705	0.000404785	424.426813191	0.001352129	0.071972538
441	Occupation, permanent crop, fruit, inte	mm2a	0.014753217	x	0.025304066	0.009961647	0.001950548	0.010080449	0.002523394	0.019476191	0.008429045	0.000043175
442	Occupation, shrub land, sclerophyllous	mm2a	0.017034098	x	0.009417731	2.198563580	0.000725960	2.876687874	0.000939163	3.518098280	0.003137143	0.246441245
443	Occupation, traffic area, rail embankme	mm2a	0.042147835	x	0.064710514	11.870074563	0.004988169	11.870076604	0.006453117	23.376854507	0.021555737	0.000000742
444	Occupation, traffic area, rail network	mm2a	0.046605781	x	0.071554896	13.125563336	0.005515764	13.125565592	0.007135658	25.849406655	0.023835672	0.000000820
445	Occupation, traffic area, road embankm	mm2a	1.291238831	x	0.057022636	16.778509173	0.004395554	16.800033495	0.005686460	33.017734327	0.018994826	0.007822284
446	Occupation, traffic area, road network	mm2a	6.409395459	x	1.437826101	0.968981737	0.110833912	0.968989616	0.143384111	1.908297119	0.478954658	0.000002863
447	Occupation, urban, discontinuously bui	mm2a	0.000103374	x	0.000102989	0.002834247	0.000007939	0.002834248	0.000010270	0.005581750	0.000034307	0.000000000
448	Occupation, water bodies, artificial	mm2a	0.196520744	x	0.412347123	123.235130232	0.031785516	161.397217186	0.041120429	197.017108548	0.137357066	13.868714472
449	Occupation, water courses, artificial	mm2a	0.336026036	x	0.373033406	1.344329186	0.028755043	1.368239356	0.037199953	2.618892747	0.124261263	0.008689339
450	Oil, crude, in ground	g	0.242820709	x	1.054189914	0.265468086	0.081261560	0.281905859	0.105126818	0.503134659	0.351161499	0.005973751
451	Oils, biogenic	µg	0.055247785	x	0.084870333	17.463621661	0.006542176	17.472870375	0.008463511	34.381685363	0.028271181	0.003361131
452	Oils, unspecified	mg	0.666327117	x	4.584450824	1.106315012	0.353389481	1.176468015	0.457174483	2.094794533	1.527127706	0.025494726
453	Oils, unspecified	mg	0.667689903	x	4.843626990	1.161499714	0.373367912	1.235488632	0.483020268	2.198883228	1.613461951	0.026888760
454	Olivine, in ground	ng	4.363426851	x	1.508374502	3.795229585	0.116272091	3.923259492	0.150419398	7.321038845	0.502455055	0.046528122
455	Orbencarb	ng	0.236727779	x	0.079446961	110.081673253	0.006124119	119.618083620	0.007922677	205.378775974	0.026464600	3.465684480
456	Ozone	µg	0.623464043	x	1.168522380	228.049166873	0.090074806	296.617571350	0.116528377	367.039768372	0.389246819	24.918857939
457	PAH, polycyclic aromatic hydrocarbons	µg	0.076356895	x	1.163648850	1.562942888	0.243867863	1.792351843	0.315488067	2.803439610	1.053843960	0.083370894
458	PAH, polycyclic aromatic hydrocarbons	ng	74.677655620	x	403.039631580	116.820706762	31.068054143	122.885409019	40.192259072	222.806340746	134.256645240	2.204010070
459	Paraffins	pg	x	x	x	0.000006491	x	0.000008538	x	0.000010333	x	0.000000744
460	Paraffins	pg	x	x	x	0.000018838	x	0.000024779	x	0.000029988	x	0.000002159
461	Particulates, < 2.5 um	mg	0.178504146	x	3.936958858	4.082397671	0.303477974	4.956687722	0.392604742	18.918321632	1.311441475	0.317731027
462	Particulates, > 10 um	mg	0.211636261	x	0.627860033	109.981287091	0.048398192	113.995645684	0.062611989	295.266383684	0.209146632	1.458882298
463	Particulates, > 2.5 um, and < 10um	mg	0.137758049	x	0.359032844	1.035795158	0.027675819	1.160852260	0.035803777	25.740249274	0.119597532	0.045447756
464	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-	ng	0.348723843	x	1.323815288	0.394804363	0.102045461	0.414863784	0.132014628	0.753513477	0.440976484	0.007289915
465	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-	ng	0.838046001	x	3.181365797	0.948792948	0.245233563	0.997001605	0.317254851	1.810839603	1.059745657	0.017519799
466	Peat, in ground	µg	5.450538765	x	0.704094978	46.243125218	0.054274714	49.314669861	0.070214355	87.394182885	0.234541277	1.116248587
467	Pentane	µg	18.288674105	x	77.463780412	93.168049121	5.971246338	115.538007134	7.724908637	156.706938943	25.803981720	8.129601528
468	Phenol	µg	0.014848515	x	0.007746189	0.084187193	0.000597110	0.089169527	0.000772472	119.410124739	0.002580335	0.001810660
469	Phenol	µg	1.233015647	x	6.439934691	1.649482490	0.496418277	1.753748470	0.642208615	3.123670813	2.145208459	0.037891929
470	Phenol, 2,4-dichloro-	pg	0.084788818	x	0.069171987	0.244864486	0.005332079	0.244864486	0.006898027	0.482234691	0.023041900	x
471	Phenol, pentachloro-	ng	0.277441134	x	0.932671617	7.958451093	0.071894400	7.996898928	0.093008668	15.627304060	0.310682505	0.013972560
472	Phosphate	mg	0.208154030	x	0.531504279	211.271313693	0.040970670	211.837710526	0.053003119	415.398518280	0.177049540	0.205837693
473	Phosphine	pg	0.176724322	x	0.015269420	0.080321929	0.001177034	0.080324567	0.001522710	0.158182387	0.005086401	0.000000959
474	Phosphorus	µg	0.007358322	x	0.027425152	0.410786616	0.002114050	0.443972872	0.002734914	151.501644030	0.009135600	0.012060418
475	Phosphorus	ng	110.016533560	x	381.295272204	318.070408467	29.391904005	338.970225476	38.023849672	601.388081013	127.013375561	7.595328708
476	Phosphorus	µg	0.276846108	x	1.605920746	0.688735987	0.123791381	0.691408614	0.160146987	1.353193379	0.534948712	0.000971276
477	Phosphorus, 18% in apatite, 12% in cru	µg	1.369388235	x	5.415644660	4.582540311	0.417461531	4.760654854	0.540063498	8.811618489	1.804006919	0.064729682
478	Phosphorus, 18% in apatite, 4% in cru	µg	2.539390880	x	12.305981317	6.520393223	0.948598758	6.826094593	1.227187479	12.475288282	4.099248904	0.111096781
479	Pirimicarb	pg	19.782700118	x	1.421115783	90.519470444	0.109545808	90.591624033	0.141717710	178.182154755	0.473388279	0.026221772
480	Platinum	pg	0.030175681	x	0.049050995	0.440019940	0.003781065	0.442069636	0.004891505	0.864119158	0.016339391	0.000744893
481	Plutonium-238	nBq	0.000262804	x	0.000465601	0.017430769	0.000035891	0.021619540	0.000046431	0.029313940	0.000155097	0.001522266
482	Plutonium-alpha	nBq	0.000602444	x	0.001067332	0.039957822	0.000082275	0.049560047	0.000106437	0.067198482	0.000355539	0.003489602
483	Polonium-210	mBq	0.012853260	x	0.035207089	1.391442540	0.002713916	1.660368723	0.003510951	205.143879724	0.011727843	0.097732088
484	Polonium-210	µBq	14.087732619	x	61.544508711	104.188695866	4.744119384	106.553216939	6.137393558	202.358193183	20.501108638	0.859304882
485	Polychlorinated biphenyls	ng	0.344161609	x	0.810727532	1.198432349	0.062494417	1.198807066	0.080848057	2.359737188	0.270061677	0.000136178
486	Potassium	mg	0.000485394	x	0.001060406	0.014825983	0.000081741	0.015522432	0.000105747	0.033471873	0.000353232	0.000253101
487	Potassium	µg	1.917276805	x	11.185417542	4.311147257	0.862220811	4.326012529	1.115441670	8.472553799	3.725977589	0.005402278
488	Potassium-40	mBq	0.001427700	x	0.004556369	0.567211123	0.000351225	0.721991449	0.000454374	33.129363171	0.001517773	0.056249653
489	Potassium-40	µBq	4.185936958	x	14.243950164	93.585038458	1.097985856	94.690187974	1.420447247	182.982928260	4.744806253	0.401629059
490	Potassium, ion	mg	0.456484087	x	1.185590413	434.175127495	0.091390484	440.745350916	0.118230450	847.197208137	0.394932356	2.387724569
491	Praseodymium, 0.42% in bastnasite, 0.	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
492	Propanal	pg	38.627036887	x	67.487073723	534.964468048	5.202198236	624.892162559	6.730003053	945.909039007	22.480638144	32.681166514
493	Propanal	pg	0.178415179	x	0.045693767	42.122811687	0.003522275	42.122811687	0.004556712	82.956424258	0.015221064	x
494	Propane	mg	0.015432883	x	0.064472043	0.046822626	0.004969787	0.053745445	0.006429336	1.276428246	0.021476300	0.002515863
495	Propene	µg	0.790933541	x	2.938161981	10.568861878	0.226486351	13.163244888	0.293001874	613.960139423	0.978731965	0.942840396
496	Propene	ng	227.450116964	x	103.122809852	160.823437243	7.949156333	169.725030465	10.283700076	306.069114215	34.351268247	3.234981747
497	Propionic acid	ng	4.289076268	x	20.890385426	81.344252770	1.610322099	83.436785707	2.083248687	157.694061445	6.958802175	0.760460031
498	Propionic acid	pg	0.357930475	x	0.176892773	1.730894752	0.013635667	1.730894752	0.017640251	3.408814144	0.058924802	x
499	Propylamine	pg	0.029741758	x	0.007617068	7.021771381	0.000587157	7.021771381	0.000759596	13.828636372	0.002537324	x
500	Propylamine	pg	0.071379944	x	0.018280792	16.852058712	0.001409163	16.852058712	0.001823013	33.188347980	0.006089520	x
501	Propylene oxide	ng	86.395672313	x	3.404672314	5.529380667	0.262447004	5.563802799	0.339523613	10.848324843	1.134131354	0.012509555
502	Propylene oxide	ng	207.882996435	x	8.191858624	13.301448764	0.631464222	13.384276920	0.816915455	26.096645740	2.728792335	0.030101080
503	Protactinium-234	µBq	0.319311596	x	0.463487195	17.439564355	0.035727616	21.611847886	0.046220262	29.350997883	0.154392350	1.516274753
504	Protactinium-234	µBq	5.873255775	x	8.546384770	321.424502514	0.658792645	398.312288743	0.852269811	540.974003042	2.846888639	27.942254700
505	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5	pg	6.876156458	x	32.243644358	25.425538693	2.485480856	25.887246951	3.215427978	49.520151215	10.740689457	0.167792186
506	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5	pg	24.650441983	x	115.590750958	91.148324050	8.910239659	92.803480328	11.527038645	177.525427295	38.504467622	0.601510338
507	Radioactive species, alpha emitters	nBq	23.037019461	x	105.092483235	68.540208322	8.100987356	72.996305450	10.480121511	129.648571194	35.007386702	1.619417166
508	Radioactive species, Nuclides, unspec	mBq	1.884538642	x	3.324617035	124.217001879	0.256275994	154.049575451	0.331540272	208.921539824	1.107464117	10.841635714

No	Substance	Unit	TVA0, transport of fuel, at plant, ZA	TVA1, clay extraction, extracted clay, ZA	TVA2, mining fuel, stockpiled clay, ZA	TVA3, clay preparation, wet green brick, ZA rev1	TVA4, wet green brick transport, wet green brick ready for drying, ZA	TVA5, drying of wet green brick, dry green brick, ZA rev1	TVA6, dry green brick transport, at firing location, ZA	TVA7, brick firing, fired brick, ZA rev1	TVA8, fired brick transport, at sales bay, ZA	TVA9, factory overheads, additional water and electricity, ZA
509	Radioactive species, other beta emitter	µBq	944.950432018	x	14.149440004	134.611240880	1.090700600	144.321346712	1.411022425	253.479232882	4.713323947	3.528808198
510	Radium-224	mBq	0.665511553	x	3.360572387	0.830284841	0.259047589	0.882317914	0.335125842	1.572872564	1.119441215	0.018909653
511	Radium-226	mBq	0.012151651	x	0.020131422	0.759704043	0.001551818	0.932348407	0.002007563	29.909564949	0.006705984	0.062741731
512	Radium-226	mBq	4.728119726	x	10.737229292	201.322764136	0.827672504	249.231894723	1.070747062	339.134867655	3.576681475	17.410946459
513	Radium-228	mBq	0.001117747	x	0.004000269	0.359651136	0.000308358	0.406311039	0.000398918	155.677820146	0.001332531	0.016956957
514	Radium-228	mBq	1.331100185	x	6.721158106	1.660665342	0.518096206	1.764735446	0.670253014	3.145928783	2.238886870	0.037820745
515	Radon-220	mBq	0.059171923	x	0.185245796	1.667478177	0.014279555	1.684167684	0.018473238	5.648949745	0.061707279	0.006065234
516	Radon-222	Bq	42.101547590	x	61.279344479	2304.426181317	4.723679368	2855.563150157	6.110950626	3878.594432350	20.412779706	200.292014030
517	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-	pg	4.771960289	x	30.285346003	10.169241094	2.334526671	10.627792104	3.020140893	19.478340582	10.088360141	0.166644792
518	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-	pg	14.946315370	x	94.857103687	31.851227635	7.311999621	33.287468085	9.459420333	61.008385876	31.597876537	0.521952815
519	Rhenium, in crude ore, in ground	pg	8.644275802	x	42.518038675	11.053210690	3.277476020	11.706594630	4.240019819	20.985999497	14.163195843	0.237450203
520	Rubidium	ng	133.102310581	x	672.114477290	175.479815800	51.809517811	188.858143335	67.025168446	329.574563159	223.888242911	4.861898798
521	Ruthenium-103	nBq	0.004006092	x	0.000594013	0.010513268	0.000045789	0.010589418	0.000059237	0.020613614	0.000197872	0.000027674
522	Ruthenium-103	nBq	3.892274656	x	0.577136391	10.214575239	0.044488192	10.288561856	0.057553683	20.027959937	0.192250066	0.026887923
523	Samarium, 0.3% in bastnasite, 0.03% i	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
524	Sand, unspecified, in ground	µg	0.423285402	x	0.445770518	3.270483590	0.034361937	3.280070709	0.044453505	6.429394500	0.148490743	0.003484113
525	Scandium	µg	0.003899623	x	0.005728441	0.056920551	0.000441573	0.057562096	0.000571256	3.116438396	0.001908203	0.000233148
526	Scandium	µg	0.191363536	x	0.347486023	238.161415578	0.026785740	276.480303374	0.034652295	423.164581401	0.115751167	13.925698413
527	Selenium	µg	0.012956850	x	0.041051337	3.283045440	0.003164416	4.271757324	0.004093756	26.699437987	0.013674623	0.359313756
528	Selenium	µg	0.299890210	x	0.514438678	222.917788515	0.039655179	231.853171365	0.051301289	428.317028531	0.171364813	3.247261440
529	Shale, in ground	ng	27.767920398	x	12.117772078	26.326700902	0.934090768	27.403078492	1.208418718	50.559131923	4.036554471	0.391172880
530	Silicon	mg	0.000703584	x	0.001443075	0.078613309	0.000111239	0.086738211	0.000143908	37.828186892	0.000480703	0.002952720
531	Silicon	g	0.001666840	x	0.003912911	1.232114650	0.000301624	1.438353630	0.000390207	2.179643738	0.001303431	0.074950553
532	Silicon	µg	0.691873782	x	3.471642906	4.674630202	0.267609390	4.791617728	0.346202111	9.066151169	1.156439947	0.042515143
533	Silicon tetrafluoride	pg	18.926779438	x	93.004538787	45.977523814	7.169195831	48.288760011	9.274677289	87.781229730	30.980768121	0.839940303
534	Silver	ng	0.169320888	x	0.250728204	2.271114357	0.019327224	2.271210142	0.025003330	4.472604804	0.083520143	0.000034810
535	Silver-110	nBq	0.039703439	x	0.005887123	0.104194538	0.000453805	0.104949244	0.000587081	0.204296703	0.001961061	0.000274272
536	Silver-110	µBq	14.802177477	x	5.203525407	207.603914481	0.401110453	253.316688520	0.518910362	354.134047603	1.733347815	16.612755262
537	Silver, 0.007% in sulfide, Ag 0.004%, P	ng	16.085429480	x	1.471941502	8.037130688	0.113463676	8.037371969	0.146786196	15.827990064	0.490318849	0.000087685
538	Silver, 3.2ppm in sulfide, Ag 1.2ppm, C	ng	11.471383634	x	1.051146330	5.743971143	0.081026948	5.744143264	0.104823303	11.311937650	0.350147650	0.000062552
539	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore	ng	1.059108443	x	0.096959490	0.529533834	0.007474061	0.529549726	0.009669076	1.042841859	0.032298203	0.000005776
540	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore	ng	2.418881565	x	0.221444291	1.209394209	0.017069893	1.209430506	0.022083055	2.381730541	0.073765370	0.000013191
541	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore	ng	2.370909269	x	0.217052518	1.185408987	0.016731356	1.185444564	0.021645095	2.334495045	0.072302425	0.000012929
542	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.0	ng	1.564454793	x	0.143223057	0.782197308	0.011040258	0.782220787	0.014282611	1.540426766	0.047709073	0.000008533
543	Silver, ion	µg	0.025569327	x	0.063201951	1.283784565	0.004871882	1.284865290	0.006302678	2.526984301	0.021053220	0.000392753
544	Sodium	mg	0.000292948	x	0.001141094	0.005174351	0.000087961	0.005541651	0.000113793	1.517074349	0.000380110	0.000133483
545	Sodium	µg	15.234893516	x	62.710129703	13.629596853	4.833970539	13.629663480	6.253632601	26.841967029	20.889388975	0.000024213
546	Sodium-24	nBq	139.567446314	x	20.694698948	366.269677297	1.595237731	368.922656408	2.063734274	718.153643257	6.893616998	0.964135159
547	Sodium chlorate	ng	0.227207541	x	1.002479540	2.429675996	0.077275499	2.872585746	0.099970113	4.254810311	0.333936242	0.160960507
548	Sodium chloride, in ground	mg	2.988362428	x	0.885055730	6.452560510	0.068223959	7.880191266	0.088260276	10.998707825	0.294821163	0.518823914
549	Sodium dichromate	ng	0.326638277	x	0.470287679	1.720692800	0.036251827	1.730350163	0.046898426	3.377162118	0.156657661	0.003509641
550	Sodium formate	ng	0.009515683	x	0.009388364	1.941615655	0.000723696	2.108419367	0.000936234	3.624135863	0.003127361	0.060619144
551	Sodium formate	ng	0.022860843	x	0.022554970	4.664613202	0.001738636	5.065348945	0.002249246	8.706765394	0.007513292	0.145633796
552	Sodium hydroxide	ng	2.050592987	x	0.177464567	0.934550439	0.013679743	0.934581049	0.017697272	1.840461612	0.059115272	0.000011124
553	Sodium nitrate, in ground	pg	1.380974009	x	0.151005897	1.055482155	0.011640194	1.057393311	0.015058738	2.076356720	0.050301617	0.000694545
554	Sodium sulphate, various forms, in grou	µg	4.603015705	x	24.383665953	10.610279588	1.879599411	11.254176734	2.431608562	20.125053276	8.122449836	0.234002550
555	Sodium, ion	g	0.005623433	x	0.021980614	0.677091582	0.001694362	0.684726429	0.002191969	1.324321089	0.007321969	0.002774626
556	Solids, inorganic	mg	0.061121892	x	0.190422530	5.213459236	0.014678600	5.594228141	0.018989477	9.811561989	0.063431703	0.138377527
557	Solved solids	mg	0.010800428	x	0.071984660	5.411440236	0.005548892	5.522388247	0.007178515	10.524450499	0.023978830	0.040320287
558	Stibnite, in ground	pg	61.224940005	x	0.915471504	8.710567900	0.070568540	9.339652321	0.091293424	16.401504041	0.304952971	0.228619368
559	Strontium	µg	0.012681157	x	0.033217537	1.287429745	0.002560553	1.447136686	0.003312547	324.320068532	0.011065103	0.058040064
560	Strontium	mg	0.043242626	x	0.171353993	23.074723702	0.013208714	23.710808946	0.017087908	44.681810921	0.057079777	0.231163580
561	Strontium	ng	53.118132246	x	316.402848069	67.518042005	24.389712685	67.560510843	31.552592460	132.918793595	105.397041873	0.015433857
562	Strontium-89	µBq	0.326779129	x	0.092757310	7.317482629	0.007150138	9.240781801	0.009250023	12.108746949	0.030898414	0.698957766
563	Strontium-90	mBq	1.436032354	x	4.770343726	42.696468729	0.367718918	43.526933787	0.475712252	83.092080875	1.589050543	0.301804322
564	Styrene	ng	1.001660362	x	1.315516571	2.725748319	0.101405760	2.739309999	0.131187056	5.351789307	0.438212096	0.004928532
565	Sulfate	µg	3.020838326	x	4.661409243	27.652803613	0.359321772	30.379447838	0.464848996	51.195376233	1.552763346	0.990906243
566	Sulfate	g	0.005119017	x	0.012283367	4.908201184	0.000946856	4.924690088	0.001224932	9.646445496	0.004091716	0.005992332
567	Sulfide	ng	17.991998907	x	80.300388768	101.339912778	6.189904492	110.258291031	8.007783295	188.902604461	26.748885129	3.241081697
568	Sulfite	µg	0.071132115	x	0.213679775	1.906480522	0.016471370	1.921698601	0.021308755	3.736395106	0.071178930	0.005530494
569	Sulfur	µg	1.770452930	x	12.299357886	3.072987536	0.948088195	3.249469272	1.226526971	5.840668392	4.097042571	0.064136294
570	Sulfur	µg	3.186615298	x	18.844835901	4.873383997	1.452642212	4.925282351	1.879260667	9.535489350	6.277408597	0.018860694
571	Sulfur dioxide	g	0.000853832	x	0.005320605	0.370216626	0.000410135	0.484942922	0.000530586	1.641173385	0.001772348	0.041693376
572	Sulfur hexaflouride	µg	0.006954080	x	0.017399636	3.590064379	0.001341240	4.695899918	0.001735141	5.746525565	0.005795998	0.401878371
573	Sulfur trioxide	pg	6.233522854	x	5.131545813	463.944215686	0.395561951	463.944215686	0.511732352	913.689081458	1.709370672	x
574	Sulfur, in ground	µg	0.324870838	x	0.182377810	0.734419436	0.014058478	0.759079342	0.018187234	1.416842039	0.060751924	0.008961805
575	Sulfuric acid	pg	429.227526243	x	37.380294805	197.683981380	2.881436295	197.690392399	3.727669379	389.310020610	12.451760535	0.002329867
576	Sulfuric acid	pg	0.265086480	x	0.022904129	0.120482890	0.001765550	0.120486846	0.002284065	0.237273573	0.007629601	0.000001438
577	Suspended solids, unspecified	µg	150.350544539	x	974.846986570	354.311716797	75.145461109	372.942921378	97.214515818	675.477118026	324.731554378	6.770878566
578	Sylvite, 25 % in sylvinite, in ground	µg	1.910962704	x	0.846166152	24.590313203	0.065226181	26.476882773	0.084382097	46.169726914	0.281866645	0.685609640
579	t-Butyl methyl ether	ng	0.722894360	x	0.093724271	8.649378654	0.007224676	8.662525508	0.009346451	17.018269409	0.031220518	0.004777778
580	t-Butyl methyl ether	ng	20.171767698	x	146.286750240	35.308296146	11.276421277	37.561867384	14.588131051	66.838341923	48.729620592	0.818983933
581	t-Butylamine	pg	0.211359464	x	0.017198047	2.210243619	0.001325701	2.210243619	0.001715038	4.352841117	0.005728846	x
582	t-Butylamine	pg	0.507270283	x	0.041275943	5.304674787	0.003181730	5.304674787	0.004116154	10.446996127	0.013749441	x
583	Talc, in ground	µg	0.112973249	x	0.085240396	102.582856588	0.006570702	111.460705852	0.008500415	191.398970938	0.028394452	3.226352812
584	Tantalum, 81.9% in tantalite, 1.6E-4% i	ng	12.688344381	x	1.148813189	6.230969509	0.088555535	6.231159696	0.114562921	12.271007804	0.382681485	0.000069117
585	Tebutam	ng	0.060224429	x	0.004800150	1.102727927	0.000370016	1.175310247	0.000478685	2.084822301	0.001598979	0.026377579
586	Technetium-99m	µBq	0.423959876	x	0.063380327	1.116790505	0.004885632	1.124868567	0.006320467	2.189730940	0.021112638	0.002935697
587	Teflubenzuron	ng	0.002922511	x	0.000980809	1.359007998	0.000075605	1.476739293	0.000097809	2.535493793	0.000326717	0.042785441
588	Tellurium-123m	µBq	0.061966364	x	0.097988434	5.990950893	0.007553376	7.599087419	0.009771686	9.873544534	0.032640955	0.584422606
589	Tellurium-132	nBq	1.068060553	x	0.158369248	2.802932951	0.012207793	2.823235267	0.015793032	5.495777115	0.052754425	0.007378187
590	Tellurium, 0.5ppm in sulfide, Te 0.2ppm	ng	1.720736231	x	0.157674586	0.861610040	0.012154245	0.861635858	0.015723758	1.696818944	0.052523026	0.000009383
591	Terpenes	pg	326.478461665	x	569.929652784	256.295977303	43.932665483	261.400533382	56.835006938	498.637294828	189.849427227	1.855077550
592	Thallium	µg	0.000160297	x	0.000156695	0.008168387	0.000012079	0.008973602	0.000015626	3.783432113	0.000052197	0.000292628
593	Thallium	µg	0.022379801	x	0.025388952	14.678524579	0.001957091	17.644459187	0.002531859	25.357467203	0.008457321	1.077868206
594	Thiram	pg	1.486365566	x	2.594731079	1.166844247	0.200013198	1.190083870	0.258753967	2.270156813	0.864331601	0.008445652
595	Thorium	µg	0.000051716	x	0.000144489	0.008969300	0.000011138	0.009936730	0.000014409	3.450914431	0.000048131	0.000351580
596	Thorium-228	mBq	0.000315769	x	0.001035425	0.056037091	0.000079815	0.066151753	0.000103256	13.215783557	0.000344911	0.003675830
597	Thorium-228	mBq	2.662138424	x	13.442720000	3.321393517	1.036223537	3.529538539	1.340546295	6.291975550	4.477908247	0.075643239
598	Thorium-230	µBq	1.213540605	x	1.882004964	64.483366992	0.145073158	79.889307920	0.187678891	108.551683030	0.626915204	5.598766025
599	Thorium-230	mBq	0.801348448	x	1.166070806	43.855235918	0.089885828	54.345823805	0.116283899	73.810622270	0.388430175	3.812447894
600	Thorium-232	mBq	0.000445486	x	0.001432860	0.064019091	0.000110451	0.077286055	0.000142889	8.457718182	0.000477301	0.004821427
601	Thorium-232	µBq	0.610945777	x	1.864475590	16.980928104	0.143721917	17.163580802	0.185930812	33.223499529	0.621075989	0.066378920
602	Thorium-234	µBq	0.319378341	x	0.463575526	17.444047735	0.035734425	21.617488221	0.046229071	29.358442508	0.154421774	1.516695209
603	Thorium-234	µBq	5.873969380	x	8.547329086	321.472424632	0.658865437	398.372577091	0.852363981	541.053577743	2.847203200	27.946748787
604	Tin	µg	0.007360875	x	0.013557322	0.079243719	0.001045058	0.082733329	0.001351975	1.659208612	0.004516083	0.001268180
605	Tin	ng	0.030880397	x	0.006009770	0.681621588	0.000463259	0.745100870	0.000599311	1.266394570	0.002001916	0.023069389
606	Tin, 79% in cassiterite, 0.1% in crude o	µg	0.629812908	x	0.095309728	1.253895083	0.007346890	1.257440458	0.009504557	2.465167645	0.031748650	0.001288446
607	Tin, ion	µg	0.211639546	x	0.150730756	32.750838700	0.011618985	40.550721932	0.015031300	55.162561074	0.050209965	2.834602667
608	TiO2, 54% in ilmenite, 2.6% in crude o	µg	62.616117260	x	50.507657618	108.858163653	3.893350724	110.264572676	5.036767357	212.701113366	16.824620060	0.511111596
609	TiO2, 95% in rutile, 0.40% in crude ore	ng	0.881472388	x	0.018561199	0.558613412	0.001430778	0.562141536	0.001850976	1.095906694	0.006182926	0.001282177
610	Titanium	µg	0.092903785	x	0.128592277	2.714819668	0.009912454	2.907796382	0.012823588	909.032759243	0.042835410	0.070130833
611	Titanium	ng	2.020670070	x	5.483564383	49.915385311	0.422697079	50.291520295	0.546836646	97.852823371	1.826631677	0.136693486
612	Titanium, ion	mg	0.014734783	x	0.009678566	8.578414360	0.000746066	11.056428305	0.000965174	13.928004396	0.003224030	0.900550012
613	TOC, Total Organic Carbon	mg	0.734147760	x	4.647983485	1.379058983	0.358286856	1.461909497	0.463510141	2.616735533	1.548291088	0.030109205
614	Toluene	µg	2.231372418	x	9.087525055	56.190895730	0.700506100	72.041915824	0.906233861	210.938052753	3.027148032	5.760514933
615	Toluene	µg	1.663619936	x	8.527197668	2.091526819	0.657313619	2.223209963	0.850356419	3.961411009	2.840497218	0.047855767
616	Toluene, 2-chloro-	pg	0.275948010	x	0.191765699	17.337455677	0.014782137	17.337455677	0.019123421	34.144285919	0.063879126	x
617	Toluene, 2-chloro-	pg	0.525212905	x	0.397528074	36.081486895	0.030643199	36.081486895	0.039642631	71.058673657	0.132420689	x
618	Transformation, from arable	mm2	0.000224437	x	0.000128392	0.004242810	0.000009897	0.004504985	0.000012804	0.008041933	0.000042769	0.000095278
619	Transformation, from arable, non-irrigat	mm2	0.196362293	x	0.015651082	3.595061004	0.001206454	3.831689765	0.001560770	6.796839038	0.005213536	0.085994687
620	Transformation, from arable, non-irrigat	mm2	0.000054878	x	0.000010778	0.001124984	0.000000831	0.001208536	0.000001075	0.002115522	0.000003590	0.000030364
621	Transformation, from dump site, inert m	mm2	0.002892919	x	0.000505313	0.005937806	0.000038952	0.005941610	0.000050391	0.011689327	0.000168325	0.000001382
622	Transformation, from dump site, residu	mm2	0.000495214	x	0.001339150	0.432833158	0.000103228	0.568200321	0.000133544	0.690379567	0.000446085	0.049194598
623	Transformation, from dump site, sanita	mm2	0.000006194	x	0.000033840	0.000232691	0.000002609	0.000269165	0.000003375	0.000414601	0.000011273	0.000013255
624	Transformation, from dump site, slag c	mm2	0.000011700	x	0.000003100	0.000016528	0.000000239	0.000017360	0.000000309	0.000031555	0.000001033	0.000000302
625	Transformation, from forest	mm2	0.227773954	x	1.360293420	0.296581197	0.104857355	0.296586752	0.135652331	0.584078594	0.453127724	0.000002018
626	Transformation, from forest, extensive	mm2	0.020922100	x	0.034062161	11.475587928	0.002625660	11.486686275	0.003396776	22.586671955	0.011346456	0.004033317
627	Transformation, from forest, intensive,	mm2	0.000360352	x	0.000629061	0.000282887	0.000048491	0.000288522	0.000062732	0.000550372	0.000209547	0.000002048
628	Transformation, from industrial area	mm2	0.000278367	x	0.000755945	0.006650407	0.000058272	0.007914870	0.000075385	0.011583664	0.000251813	0.000459526
629	Transformation, from industrial area, b	mm2	0.000006298	x	0.000001077	0.000003944	0.000000083	0.000003944	0.000000107	0.000007768	0.000000359	0.000000000
630	Transformation, from industrial area, b	mm2	0.000000894	x	0.000004392	0.000002171	0.000000339	0.000002280	0.000000438	0.000004145	0.000001463	0.000000040
631	Transformation, from industrial area, v	mm2	0.000001525	x	0.000007492	0.000003704	0.000000578	0.000003890	0.000000747	0.000007071	0.000002496	0.000000068
632	Transformation, from mineral extraction	mm2	0.003435662	900.000000001	0.003090836	814.450715693	0.000238255	814.451275292	0.000308227	814.479749016	0.001029589	0.000203367
633	Transformation, from pasture and mea	mm2	0.006236411	900.000000001	0.004504894	814.874519893	0.000347257	815.010119326	0.000449241	815.152738944	0.001500627	0.049279009
634	Transformation, from pasture and mea	mm2	0.000160233	x	0.000012771	0.002933911	0.000000984	0.003127023	0.000001274	0.005546865	0.000004254	0.000070180
635	Transformation, from sea and ocean	mm2	0.056848055	x	0.400011903	0.102131291	0.030834664	0.102132191	0.039890325	0.201135663	0.133248078	0.000000327

No	Substance	Unit	TVA0, transport of fuel, at plant, ZA	TVA1, clay extraction, extracted clay, ZA	TVA2, mining fuel, stockpiled clay, ZA	TVA3, clay preparation, wet green brick, ZA rev1	TVA4, wet green brick transport, wet green brick ready for drying, ZA	TVA5, drying of wet green brick, dry green brick, ZA rev1	TVA6, dry green brick transport, at firing location, ZA	TVA7, brick firing, fired brick, ZA rev1	TVA8, fired brick transport, at sales bay, ZA	TVA9, factory overheads, additional water and electricity, ZA
636	Transformation, from shrub land, sclero	mm2	0.003970557	x	0.002606489	0.446173367	0.000200920	0.581730943	0.000259926	0.716423766	0.000868248	0.049263797
637	Transformation, from tropical rain fores	mm2	0.000360352	x	0.000629061	0.000282887	0.000048491	0.000288522	0.000062732	0.000550372	0.000209547	0.000002048
638	Transformation, from unknown	mm2	0.056929880	x	0.050668450	6.150864786	0.003905745	6.704577302	0.005052802	11.450662940	0.016878182	0.201228009
639	Transformation, to arable	mm2	0.001331592	x	0.004075945	0.028715969	0.000314192	0.029050605	0.000406465	0.056152451	0.001357739	0.000121612
640	Transformation, to arable, non-irrigated	mm2	0.196522731	x	0.015663871	3.597994826	0.001207440	3.834816687	0.001562046	6.802385742	0.005217796	0.086064863
641	Transformation, to arable, non-irrigated	mm2	0.000080400	x	0.000024803	0.001329847	0.000001912	0.001419991	0.000002473	0.002511072	0.000008262	0.000032760
642	Transformation, to dump site	mm2	0.001480794	x	0.003235038	1.269191542	0.000249371	1.408997770	0.000322607	2.332185256	0.001077624	0.050807826
643	Transformation, to dump site, benthos	mm2	0.056781418	x	0.399875176	0.102035523	0.030824124	0.102036243	0.039876691	0.200947272	0.133202532	0.000000262
644	Transformation, to dump site, inert mat	mm2	0.002892919	x	0.000505313	0.005937806	0.000038952	0.005941610	0.000050391	0.011689327	0.000168325	0.000001382
645	Transformation, to dump site, residual	mm2	0.000495228	x	0.001339152	0.432833375	0.000103228	0.568200538	0.000133544	0.690379995	0.000446085	0.049194598
646	Transformation, to dump site, sanitary l	mm2	0.000006194	x	0.000033840	0.000232691	0.000002609	0.000269165	0.000003375	0.000414601	0.000011273	0.000013255
647	Transformation, to dump site, slag com	mm2	0.000011700	x	0.000003100	0.000016528	0.000000239	0.000017360	0.000000309	0.000031555	0.000001033	0.000000302
648	Transformation, to forest	mm2	0.005076629	x	0.002399520	0.446299807	0.000184965	0.581836437	0.000239287	0.716697786	0.000799305	0.049256185
649	Transformation, to forest, intensive	mm2	0.002066057	x	0.000391843	0.076711879	0.000030205	0.083289085	0.000039076	0.143202756	0.000130527	0.002390262
650	Transformation, to forest, intensive, cle	mm2	0.000360352	x	0.000629061	0.000282887	0.000048491	0.000288522	0.000062732	0.000550372	0.000209547	0.000002048
651	Transformation, to forest, intensive, no	mm2	0.018390081	x	0.032974798	11.286111415	0.002541841	11.290414585	0.003288341	22.221652095	0.010984244	0.001563841
652	Transformation, to forest, intensive, sh	mm2	0.000360352	x	0.000629061	0.000282887	0.000048491	0.000288522	0.000062732	0.000550372	0.000209547	0.000002048
653	Transformation, to heterogeneous, agri	mm2	0.012140177	x	0.063220510	0.013827332	0.004873313	0.013827396	0.006304529	0.027231388	0.021059402	0.000000023
654	Transformation, to industrial area	mm2	0.002964931	x	0.005843189	2.434736885	0.000450418	2.434825762	0.000582699	4.794850504	0.001946426	0.000032299
655	Transformation, to industrial area, bent	mm2	0.000066637	x	0.000136727	0.000095769	0.000010540	0.000095948	0.000013635	0.000188391	0.000045545	0.000000065
656	Transformation, to industrial area, built	mm2	0.002798461	x	0.006410972	0.021155367	0.000494186	0.023666723	0.000639320	0.038657060	0.002135561	0.000912667
657	Transformation, to industrial area, vege	mm2	0.002607361	x	0.003206749	0.016645058	0.000247190	0.016646290	0.000319786	0.032779193	0.001068201	0.000000448
658	Transformation, to mineral extraction si	mm2	0.240170189	900.000000001	1.305996974	816.233674452	0.100671948	816.397142192	0.130237735	817.796090457	0.435041020	0.059406799
659	Transformation, to pasture and meado	mm2	0.000067753	450.000000000	0.000212397	407.210713584	0.000016372	407.210714793	0.000021181	407.211367720	0.000070752	0.000000439
660	Transformation, to permanent crop, fru	mm2	0.000207683	x	0.000356209	0.000140231	0.000027458	0.000141904	0.000035522	0.000274169	0.000118657	0.000000608
661	Transformation, to sea and ocean	mm2	0.000006298	x	0.000001077	0.000003944	0.000000083	0.000003944	0.000000107	0.000007768	0.000000359	0.000000000
662	Transformation, to shrub land, sclerop	mm2	0.003406027	x	0.001881404	0.439020182	0.000145027	0.574428454	0.000187619	0.702515048	0.000626715	0.049209538
663	Transformation, to traffic area, rail emb	mm2	0.000098075	x	0.000150576	0.027620750	0.000011607	0.027620755	0.000015016	0.054396142	0.000050159	0.000000002
664	Transformation, to traffic area, rail netw	mm2	0.000107801	x	0.000165510	0.030359999	0.000012758	0.030360004	0.000016505	0.059790802	0.000055133	0.000000002
665	Transformation, to traffic area, road em	mm2	0.003342619	x	0.000358376	0.111911115	0.000027625	0.112061993	0.000035738	0.220216500	0.000119379	0.000054832
666	Transformation, to traffic area, road net	mm2	0.013774927	x	0.017100001	0.012585144	0.001318143	0.012585234	0.001705261	0.024784990	0.005696186	0.000000032
667	Transformation, to unknown	mm2	0.001008764	x	0.000947800	0.007193471	0.000073061	0.008459985	0.000094517	0.012650650	0.000315722	0.000460271
668	Transformation, to urban, discontinuou	mm2	0.000002059	x	0.000002051	0.000056456	0.000000158	0.000056456	0.000000205	0.000111185	0.000000683	0.000000000
669	Transformation, to water bodies, artifici	mm2	0.005602397	450.000000000	0.003628633	408.024190810	0.000279711	408.272818871	0.000361858	408.515809400	0.001208735	0.090355425
670	Transformation, to water courses, artifi	mm2	0.003200809	x	0.003614931	0.015864103	0.000278655	0.016160057	0.000360491	0.030888406	0.001204171	0.000107554
671	Tributyltin compounds	ng	13.705284359	x	67.817124118	35.111777701	5.227639961	36.336868191	6.762916618	67.682451983	22.590581324	0.445217533
672	Triethylene glycol	ng	6.877848229	x	19.660482627	88.570573360	1.515515822	93.400097292	1.960599279	168.649191746	6.549108908	1.755126457
673	Trimethylamine	pg	0.019501887	x	0.001448018	0.090082169	0.000111620	0.090082169	0.000144400	0.177407306	0.000482350	x
674	Trimethylamine	pg	0.046804530	x	0.003475243	0.216197206	0.000267887	0.216197206	0.000346561	0.425777535	0.001157639	x
675	Tungsten	ng	0.435572398	x	0.633816990	5.756830593	0.048857380	5.756830593	0.063206034	11.337468833	0.211130956	x
676	Tungsten	µg	0.278883164	x	0.166979166	33.850026781	0.012871483	41.884479707	0.016651638	57.046507044	0.055622477	2.919849056
677	Ulexite, in ground	ng	16.937496198	x	35.744939993	298.603190729	2.755376008	298.604062179	3.564587143	588.066353668	11.907007033	0.000316699
678	Uranium	µg	0.000041482	x	0.000132777	0.011859060	0.000010235	0.013147232	0.000013241	4.314823668	0.000044229	0.000468142
679	Uranium-234	µBq	3.740835745	x	5.558462804	202.760477936	0.428470577	251.244160802	0.554305730	341.278532453	1.851581111	17.619747972
680	Uranium-234	µBq	7.047907048	x	10.255661836	385.709403212	0.790551182	477.974746687	1.022723785	649.168804035	3.416266404	33.530705640
681	Uranium-235	µBq	0.179721631	x	0.261519377	9.835589546	0.020159055	12.188355729	0.026079457	16.553804127	0.087114793	0.855032967
682	Uranium-235	mBq	0.011629047	x	0.016921842	0.636420500	0.001304409	0.788658312	0.001687494	1.071128502	0.005636840	0.055325663
683	Uranium-238	mBq	0.004859912	x	0.009124482	0.344645434	0.000703355	0.419509571	0.000909919	24.439185851	0.003039459	0.027206828
684	Uranium-238	mBq	0.022873149	x	0.047720590	1.016842382	0.003678511	1.249957970	0.004758833	1.723515437	0.015896219	0.084717943
685	Uranium alpha	mBq	0.017308589	x	0.025194045	0.946004282	0.001942067	1.172185128	0.002512422	1.592308437	0.008392396	0.082197747
686	Uranium alpha	mBq	0.338364978	x	0.492378295	18.516093770	0.037954668	22.945174953	0.049101365	31.163712302	0.164016273	1.609599139
687	Uranium, in ground	µg	1.314555129	x	1.887689406	70.887880647	0.145511340	87.841778815	0.188245760	119.311732497	0.628808750	6.161318514
688	Urea	pg	0.229756556	x	0.054343646	48.517618019	0.004189045	48.517618019	0.005419303	95.550319248	0.018102427	x
689	Vanadium	µg	0.270541416	x	1.184438776	3.606013253	0.091301711	3.764009679	0.118115606	92.772743946	0.394548734	0.057418435
690	Vanadium	ng	0.057837961	x	0.156956977	1.428736442	0.012098929	1.439502625	0.015652196	2.800857759	0.052283983	0.003912603
691	Vanadium, ion	mg	0.001474073	x	0.002959068	1.007484070	0.000228098	1.243464330	0.000295087	1.701656130	0.000985696	0.085759011
692	Vermiculite, in ground	µg	0.011030873	x	0.008078179	1.842626547	0.000622701	1.842626735	0.000805579	3.628857928	0.002690925	0.000000068
693	VOC, volatile organic compounds, unsp	µg	4.672729698	x	23.545395716	6.622905086	1.814981882	7.181842371	2.348013869	12.374041694	7.843213401	0.203126774
694	Volume occupied, final repository for lo	mm3	0.002666113	x	0.003889467	0.137376689	0.000299817	0.169568068	0.000387869	0.232014574	0.001295621	0.011698863
695	Volume occupied, final repository for ra	mm3	0.000610522	x	0.000982772	0.037083068	0.000075756	0.045991365	0.000098005	0.062367613	0.000327371	0.003237418
696	Volume occupied, reservoir	cm3y	2.522692428	x	2.277916954	542.120496680	0.175591782	705.900883461	0.227160361	871.597728455	0.758797558	59.520419390
697	Volume occupied, underground deposit	mm3	0.007538943	x	0.016354980	0.082535527	0.001260713	0.088074271	0.001630965	0.155914905	0.005448012	0.002012868
698	Water	mg	0.011177620	x	0.019304511	29.025880754	0.001488076	31.541091047	0.001925101	54.152602341	0.006430531	0.914067762
699	Water, cooling, unspecified natural orig	cm3	2.816546760	x	8.501063324	98.069818009	0.655299070	117.480881689	0.847750228	169.902363434	2.831791599	7.054291871
700	Water, fresh	cm3	x	x	x	x	x	x	x	x	x	22.336147000
701	Water, lake	cm3	0.011478948	x	0.008505894	2.961967124	0.000655671	3.284289910	0.000848232	5.447448601	0.002833401	0.117137270
702	Water, process, drinking	g	x	x	x	46.907892000	x	46.907892000	x	46.907892000	x	x
703	Water, rain	cm3	x	x	x	x	x	x	x	x	x	41.604900000
704	Water, river	cm3	0.714814469	x	1.622496459	137.254586768	0.125069110	166.642547045	0.161799964	204.615057037	0.540470253	10.680056111
705	Water, salt, ocean	cm3	0.109953487	x	0.469404793	4.813845347	0.036183770	5.947892538	0.046810382	8.122862237	0.156363563	0.412130938
706	Water, salt, sole	mm3	156.116126408	x	836.483717822	264.868080819	64.479816373	277.787412464	83.416536890	506.164730840	278.641326938	4.695092330
707	Water, turbine use, unspecified natural	dm3	0.929371816	x	1.213632241	39.920779934	0.093552071	48.991602077	0.121026861	67.761640062	0.404273378	3.296482252
708	Water, unspecified natural origin/m3	cm3	1.954505321	x	3.426285731	5.101714136	0.264113061	5.253368546	0.341678964	9.865742626	1.141331005	0.055113645
709	Water, well, in ground	cm3	0.222758702	x	0.394562185	133.688045108	0.030414576	137.054130644	0.039346864	160.796553971	0.131432721	1.223289472
710	Wood, hard, standing	mm3	0.643584528	x	1.392030448	289.695200427	0.107303783	289.886632312	0.138817238	570.294902914	0.463699655	0.069569417
711	Wood, primary forest, standing	mm3	0.003731079	x	0.006513302	0.002929016	0.000502074	0.002987352	0.000649525	0.005698555	0.002169648	0.000021200
712	Wood, soft, standing	mm3	1.503085307	x	2.894518368	33.686017071	0.223122111	34.565115827	0.288649609	65.288687604	0.964193829	0.319478587
713	Wood, unspecified, standing/m3	mm3	0.000034614	x	0.000035952	0.000052516	0.000002771	0.000053832	0.000003585	0.000101848	0.000011976	0.000000478
714	Xenon-131m	mBq	0.344606122	x	0.118023939	1.446346203	0.009097800	1.455382114	0.011769683	2.837609466	0.039314988	0.003283795
715	Xenon-133	mBq	12.473206153	x	3.740205822	48.045160337	0.288311391	48.352473138	0.372983969	94.251993798	1.245901015	0.111682401
716	Xenon-133m	µBq	15.487107409	x	16.398061690	154.842164055	1.264034176	155.660242230	1.635261379	303.965990167	5.462362950	0.297302730
717	Xenon-135	mBq	4.998746305	x	1.534619729	19.543622166	0.118295188	19.668106222	0.153036647	38.340083518	0.511197610	0.045239503
718	Xenon-135m	mBq	3.135546130	x	0.903112744	11.777190231	0.069615873	11.853065170	0.090060973	23.103104637	0.300836141	0.027574170
719	Xenon-137	µBq	96.059482502	x	17.103768854	275.254446499	1.318433164	277.186623839	1.705636506	539.771608957	5.697441262	0.702184235
720	Xenon-138	mBq	0.722834124	x	0.152180908	2.261377601	0.011730769	2.276788841	0.015175913	4.435096008	0.050693025	0.005600692
721	Xylene	µg	1.647249775	x	6.478646726	429.941564627	0.499402370	562.177044047	0.646069089	807.683912358	2.158103836	48.056494114
722	Xylene	µg	1.335065941	x	6.888973289	1.699074357	0.531032133	1.805675862	0.686988022	3.218541092	2.294787833	0.038740697
723	Zinc	µg	1.192555795	x	1.875912119	3.255679632	0.144603495	3.435128142	0.187071295	383.027831007	0.624885614	0.065214467
724	Zinc	µg	4.055648620	x	0.516878782	0.447426917	0.039843273	0.460080875	0.051544623	0.866012674	0.172177637	0.004598651
725	Zinc-65	nBq	0.766969417	x	0.113724236	2.012773381	0.008766361	2.027352381	0.011340904	3.946492506	0.037882712	0.005298243
726	Zinc-65	µBq	1.892218835	x	0.280573301	4.965788228	0.021627815	5.001756622	0.027979568	9.736538755	0.093461851	0.013071491
727	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag,	µg	92.735589878	x	27.415364404	201.988816967	2.113295961	209.050608578	2.733938160	389.342321455	9.132339762	2.566368334
728	Zinc, ion	mg	0.046527538	x	0.037209284	6.999938093	0.002868254	7.006343565	0.003710616	13.777970441	0.012394795	0.002327851
729	Zirconium	ng	0.409953477	x	0.892385915	1.266855981	0.068789002	1.267912908	0.088991263	2.493673647	0.297262923	0.000384104
730	Zirconium-95	nBq	0.749683487	x	0.111161123	1.967409566	0.008568785	1.981659985	0.011085304	3.857546598	0.037028913	0.005178831
731	Zirconium-95	nBq	21.912423484	x	3.249117318	57.505216896	0.250456146	57.921740963	0.324011226	112.751842656	1.082314385	0.151371527
732	Zirconium, 50% in zircon, 0.39% in cru	ng	17.417575319	x	1.512254099	7.981162886	0.116571147	7.981422964	0.150806282	15.717744917	0.503747389	0.000094517

Appendix 5.4: Inventory of emitted substances for the Hoffman kiln firing technology for the cradle to gate phase

No	Substance	Unit	H0, Hoffman, transport of fuel, at plant, ZA	H1, Hoffman, clay extraction, extracted clay, ZA	H2, Hoffman, mining fuel, stockpiled clay, ZA	H3, Hoffman, clay preparation, wet green brick, ZA rev1	H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA	H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1	H6, Hoffman, dry green brick transport, at firing location, ZA	H7, Hoffman, brick firing, fired brick, ZA rev1	H8, Hoffman, fired brick transport, at sales bay, ZA	H9, Hoffman, factory overheads, additional water and electricity, ZA
1	1-Butanol	pg	0.139706709	x	0.025126426	0.311139905	0.000639766	1.262243885	0.000639766	1.546473039	0.005921515	0.000000002
2	1-Butanol	ng	3.448071314	x	0.138411658	1.213159077	0.003524218	1.263148850	0.003524218	2.371358772	0.032619314	0.000000201
3	1-Pentanol	pg	0.132975099	x	0.015679488	23.905400097	0.000399229	24.396504253	0.000399229	46.234324116	0.003695167	x
4	1-Pentanol	pg	0.319141597	x	0.037630817	57.372965012	0.000958151	58.551630897	0.000958151	110.962402933	0.008868411	x
5	1-Pentene	pg	0.100486650	x	0.011848685	18.064850447	0.000301690	18.435967553	0.000301690	34.938387438	0.002792366	x
6	1-Pentene	pg	0.241169017	x	0.028436819	43.355519032	0.000724054	44.246218181	0.000724054	83.851914418	0.006701672	x
7	1-Propanol	pg	9.329891500	x	4.506010652	241.672570612	0.114731416	295.592618049	0.114731416	516.362812188	1.061926281	0.000000806
8	1-Propanol	pg	1.261903328	x	0.078043483	79.745108515	0.001987132	91.141593783	0.001987132	163.989540565	0.018392417	x
9	1,4-Butanediol	pg	11.350698672	x	0.595211527	4.855161626	0.015155193	7.810331894	0.015155193	12.245497520	0.140272807	0.000000636
10	1,4-Butanediol	pg	4.540312317	x	0.238086332	1.942078699	0.006062121	3.124155356	0.006062121	4.898234439	0.056109529	0.000000254
11	2-Aminopropanol	pg	0.068764498	x	0.002397652	0.401002423	0.000061049	1.200559519	0.000061049	1.566879203	0.000565052	x
12	2-Aminopropanol	pg	0.172929547	x	0.006015343	0.989824202	0.000153162	3.001709104	0.000153162	3.905923315	0.001417629	x
13	2-Butene, 2-methyl-	pg	0.000022289	x	0.000002628	0.004006997	0.000000067	0.004089316	0.000000067	0.007749747	0.000000619	x
14	2-Methyl-1-propanol	pg	0.319555953	x	0.047517134	41.396917289	0.001209875	43.055628893	0.001209875	80.872123025	0.011198308	x
15	2-Methyl-1-propanol	pg	0.766930248	x	0.114040251	99.350543063	0.002903677	103.331386582	0.002903677	194.089092100	0.026875733	x
16	2-Methyl-2-butene	pg	0.000053495	x	0.000006308	0.009616937	0.000000161	0.009814504	0.000000161	0.018599671	0.000001487	x
17	2-Nitrobenzoic acid	pg	0.123193582	x	0.004187853	0.432299771	0.000106631	1.876156413	0.000106631	2.271066534	0.000986947	x
18	2-Propanol	ng	204.757641413	x	8.134265085	70.726989219	0.207113525	73.407502753	0.207113525	138.015948572	1.916992776	0.000011908
19	2-Propanol	pg	0.559497679	x	0.029779698	13.155665925	0.000758247	18.982841734	0.000758247	31.000672911	0.007018147	x
20	2,4-D	pg	323.290785320	x	273.554074393	193.536223012	6.965195767	218.868670760	6.965195767	393.298981379	64.468170021	0.020745010
21	4-Methyl-2-pentanone	pg	0.449218662	x	0.035772114	0.380275465	0.000910825	0.496739279	0.000910825	0.833864878	0.008430372	0.000089924
22	Acenaphthene	pg	0.288327533	x	0.391361509	5.675924765	0.009964792	5.948232732	0.009964792	11.017439073	0.092231711	0.001015014
23	Acenaphthene	pg	214.440686115	x	498.416662595	171.533054615	12.690615690	195.752969014	12.690615690	344.994026266	117.461274217	0.065350257
24	Acenaphthylene	pg	13.411161840	x	31.171074221	10.727710277	0.793673553	12.242428384	0.793673553	21.575992849	7.346050747	0.004087018
25	Acetaldehyde	µg	0.568345364	x	0.089477544	1.600704497	0.002278265	9.679228645	0.002278265	11.127691277	0.021087069	0.000120923
26	Acetaldehyde	ng	6.480665774	x	0.268516131	5.110390436	0.006836920	5.698775059	0.006836920	10.367125524	0.063280884	0.000000366
27	Acetic acid	µg	0.864904764	x	0.914900975	4.308750501	0.023295081	4.612894657	0.023295081	8.482335427	0.215613647	0.000584127
28	Acetic acid	ng	51.320356140	x	28.511068830	86.856611958	0.725944866	106.171667137	0.725944866	184.720124041	6.719170376	0.006975943
29	Acetone	µg	0.301857125	x	0.086880709	0.929304859	0.002212145	0.970020042	0.002212145	1.809249385	0.020475076	0.000085016
30	Acetone	ng	0.058709489	x	0.002026224	0.274787763	0.000051591	0.950284753	0.000051591	1.201281642	0.000477518	0.000000214
31	Acetonitrile	ng	0.961121950	x	0.815382558	0.576033814	0.020761157	0.651517048	0.020761157	1.170673598	0.192160258	0.000061842
32	Acetonitrile	pg	0.582096540	x	0.019342374	2.149682167	0.000492493	8.992660775	0.000492493	10.956416718	0.004558395	x
33	Acetyl chloride	pg	0.250707634	x	0.029561599	45.070420641	0.000752693	45.996342812	0.000752693	87.168618662	0.006966747	x
34	Acidity, unspecified	ng	28.821286415	x	14.799070838	21.887645826	0.376811882	30.478526440	0.376811882	49.959125620	3.487679784	0.004504732
35	Aclonifen	ng	1.061665058	x	0.035095859	3.689787676	0.000893606	16.189505695	0.000893606	19.558441651	0.008271000	0.000015089
36	Acrolein	ng	0.205696709	x	0.171771402	1.202183278	0.004373620	2.399421961	0.004373620	3.244126775	0.040481166	0.002221864
37	Acrylate, ion	ng	1.253746974	x	0.049845553	0.433618099	0.001269161	0.450088918	0.001269161	0.846195023	0.011747043	0.000000073
38	Acrylic acid	pg	529.733197215	x	21.060745168	183.212332099	5.536245762	190.171584048	5.536245762	357.534346995	4.963361278	0.000030808
39	Actinides, radioactive, unspecified	µBq	0.092267549	x	0.039098933	1.025251166	0.000995532	1.238144918	0.000995532	1.787048878	0.009214400	0.003397838
40	Actinides, radioactive, unspecified	µBq	8.097223204	x	6.609481765	161.672850513	0.168289705	186.347584033	0.168289705	276.587150209	1.557648867	0.503533488
41	Aerosols, radioactive, unspecified	µBq	0.994217184	x	0.985317025	24.217734324	0.025088005	27.394490654	0.025088005	40.691962548	0.232208515	0.077354313
42	Aldehydes, unspecified	ng	8.692794003	x	6.162279776	51.517264717	0.156903110	61.602159801	0.156903110	92.763764679	1.452257296	0.139358043
43	Aldrin	pg	13.622822077	x	0.542497288	4.724585013	0.013812990	4.905045675	0.013812990	9.220910400	0.127849704	0.000000793
44	Aluminium	mg	0.021927175	x	0.017678601	29.225393900	0.000450130	29.631856479	0.000450130	103.329297993	0.004166295	0.016582659
45	Aluminium	mg	0.358424440	x	0.354026745	138.437315279	0.009014180	152.607713129	0.009014180	216.902712060	0.083433070	0.544891276
46	Aluminium	µg	13.689394961	x	37.483523486	15.407848171	0.954400258	398.643724020	0.954400258	412.657754256	8.833698312	0.000536315
47	Aluminium, 24% in bauxite, 11% in crude	mg	1.171402980	x	0.105952532	14.862168337	0.002697749	18.209027726	0.002697749	30.992676889	0.024969710	0.006951184
48	Ammonia	mg	0.028010493	x	0.037587351	11.612701716	0.000957044	12.004124142	0.000957044	21.862266679	0.008858167	0.006575062
49	Ammonium carbonate	ng	0.173130052	x	0.116086684	0.592571269	0.002955783	1.319272986	0.002955783	1.859394344	0.027358014	0.000010503
50	Ammonium, ion	µg	4.557154443	x	6.857309292	139.022794581	0.174599855	142.997823842	0.174599855	256.927588217	1.616054092	0.114545274
51	Anhydrite, in ground	ng	25.369270699	x	5.103187046	16.490951519	0.129936638	22.714846251	0.129936638	37.338760810	1.202662146	0.003862726
52	Aniline	pg	1.337721768	x	0.565474366	84.728815061	0.014398030	89.811070818	0.014398030	167.211682811	0.133264685	x
53	Aniline	pg	3.259998798	x	1.358861158	203.534424243	0.034599134	216.312437088	0.034599134	402.243150113	0.320241226	x
54	Anthranilic acid	pg	0.089800300	x	0.003058495	0.315339408	0.000077875	1.367489344	0.000077875	1.655555015	0.000720792	x
55	Antimony	µg	0.013671600	x	0.003217534	0.061361155	0.000081924	0.074263185	0.000081924	8.351305027	0.000758273	0.000033222
56	Antimony	µg	0.494845199	x	0.196513752	56.501683593	0.005003606	58.693888731	0.005003606	101.148151333	0.046312167	0.080289761
57	Antimony	pg	1.010577467	x	0.101481998	1.002163481	0.002583920	1.075641186	0.002583920	1.977577687	0.023916144	0.000118759
58	Antimony-122	nBq	29.707268623	x	2.027151084	58.256086537	0.051615039	133.233293712	0.051615039	186.199724609	0.477736334	0.002200642
59	Antimony-124	nBq	0.073685617	x	0.005028126	0.144497825	0.000128025	0.330470554	0.000128025	0.461847969	0.001184973	0.000005458
60	Antimony-124	µBq	2.331999462	x	1.074418279	30.180545341	0.027356689	37.348987290	0.027356689	53.101797311	0.253206904	0.103576087
61	Antimony-125	nBq	0.768971332	x	0.052472716	1.507956221	0.001336053	3.448737911	0.001336053	4.819771629	0.012366184	0.000056964
62	Antimony-125	µBq	2.224048774	x	0.978688419	34.481502543	0.024919228	42.510111690	0.024919228	57.215053532	0.230646359	0.147196544
63	AOX, Adsorbable Organic Halogen as Cl	ng	38.402436359	x	65.929579540	239.014668123	1.678689778	256.644409727	1.678689778	439.076586688	15.537547202	0.314741072
64	Argon-41	mBq	0.362343399	x	0.519943760	7.267573810	0.013238736	7.568067477	0.013238736	14.186232225	0.122534540	0.000182619
65	Arsenic	µg	0.110755565	x	0.067216977	0.798505222	0.001711469	1.077151633	0.001711469	123.247897246	0.015840947	0.000899630
66	Arsenic	ng	5.534322352	x	14.981336145	5.872074172	0.381452696	129.448588724	0.381452696	134.803483014	3.530634036	0.000081539
67	Arsenic, ion	µg	1.756217980	x	1.215114294	486.842153473	0.030939071	488.611849812	0.030939071	933.276076293	0.286364570	0.000621463
68	Arsine	pg	0.006174741	x	0.000245491	0.002135582	0.000006251	0.002216701	0.000006251	0.004167535	0.000057855	0.000000000
69	Atrazine	pg	3.573822009	x	0.142319183	1.239451425	0.003623711	1.286793627	0.003623711	2.419021044	0.033540196	0.000000208
70	Barite	µg	89.851321132	x	297.046902684	125.357250962	7.563366891	139.758839312	7.563366891	254.273390303	70.004697495	0.000004530
71	Barite, 15% in crude ore, in ground	mg	2.288692928	x	6.416252460	2.319785225	0.163369727	2.615300988	0.163369727	4.730480860	1.512110742	0.000034767
72	Barium	µg	0.037640617	x	0.041069286	1.875679031	0.001045700	2.044166885	0.001045700	414.410052459	0.009678751	0.005140317
73	Barium	mg	0.035558238	x	0.076727419	3.600154340	0.001953623	3.610944321	0.001953623	6.882502886	0.018082261	0.000150911
74	Barium	µg	6.772708471	x	18.682930829	6.591294310	0.475702184	7.439817172	0.475702184	13.460998124	4.402984543	0.000000272
75	Barium-140	nBq	50.020440959	x	3.413272067	98.090308361	0.086908258	224.335269478	0.086908258	313.518972804	0.804401852	0.003705392
76	Barium-140	nBq	130.133609940	x	8.879997974	255.192590941	0.226101272	583.632569160	0.226101272	815.653659745	2.092738777	0.009639979
77	Basalt, in ground	µg	137.213164155	x	56.583652332	283.856622852	1.440725080	399.296362157	1.440725080	658.561867816	13.335003425	0.000352594
78	Benomyl	pg	2.055349087	x	1.743686943	1.231842198	0.044397514	1.393262293	0.044397514	2.503473063	0.410932670	0.000132249
79	Bentazone	ng	0.541824771	x	0.017911304	1.883097074	0.000456055	8.262375364	0.000456055	9.981724551	0.004221136	0.000007701
80	Benzal chloride	pg	0.000075693	x	0.000006028	0.000064076	0.000000153	0.000083700	0.000000153	0.000140505	0.000001421	0.000000015
81	Benzaldehyde	ng	0.094595022	x	0.077939301	0.429386169	0.001984480	1.034519861	0.001984480	1.323181732	0.018367864	0.000907906
82	Benzene	mg	0.005007515	x	0.008942593	0.068843051	0.000227695	0.196509756	0.000227695	1.365364444	0.002107491	0.000318723
83	Benzene	µg	2.718997910	x	5.731473301	2.432014338	0.145933975	2.784384528	0.145933975	4.903249236	1.350729636	0.000901048
84	Benzene, 1-methyl-2-nitro-	pg	0.106384451	x	0.003616438	0.373314766	0.000092081	1.620164827	0.000092081	1.961191562	0.000852282	x
85	Benzene, 1,2-dichloro-	pg	2.360870289	x	0.098159962	47.537197350	0.002499335	73.493158913	0.002499335	116.918859664	0.023133244	x
86	Benzene, 1,2-dichloro-	ng	1.484596963	x	0.060334998	0.845667602	0.001536241	1.003919210	0.001536241	1.776435150	0.014219079	0.000000086
87	Benzene, chloro-	ng	30.545456317	x	1.241321419	15.231362337	0.031606353	17.297583715	0.031606353	31.211381906	0.292540773	0.000001771
88	Benzene, ethyl-	µg	0.851090039	x	1.670720839	0.605539035	0.042539661	4.651015209	0.042539661	5.178894144	0.393736834	0.000221632
89	Benzene, ethyl-	µg	0.827512725	x	1.923324053	0.661932961	0.048971409	0.755397055	0.048971409	1.331307052	0.453267539	0.000252180
90	Benzene, hexachloro-	ng	0.496691699	x	0.561195518	1.406456361	0.014289082	1.559137273	0.014289082	2.843512012	0.132256294	0.000003831
91	Benzene, pentachloro-	pg	7.501124453	x	1.789137948	13.959673374	0.045554781	63.053753151	0.045554781	75.406583124	0.421644056	0.003501203
92	Benzo(a)pyrene	ng	6.218772639	x	37.160448253	77.404321830	0.946174161	153.652904939	0.946174161	678.959873363	8.757559548	0.020463569
93	Beryllium	µg	0.000594955	x	0.000397916	0.012710714	0.000010132	0.013641761	0.000010132	5.781843027	0.000093776	0.000006616
94	Beryllium	µg	0.277276559	x	0.259128820	192.747671997	0.006597902	194.228816340	0.006597902	364.095037066	0.061068587	0.054434802
95	BOD5, Biological Oxygen Demand	mg	5.645572283	x	17.751897603	6.282002184	0.451996346	7.373382924	0.451996346	12.844237591	4.183569027	0.002347328
96	Borate	ng	0.031158157	x	0.003093191	4.381576998	0.000078758	4.552201291	0.000078758	8.554815294	0.000728969	x
97	Borax, in ground	ng	8.197687988	x	3.267565462	22.080241592	0.083198297	30.637475432	0.083198297	50.755900417	0.770063346	0.000456559
98	Boron	mg	0.000981280	x	0.001460951	0.058346132	0.000037199	0.065535677	0.000037199	2.646290193	0.000344301	0.000274906
99	Boron	µg	23.856242977	x	8.177489535	244.457660160	0.208214100	290.230417772	0.208214100	380.952487019	1.927179432	1.162132510
100	Boron	ng	156.436148258	x	388.029157786	212.129447764	9.879944407	332.262564488	9.879944407	526.040591838	91.446379560	0.000037753
101	Boron trifluoride	pg	0.000084506	x	0.000003360	0.000029227	0.000000086	0.000030337	0.000000086	0.000057035	0.000000792	0.000000000
102	Bromate	µg	0.165509545	x	0.081486838	0.592374663	0.002074807	0.706876547	0.002074807	1.017536624	0.019203908	0.002020088
103	Bromide	ng	2.113364787	x	0.460083911	225.966463681	0.011714593	236.680200903	0.011714593	443.102804449	0.108427439	x
104	Bromine	µg	0.109475934	x	0.160074814	12.045338120	0.004075803	21.771455272	0.004075803	67.401796464	0.037724645	0.076168380
105	Bromine	µg	24.748369862	x	56.418581436	47.439985241	1.436522068	54.983367383	1.436522068	75.052155181	13.296101359	0.203937928
106	Bromine, 0.0023% in water	ng	2.375921529	x	0.456489986	268.808302644	0.011623084	281.159396972	0.011623084	526.718444928	0.107580463	x
107	Butadiene	pg	6.213225155	x	0.542311467	17.807366935	0.013808259	18.255306304	0.013808259	34.518370787	0.127805912	0.000036300
108	Butane	µg	37.651652984	x	74.847643685	39.606254366	1.905760286	44.463388330	1.905760286	76.229595508	17.639256990	0.038691722
109	Butene	µg	0.848833836	x	1.668979526	0.581645091	0.042495324	0.664348782	0.042495324	1.170513617	0.393326460	0.000220640
110	Butene	ng	0.827181069	x	0.058685521	1.000327924	0.001494243	1.048787787	0.001494243	1.940492874	0.013830348	0.000193738
111	Butyl acetate	ng	4.482099901	x	0.179859782	1.576104276	0.004579565	1.637943443	0.004579565	3.077700527	0.042387345	0.000000261
112	Butyrolactone	pg	3.167205906	x	0.128635132	1.135096017	0.003275290	1.181258162	0.003275290	2.218158547	0.030315292	0.000000185
113	Butyrolactone	pg	7.601432674	x	0.308729927	2.724280033	0.007860838	2.835071186	0.007860838	5.323677411	0.072758022	0.000000443
114	Cadmium	µg	0.054907287	x	0.068098957	0.174647303	0.001733926	0.301562236	0.001733926	7.674145064	0.016048802	0.000056855
115	Cadmium	ng	3.947874782	x	0.100037165	1.642275348	0.002547132	263.413454430	0.002547132	264.889480001	0.023575642	0.000212186
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb	µg	4.118499565	x	0.028736890	1.871304124	0.000731695	2.551511447	0.000731695	4.260976946	0.006772389	-0.000000094
117	Cadmium, ion	µg	0.618736090	x	0.257476194	85.904534843	0.006555823	87.151912530	0.006555823	165.596592225	0.060679115	0.000262627
118	Calcite, in ground	mg	52.176112242	x	27.959007221	208.937748815	0.711888350	224.449783921	0.711888350	414.743395449	6.589066659	0.005022368
119	Calcium	mg	0.001285769	x	0.001097290	0.021013823	0.000027939	0.789365841	0.000027939	6.565142113	0.000258597	0.000006704
120	Calcium	mg	0.055501138	x	0.150940941	0.075225576	0.003843237	5.291335915	0.003843237	5.359779735	0.035572076	0.000002415
121	Calcium, ion	g	0.004606086	x	0.006277349	2.152517745	0.000159833	2.171353742	0.000159833	4.134982056	0.001479376	0.000023822
122	Carbetamide	ng	0.194283653	x	0.006728353	1.363639086	0.000171316	3.631160914	0.000171316	4.831425967	0.001585663	0.000398204
123	Carbofuran	ng	1.126820625	x	0.955955572	0.675342793	0.024340408	0.763839435	0.024340408	1.372499248	0.225288936	0.000072504
124	Carbon	µg	41.492231052	x	112.489635951	50.793940859	2.864195453	276.194135634	2.864195453	321.884685473	26.510301454	0.006224815
125	Carbon-14	mBq	6.323516263	x	4.021444200	98.759279890	0.102393452	117.221302413	0.102393452	173.423091392	0.947729070	0.298138123
126	Carbon dioxide, biogenic	g	0.005324334	x	0.005268766	0.077075119	0.000134153	12.749803751	0.000134153	12.818327810	0.001241684	0.000016520
127	Carbon dioxide, fossil	g	2.047781092	x	4.179924697	21.292292946	0.106428661	24.748918229	0.106428661	462.913729867	0.985077984	0.134725927

No	Substance	Unit	H0, Hoffman, transport of fuel, at plant, ZA	H1, Hoffman, clay extraction, extracted clay, ZA	H2, Hoffman, mining fuel, stockpiled clay, ZA	H3, Hoffman, clay preparation, wet green brick, ZA rev1	H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA	H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1	H6, Hoffman, dry green brick transport, at firing location, ZA	H7, Hoffman, brick firing, fired brick, ZA rev1	H8, Hoffman, fired brick transport, at sales bay, ZA	H9, Hoffman, factory overheads, additional water and electricity, ZA
128	Carbon dioxide, in air	g	0.006215167	x	0.005761056	0.737171314	0.000146687	13.517632824	0.000146687	14.189774180	0.001357701	0.000011148
129	Carbon dioxide, land transformation	µg	21.672801526	x	22.671828206	162.528291061	0.577266934	168.485385417	0.577266934	316.423527933	5.343043341	0.004672064
130	Carbon disulfide	µg	2.109905314	x	0.561845957	6.453246808	0.014305644	8.608768612	0.014305644	14.479525382	0.132409582	0.000213401
131	Carbon disulfide	ng	0.011033141	x	0.001686977	2.762351496	0.000042954	2.767153602	0.000042954	5.290589066	0.000397568	x
132	Carbon monoxide, biogenic	mg	0.002120618	x	0.000899479	0.105536166	0.000022902	44.531303960	0.000022902	44.563408979	0.000211979	0.000563599
133	Carbon monoxide, fossil	g	0.005027104	x	0.014771347	0.026563182	0.000376106	0.030638961	0.000376106	22.899013898	0.003481146	0.000021886
134	Carbon, in organic matter, in soil	µg	1.423320408	x	1.207495714	0.853045426	0.030745088	0.964828147	0.030745088	1.733644332	0.284569108	0.000091582
135	Carbonate	µg	0.579292261	x	0.146276379	2.179411878	0.003724469	2.937527215	0.003724469	4.285299316	0.034472784	0.005636944
136	Carboxylic acids, unspecified	µg	142.617698570	x	347.473843665	119.328904810	8.847330643	136.071217134	8.847330643	239.935705569	81.888755929	0.045082454
137	Cerium-141	nBq	12.126086431	x	0.827454375	23.779309678	0.021068528	54.383944027	0.021068528	76.004091166	0.195005209	0.000898271
138	Cerium-141	nBq	52.029544409	x	3.550368362	102.030169179	0.090398985	233.345840936	0.090398985	326.111665516	0.836711176	0.003854221
139	Cerium-144	nBq	15.839494977	x	1.080848247	31.061320455	0.027520408	71.038105691	0.027520408	99.279056654	0.254722247	0.001173351
140	Cerium, 24% in bastnasite, 2.4% in crude	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
141	Cesium	ng	34.475994487	x	80.131296212	27.577661439	2.040291911	31.471538334	2.040291911	55.465277367	18.884449225	0.010506472
142	Cesium-134	nBq	0.580761566	x	0.039629743	1.138876027	0.001009047	2.604641219	0.001009047	3.640107244	0.009339495	0.000043021
143	Cesium-134	µBq	1.109985783	x	0.903811647	33.286052089	0.023012726	38.679451234	0.023012726	51.434533029	0.213000238	0.154714939
144	Cesium-136	nBq	9.234228395	x	0.630121072	18.108363160	0.016044055	41.414331315	0.016044055	57.878454170	0.148499899	0.000684049
145	Cesium-137	nBq	10.295014495	x	0.702506514	20.188569443	0.017887123	46.171821059	0.017887123	64.527267360	0.165558892	0.000762629
146	Cesium-137	mBq	0.945053232	x	0.760331868	18.626516834	0.019359464	21.502927017	0.019359464	31.897310417	0.179186526	0.058032151
147	Chloramine	pg	0.608960824	x	0.059879475	84.451794940	0.001524643	87.841000952	0.001524643	164.988552442	0.014111726	x
148	Chloramine	ng	0.005508952	x	0.000536793	0.753830977	0.000013668	0.784957855	0.000013668	1.473589923	0.000126505	x
149	Chlorate	µg	1.298319263	x	0.684381728	4.662508859	0.017425632	5.606648761	0.017425632	8.080939077	0.161287444	0.015644614
150	Chloride	g	0.018834757	x	0.041709650	1.101865075	0.001062005	1.119460521	0.001062005	2.054829822	0.009829665	0.000624006
151	Chloride	mg	3.767988646	x	0.145687264	0.184572473	0.003709469	0.283039309	0.003709469	0.451646410	0.034333948	0.000000014
152	Chlorinated solvents, unspecified	ng	0.961007705	x	0.437779602	2.646872874	0.011146683	4.400210850	0.011146683	6.303979186	0.103171009	0.004506594
153	Chlorine	µg	0.776529309	x	0.499001077	1.074383860	0.012705496	24.951679625	0.012705496	25.887289729	0.117599003	0.000401862
154	Chlorine	µg	0.015095516	x	0.005199987	2.229053620	0.000132401	2.298827456	0.000132401	4.012143518	0.001225475	0.002830529
155	Chloroacetic acid	ng	0.165099802	x	0.008809013	2.130033048	0.000224294	2.680602237	0.000224294	4.626408531	0.002076010	x
156	Chloroacetic acid	ng	12.049242973	x	0.409443038	51.468941818	0.010425182	189.583691112	0.010425182	236.601079100	0.096492964	x
157	Chloroacetyl chloride	pg	0.230631177	x	0.008022496	1.320115241	0.000204268	4.003307874	0.000204268	5.209246220	0.001890652	x
158	Chloroform	ng	0.559332402	x	0.064407411	1.229001392	0.001639933	1.513825037	0.001639933	2.455818826	0.015178820	0.001583879
159	Chloroform	pg	70.303804069	x	2.806300629	48.397961292	0.071453636	51.212397406	0.071453636	95.423951114	0.661357600	0.000004059
160	Chlorosilane, trimethyl-	pg	77.302485464	x	28.331751100	143.499707660	0.721379103	200.650073622	0.721379103	331.738364056	6.676910775	0.000000556
161	Chlorosulfonic acid	pg	0.848814732	x	0.028205103	3.134671825	0.000718154	13.113121419	0.000718154	15.976675166	0.006647064	x
162	Chlorosulfonic acid	pg	2.116730921	x	0.070336444	7.817085883	0.001790897	32.700835202	0.001790897	39.841820549	0.016576108	x
163	Chlorothalonil	µg	0.002481825	x	0.000383548	0.687268518	0.000009766	0.696857169	0.000009766	1.280202263	0.000090390	0.000389867
164	Chromium	µg	0.453327898	x	1.536888103	5.302041327	0.039132031	7.218811931	0.039132031	52.693038382	0.362196629	0.000717769
165	Chromium	µg	0.086796801	x	0.188032933	0.085136706	0.004787668	3.675605479	0.004787668	3.753075375	0.044313502	0.000002659
166	Chromium-51	nBq	0.777037466	x	0.053023129	1.523773944	0.001350068	3.484913483	0.001350068	4.870328675	0.012495899	0.000057561
167	Chromium-51	µBq	9.936687891	x	1.132515198	40.364682713	0.028835944	67.549894223	0.028835944	91.327976562	0.266898537	0.114777704
168	Chromium VI	ng	9.919327455	x	36.228011011	168.506481501	0.922432574	212.695366352	0.922432574	769.799931815	8.537813149	0.070702052
169	Chromium VI	mg	0.009876873	x	0.011620294	1.059635856	0.000295874	1.071626710	0.000295874	2.003253919	0.002738541	0.000318690
170	Chromium VI	µg	0.117919521	x	0.079738684	0.453360734	0.002030295	1.036785584	0.002030295	1.450933788	0.018791923	0.000000011
171	Chromium, 25.5% in chromite, 11.6% in c	mg	0.102898454	x	0.413599994	1.439953933	0.010531025	1.839048759	0.010531025	3.147179735	0.097472629	0.000063817
172	Chromium, ion	ng	147.348950478	x	254.828138664	290.401630408	6.488398598	336.804897981	6.488398598	545.984006316	60.055050564	0.491749060
173	Chrysotile, in ground	ng	32.682255959	x	15.268310664	113.211484745	0.388759601	135.204610503	0.388759601	195.010667350	3.598264987	0.382261379
174	Cinnabar, in ground	ng	2.882995510	x	1.448950763	10.377666886	0.036892983	13.204064871	0.036892983	18.657551912	0.341472538	0.035292058
175	Clay, bentonite, in ground	mg	0.877250729	x	1.109477995	2.108617163	0.028249374	2.550335855	0.028249374	4.390969206	0.261469387	0.000750339
176	Clay, unspecified, in ground	oz	0.000527031	47.267114223	0.000150937	36.405017974	0.000003843	36.405110060	0.000003843	36.407139261	0.000035571	0.000000012
177	Coal, brown, in ground	g	0.037109304	x	0.056067235	0.792910472	0.001427576	0.820325859	0.001427576	1.541848745	0.013213300	0.000024617
178	Coal, hard, unspecified, in ground	g	0.069383080	x	0.078118008	121.765133717	0.001989030	124.059374891	0.001989030	224.327411801	0.018409980	0.096110341
179	Cobalt	µg	0.036136013	x	0.082770820	0.307511890	0.002107499	0.342641022	0.002107499	21.167795445	0.019506503	0.000155191
180	Cobalt	mg	0.004573084	x	0.005616640	2.378522121	0.000143010	2.386100414	0.000143010	4.548322088	0.001323667	0.000092747
181	Cobalt	ng	0.099134416	x	0.088066370	1.673009301	0.002242334	331.845626960	0.002242334	333.338864813	0.020754499	0.000307401
182	Cobalt-57	µBq	0.293129243	x	0.020002420	0.574827756	0.000509299	1.314647101	0.000509299	1.837280467	0.004713947	0.000021714
183	Cobalt-58	nBq	1.082056786	x	0.073836898	2.121918194	0.001880025	4.852886057	0.001880025	6.782133970	0.017401056	0.000080156
184	Cobalt-58	µBq	45.064756242	x	8.512176537	256.898642347	2.216735854	381.143052471	2.216735854	531.326905677	2.006054728	0.740578387
185	Cobalt-60	nBq	9.558964930	x	0.652280297	18.745172963	0.016608270	42.870733076	0.016608270	59.913843372	0.153722138	0.000708105
186	Cobalt-60	µBq	39.584669558	x	6.655458662	211.041337186	0.169460362	320.568799334	0.169460362	442.201695860	1.568484189	0.623656046
187	Cobalt, in ground	ng	14.758325662	x	33.497620338	8.928981370	0.852911747	10.334818882	0.852911747	18.029676623	7.894345160	0.004048016
188	COD, Chemical Oxygen Demand	mg	5.986361568	x	18.151581485	7.123992006	0.462173041	8.829859168	0.462173041	15.046164820	4.277762062	0.002555183
189	Colemanite, in ground	µg	2.701933843	x	0.256813864	2.247781761	0.006538959	3.121202244	0.006538959	5.018515733	0.060523024	0.001367796
190	Copper	µg	4.733150323	x	2.161950920	3.141029631	0.055047293	6.563892321	0.055047293	80.148370366	0.509504455	0.000958535
191	Copper	µg	0.322898135	x	0.053094194	0.331766160	0.001351877	3.683454956	0.001351877	3.984429077	0.012512647	0.000018384
192	Copper, 0.99% in sulfide, Cu 0.36% and	µg	19.477251337	x	3.854370236	62.813867499	0.098139438	84.848552148	0.098139438	142.118889500	0.908354943	0.000970685
193	Copper, 1.18% in sulfide, Cu 0.39% and	µg	106.289839310	x	21.228994859	347.701128673	0.540529712	469.883458489	0.540529712	786.899349225	5.003012487	0.005368523
194	Copper, 1.42% in sulfide, Cu 0.81% and	µg	28.194898573	x	5.631294178	92.232692636	0.143383229	124.643301649	0.143383229	208.736296471	1.327120538	0.001424077
195	Copper, 2.19% in sulfide, Cu 1.83% and	mg	0.142375516	x	0.028021065	0.458148589	0.000713468	0.618855639	0.000713468	1.036573409	0.006603692	0.000007060
196	Copper, ion	mg	0.007239621	x	0.004100166	1.466259262	0.000104398	1.482384529	0.000104398	2.812177752	0.000966281	0.000084572
197	Cumene	ng	187.809976655	x	128.400783074	277.691029086	3.269322867	318.085050067	3.269322867	560.321113340	30.260062960	0.100244850
198	Cumene	µg	0.451303987	x	0.308544918	0.667280924	0.007856128	0.764345808	0.007856128	1.346431986	0.072714421	0.000240865
199	Cyanide	ng	22.139507548	x	20.806039614	88.317539998	0.529760485	129.076850812	0.529760485	208.345681185	4.903335117	0.012359205
200	Cyanide	µg	0.381537956	x	0.290140440	0.629406416	0.007387515	0.763421543	0.007387515	1.335015258	0.068377059	0.000029583
201	Cyanoacetic acid	pg	0.695147235	x	0.023098914	2.567178182	0.000588141	10.739151905	0.000588141	13.084294590	0.005443694	x
202	Cypermethrin	pg	163.402833166	x	135.139637094	145.288745589	3.440906630	207.332316649	3.440906630	336.585809646	31.848200836	0.030406348
203	Diatomite, in ground	ng	1.526565095	x	0.010502630	0.135226519	0.000267416	0.183093895	0.000267416	0.299651749	0.002475142	0.000061115
204	Dichromate	ng	3.076424866	x	2.079103497	11.831697782	0.052937844	27.030322495	0.052937844	37.838485207	0.489979899	0.000001839
205	Diethylamine	pg	0.631801862	x	0.252127255	37.852425257	0.006419629	40.553102200	0.006419629	75.131667687	0.059418536	x
206	Diethylamine	pg	1.516344061	x	0.605115996	90.847420421	0.015407379	97.329072372	0.015407379	180.319090979	0.142606982	x
207	Dimethyl malonate	pg	0.871712900	x	0.028965982	3.219234830	0.000737528	13.466869446	0.000737528	16.407672335	0.006826379	x
208	Dimethylamine	pg	6.071412247	x	0.428684697	56.793252633	0.010915110	123.505838294	0.010915110	175.387037103	0.101027623	x
209	Dinitrogen monoxide	mg	0.072112122	x	0.143523741	1.385281558	0.003654382	1.926441379	0.003654382	9.389309980	0.033824073	0.005754740
210	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	0.000549013	x	0.000663232	0.002944022	0.000016887	0.007639454	0.000016887	2.293818517	0.000156303	0.000010263
211	Dipropylamine	pg	0.362727898	x	0.159703699	23.956086441	0.004066353	25.204484400	0.004066353	47.088606704	0.037637185	x
212	Dipropylamine	pg	0.870555134	x	0.383291138	57.494941421	0.009759306	60.491151940	0.009759306	113.013350550	0.090329776	x
213	DOC, Dissolved Organic Carbon	mg	1.893262100	x	5.532620941	2.291795060	0.140870824	2.953203948	0.140870824	4.952209234	1.303866332	0.000828896
214	Dolomite, in ground	µg	108.604311242	x	152.267194138	356.414630309	3.877006103	445.273362717	3.877006103	770.802198079	35.884632251	0.000520982
215	Energy, gross calorific value, in biomass	kJ	0.061166610	x	0.053904841	7.964417393	0.001372518	149.722906335	0.001372518	156.984580454	0.012703691	0.000121825
216	Energy, gross calorific value, in biomass,	J	0.098677749	x	0.083714783	0.059140992	0.002131534	0.066890802	0.002131534	0.120192258	0.019728965	0.000006349
217	Energy, kinetic (in wind), converted	J	14.841336704	x	23.032613391	321.080094954	0.586453196	331.229093050	0.586453196	623.624575308	5.428069165	0.008014063
218	Energy, potential (in hydropower reservoi	kJ	0.341950744	x	0.169558192	7.137613612	0.004317267	8.652652253	0.004317267	11.188668537	0.039959581	0.034920874
219	Energy, solar, converted	J	0.374955970	x	0.331815176	4.790541352	0.008448632	5.357060399	0.008448632	9.719869721	0.078198496	0.000117425
220	Ethane	mg	0.015175351	x	0.032372418	0.084793196	0.000824262	0.091073832	0.000824262	3.585902979	0.007629170	0.000084327
221	Ethane, 1,1-difluoro-, HFC-152a	ng	0.134241654	x	0.122142056	1.753710053	0.003109964	1.951378303	0.003109964	3.553407136	0.028785076	0.000000023
222	Ethane, 1,1,1-trichloro-, HCFC-140	pg	0.891252052	x	0.377411677	9.896454683	0.009609604	11.952276543	0.009609604	17.250907732	0.088944170	0.032796431
223	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	4.693817755	x	0.017162357	0.152981141	0.000436986	0.186396067	0.000436986	0.324951127	0.004044633	0.000010471
224	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CF	pg	25.140934139	x	0.999534769	8.695185871	0.025450015	9.025469133	0.025450015	16.968440631	0.235559195	0.000001462
225	Ethane, 1,2-dichloro-	ng	14.323719588	x	9.327178571	44.252491367	0.237487323	60.193170670	0.237487323	99.594920813	2.198125308	0.008969245
226	Ethane, 1,2-dichloro-	ng	0.688299972	x	0.894987518	8.388265153	0.022788048	9.486174698	0.022788048	15.321316804	0.210920666	0.016018547
227	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-,	ng	2.940346496	x	1.633108712	44.090489147	0.041581987	53.207325025	0.041581987	76.503230759	0.384872828	0.148835020
228	Ethane, hexafluoro-, HFC-116	ng	29.537519141	x	1.795660055	354.963976242	0.045720846	434.747610925	0.045720846	739.961295050	0.423181113	0.166962448
229	Ethanol	µg	0.081565436	x	0.120806860	1.325413100	0.003075967	1.380627916	0.003075967	2.568789931	0.028470412	0.000198222
230	Ethanol	ng	8.085347744	x	0.326972179	3.768553310	0.008325320	5.591657960	0.008325320	9.034216017	0.077057153	0.000000462
231	Ethene	mg	0.002927296	x	0.004592388	0.024010597	0.000116931	0.025284796	0.000116931	6.899363319	0.001082283	0.000016103
232	Ethene	ng	164.360742795	x	128.624769690	146.463763866	3.275025983	186.745502123	3.275025983	316.722948643	30.312849625	0.033469183
233	Ethene, chloro-	ng	5.224672571	x	2.712696978	25.093094533	0.069070313	35.339764652	0.069070313	58.197587385	0.639298136	0.000569414
234	Ethene, chloro-	pg	47.888877595	x	23.174094150	382.327247416	0.590055560	518.649411001	0.590055560	863.634133865	5.461411770	0.037468994
235	Ethene, tetrachloro-	pg	2.115534545	x	0.917511535	22.773337881	0.023361551	27.360022727	0.023361551	40.123995652	0.216228875	0.070465510
236	Ethyl acetate	ng	950.136918721	x	38.127676806	333.809478993	0.970801600	346.885528406	0.970801600	651.817480008	8.985505174	0.000055305
237	Ethyl acetate	pg	2.069256101	x	0.665872624	97.561335364	0.016954356	102.363241111	0.016954356	191.486483946	0.156925425	0.000000031
238	Ethyl cellulose	ng	1.923161976	x	0.076446396	0.664946549	0.001946467	0.690189411	0.001946467	1.297611901	0.018016033	0.000000112
239	Ethylamine	pg	0.300524144	x	0.026239944	28.141713318	0.000668118	30.303366147	0.000668118	56.011100116	0.006183937	x
240	Ethylamine	pg	0.721262738	x	0.062976332	67.540506469	0.001603495	72.728507283	0.001603495	134.427429195	0.014841559	x
241	Ethylene diamine	ng	0.009768849	x	0.000387378	0.593374805	0.000009863	0.596151096	0.000009863	1.129226843	0.000091293	0.000078690
242	Ethylene diamine	ng	0.023638026	x	0.000932365	1.427459864	0.000023740	1.434171114	0.000023740	2.716404951	0.000219729	0.000190763
243	Ethylene oxide	ng	2.816099711	x	1.653646490	2.318698265	0.042104917	2.696219632	0.042104917	4.758829372	0.389712942	0.000486826
244	Ethylene oxide	ng	0.625940184	x	0.026200907	0.400436479	0.000667124	0.819968994	0.000667124	1.180930633	0.006174737	0.000042430
245	Ethyne	mg	0.000048386	x	0.000057906	0.003421302	0.000001474	0.003526059	0.000001474	1.148687768	0.000013647	0.000002577
246	Feldspar, in ground	ng	0.083934057	x	0.027275271	1.448898889	0.000694479	113.901368940	0.000694479	115.220889479	0.006427931	0.000035610
247	Fenpiclonil	ng	0.134291641	x	0.016306364	27.177854537	0.000415190	27.986008799	0.000415190	51.062184893	0.003842902	0.015345379
248	Fluoride	mg	0.140013820	x	0.026400430	1.862286470	0.000672204	1.937504671	0.000672204	3.533984899	0.006221759	0.000917987
249	Fluoride	µg	0.756993448	x	1.922154803	0.965769510	0.048941638	1.444990713	0.048941638	2.327228015	0.452991983	0.000000023
250	Fluorine	µg	0.181742347	x	0.125669581	1.783926366	0.003199781	8.650935067	0.003199781	10.280318664	0.029616404	0.000002198
251	Fluorine, 4.5% in apatite, 1% in crude ore	µg	1.636105800	x	3.667880502	2.834883688	0.093391063	3.216626316	0.093391063	5.718286998	0.864405125	0.000771587
252	Fluorine, 4.5% in apatite, 3% in crude ore	µg	0.807094384	x	1.618096478	1.762514325	0.041199747	2.794192609	0.041199747	4.353150250	0.381334912	0.000448021
253	Fluorspar, 92%, in ground	µg	46.536017985	x	102.354409721	159.979280998	2.606133734	187.307952451	2.606133734	304.268265295	24.121744496	0.255774390
254	Fluosilicic acid	ng	32.492563546	x	2.014619166	414.107035474	0.051295953	507.320443388	0.051295953	863.347320970	0.474782952	0.195137244

No	Substance	Unit	H0, Hoffman, transport of fuel, at plant, ZA	H1, Hoffman, clay extraction, extracted clay, ZA	H2, Hoffman, mining fuel, stockpiled clay, ZA	H3, Hoffman, clay preparation, wet green brick, ZA rev1	H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA	H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1	H6, Hoffman, dry green brick transport, at firing location, ZA	H7, Hoffman, brick firing, fired brick, ZA rev1	H8, Hoffman, fired brick transport, at sales bay, ZA	H9, Hoffman, factory overheads, additional water and electricity, ZA
255	Fluosilicic acid	µg	0.058486614	x	0.003626315	0.745392662	0.000092333	0.913176796	0.000092333	1.554025176	0.000854609	0.000351247
256	Formaldehyde	µg	1.468999100	x	0.436299360	17.714137246	0.011108994	37.045911198	0.011108994	500.486420553	0.102822162	0.084786283
257	Formaldehyde	ng	28.417467604	x	16.576347850	49.225782274	0.422064662	58.537607687	0.422064662	101.518788928	3.906528586	0.017415852
258	Formamide	pg	0.243200014	x	0.028676503	43.721065922	0.000730157	44.619246523	0.000730157	84.558873466	0.006758158	x
259	Formamide	pg	0.583693888	x	0.068825515	104.933625080	0.001752426	107.089283474	0.001752426	202.947189752	0.016220029	x
260	Formate	ng	0.168773844	x	0.006319760	1.343289723	0.000160913	3.279395034	0.000160913	4.506503503	0.001489370	x
261	Formic acid	ng	7.618546513	x	5.500871248	4.276499373	0.140062418	4.797193502	0.140062418	8.656616665	1.296383918	0.000413695
262	Formic acid	pg	0.169437235	x	0.019978874	30.460384695	0.000508699	31.086148293	0.000508699	58.912011538	0.004708398	x
263	Furan	ng	1.825353983	x	1.548566970	1.094000474	0.039429397	1.237358036	0.039429397	2.223336594	0.364948974	0.000117459
264	Gadolinium, 0.15% in bastnasite, 0.015%	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
265	Gallium, 0.014% in bauxite, in ground	pg	1.036518184	x	0.940639457	13.508442111	0.023950431	15.037757008	0.023950431	27.377832105	0.221679405	0.000000178
266	Gas, mine, off-gas, process, coal mining/	cm3	0.676266073	x	0.758449724	491.921248266	0.019311541	501.355786369	0.019311541	906.851621586	0.178742963	0.384587133
267	Gas, natural, in ground	cm3	66.251671201	x	95.397104707	289.211152568	2.428987802	309.446255494	2.428987802	563.075840316	22.482124529	0.092621432
268	Glutaraldehyde	ng	11.092755664	x	36.672457113	15.476203780	0.933748999	17.254177642	0.933748999	31.391776492	8.642555244	0.000000559
269	Glyphosate	µg	0.098032642	x	0.007442974	1.579992406	0.000189512	1.583317990	0.000189512	3.026640137	0.001754077	0.000000145
270	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in	ng	1.883805758	x	0.074891116	0.651472521	0.001906867	0.676214138	0.001906867	1.271328232	0.017649502	0.000000110
271	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in	ng	3.454491291	x	0.137334074	1.194659341	0.003496781	1.240030102	0.003496781	2.331340317	0.032365361	0.000000201
272	Gold, Au 1.4E-4%, in ore, in ground	ng	4.136187532	x	0.164435059	1.430408904	0.004186823	1.484732962	0.004186823	2.791398206	0.038752219	0.000000241
273	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in	ng	6.317589986	x	0.251157181	2.184798609	0.006394929	2.267772859	0.006394929	4.263566084	0.059189920	0.000000367
274	Gold, Au 4.3E-4%, in ore, in ground	ng	1.565754738	x	0.062246931	0.541481620	0.001584923	0.562046004	0.001584923	1.056684430	0.014669662	0.000000091
275	Gold, Au 4.9E-5%, in ore, in ground	ng	3.750182517	x	0.149089332	1.296917603	0.003796092	1.346171923	0.003796092	2.530894090	0.035135709	0.000000218
276	Gold, Au 6.7E-4%, in ore, in ground	ng	5.805891699	x	0.230814506	2.007839091	0.005876967	2.084092778	0.005876967	3.918235125	0.054395786	0.000000338
277	Gold, Au 7.1E-4%, in ore, in ground	ng	6.546744517	x	0.260267283	2.264046665	0.006626889	2.350030606	0.006626889	4.418216193	0.061336887	0.000000381
278	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%	pg	392.294718753	x	15.595763078	135.666443753	0.397097149	140.818782334	0.397097149	264.748817657	3.675435316	0.000022817
279	Granite, in ground	pg	1.523075591	x	0.218692251	66.488654901	0.005568312	67.597532898	0.005568312	124.273872064	0.051538948	0.035599591
280	Gravel, in ground	g	1.918641149	x	0.064996189	3.799968459	0.001654924	4.345213796	0.001654924	7.815923401	0.015317576	0.000005252
281	Gypsum, in ground	ng	67.879723811	x	43.831544396	281.846047790	1.116032683	327.693174009	1.116032683	573.878402912	10.329729004	0.098899978
282	Heat, waste	MJ	0.030882310	x	0.061477839	0.182080814	0.001565340	0.350266768	0.001565340	5.031791245	0.014488411	0.000874915
283	Heat, waste	kJ	0.565734693	x	1.238179121	3.563140816	0.031526344	3.814712173	0.031526344	6.709916291	0.291800231	0.003153190
284	Heat, waste	J	16.344182628	x	12.560637731	36.835791808	0.319817210	151.800496526	0.319817210	184.900561814	2.960150861	0.004818769
285	Helium	µg	3.412779452	x	3.024412310	1.195361803	0.077007165	1.380552014	0.077007165	2.425113296	0.712759726	0.000415565
286	Helium, 0.08% in natural gas, in ground	pg	x	x	x	0.000114393	x	0.000135373	x	0.000137613	x	0.000000896
287	Heptane	µg	8.484947310	x	16.689613410	5.812291682	0.424948614	6.639065319	0.424948614	11.697006097	3.933221749	0.002205591
288	Hexane	µg	18.489440497	x	36.084550211	18.996419117	0.918779795	21.791974476	0.918779795	38.250879447	8.504003910	0.007840120
289	Hydrocarbons, aliphatic, alkanes, cyclic	ng	3.277522338	x	2.195867505	3.631114244	0.055910873	5.231900620	0.055910873	8.367088955	0.517497537	0.001593987
290	Hydrocarbons, aliphatic, alkanes, unspec	mg	0.010028951	x	0.010103561	0.072210134	0.000257255	0.204487514	0.000257255	1.376182434	0.002381094	0.000320789
291	Hydrocarbons, aliphatic, alkanes, unspec	µg	4.481879285	x	10.417068509	3.585095989	0.265237948	4.091299986	0.265237948	7.210486063	2.454978399	0.001365841
292	Hydrocarbons, aliphatic, unsaturated	mg	0.000295199	x	0.000391001	0.048124795	0.000009956	0.461973876	0.000009956	1.612324440	0.000092147	0.000315023
293	Hydrocarbons, aliphatic, unsaturated	ng	413.713859555	x	961.575740108	330.957646565	24.483507655	377.704323068	24.483507655	665.652677159	226.613434433	0.126077666
294	Hydrocarbons, aromatic	µg	2.569744021	x	2.536879383	7.269055133	0.064593670	8.108376081	0.064593670	14.686174022	0.597863409	0.000548277
295	Hydrocarbons, aromatic	µg	18.356262099	x	42.763381071	14.751123078	1.088835257	16.828988688	1.088835257	29.671507004	10.077996197	0.005546106
296	Hydrocarbons, chlorinated	ng	19.320172222	x	4.294220663	131.076117307	0.109338849	165.734809397	0.109338849	279.304430282	1.012013981	0.054075557
297	Hydrocarbons, unspecified	µg	2.007642576	x	5.824003103	3.124461585	0.148289956	3.694069606	0.148289956	6.479374278	1.372536026	0.000604074
298	Hydrogen	µg	1.933974160	x	2.890467662	7.105921257	0.073596685	9.024020690	0.073596685	13.913408241	0.681193147	0.014040534
299	Hydrogen-3, Tritium	mBq	26.854722762	x	23.261175049	584.104114868	0.592272801	669.690211151	0.592272801	986.307039239	5.481934024	1.901659483
300	Hydrogen-3, Tritium	Bq	2.146971511	x	1.741644337	42.917341618	0.044345506	49.508525425	0.044345506	73.309535733	0.410451292	0.135014963
301	Hydrogen chloride	mg	0.014035014	x	0.017941648	0.614441567	0.000456828	0.664691715	0.000456828	70.480186857	0.004228287	0.001748439
302	Hydrogen fluoride	mg	0.002738707	x	0.002980468	0.255580911	0.000075888	0.297196972	0.000075888	8.430633733	0.000702404	0.001645463
303	Hydrogen peroxide	ng	1.424605751	x	0.056863324	0.495998063	0.001447846	0.515090605	0.001447846	0.968180286	0.013400913	0.000000083
304	Hydrogen peroxide	ng	12.252040927	x	0.593561201	43.240987742	0.015113173	44.041000610	0.015113173	80.751803567	0.139883877	0.024455853
305	Hydrogen sulfide	mg	0.002015399	x	0.002520632	0.011315644	0.000064180	0.012635248	0.000064180	4.592038747	0.000594034	0.000002233
306	Hydrogen sulfide	µg	0.223611003	x	0.488033912	5.367290085	0.012426252	30.150367641	0.012426252	31.979116056	0.115014384	0.026945523
307	Hydroxide	ng	39.463008203	x	1.680611384	15.395792564	0.042791493	16.104454807	0.042791493	30.168400095	0.396067727	0.000002310
308	Hypochlorite	µg	0.067590064	x	0.093838102	1.353684738	0.002389293	1.414730671	0.002389293	2.645349348	0.022114716	0.000052463
309	Indium, 0.005% in sulfide, In 0.003%, Pb,	ng	68.691611684	x	0.525636440	31.858759192	0.013383682	43.271167219	0.013383682	72.374654144	0.123876127	-0.000001711
310	Iodide	µg	3.454688591	x	8.022870517	2.985069614	0.204277212	3.380924203	0.204277212	5.987379527	1.890740548	0.001055578
311	Iodine	µg	0.057092105	x	0.084959940	6.760731706	0.002163238	7.811524987	0.002163238	61.167863905	0.020022410	0.043033955
312	Iodine-129	µBq	4.985123138	x	4.069182705	99.535242394	0.103608964	114.726448419	0.103608964	170.283191959	0.958979547	0.310004602
313	Iodine-131	mBq	0.134273387	x	0.205764410	2.866462767	0.005239145	2.961589236	0.005239145	5.571928647	0.048492259	0.000071894
314	Iodine-131	µBq	0.545753169	x	0.194752426	5.718338037	0.004958759	7.359623475	0.004958759	10.338621136	0.045897077	0.019674649
315	Iodine-133	nBq	69.321986622	x	8.787725920	243.264760781	0.223751854	420.190123891	0.223751854	593.657785765	2.070993130	0.427341277
316	Iodine-133	mBq	81.694988537	x	5.574665413	160.204237762	0.141941355	366.391557448	0.141941355	512.049242192	1.313774903	0.006051765
317	Iodine-135	nBq	20.633176518	x	10.208060010	273.239141946	0.259916203	329.578340146	0.259916203	474.531052864	2.405721610	0.917260222
318	Iodine, 0.03% in water	ng	0.593960394	x	0.152596216	58.361208407	0.003885384	61.236925287	0.003885384	114.550467427	0.035962172	x
319	Iron	mg	0.003694855	x	0.003104279	0.061776309	0.000079041	0.068112623	0.000079041	20.318341752	0.000731582	0.000022824
320	Iron	mg	0.041658882	x	0.085039204	3.001185924	0.002165256	3.427278256	0.002165256	6.163409083	0.020041090	0.000048050
321	Iron-59	nBq	22.459698835	x	1.532594703	44.043569821	0.039022713	100.728871862	0.039022713	140.773283277	0.361184808	0.001663760
322	Iron, 46% in ore, 25% in crude ore, in gro	mg	59.703004006	x	60.738378960	141.153006060	1.546512151	172.503826865	1.546512151	301.427490691	14.314143009	0.000184079
323	Iron, ion	mg	0.551242027	x	0.527701348	223.824028742	0.013436258	224.643281944	0.013436258	428.593277423	0.124362762	0.004517963
324	Isocyanic acid	ng	2.470738826	x	2.227804252	324.301265921	0.056724042	326.778379921	0.056724042	623.030747286	0.525024033	0.000000458
325	Isoprene	pg	84.703746323	x	71.859713824	50.765904319	1.829682031	57.418249360	1.829682031	103.171555787	16.935095040	0.005450181
326	Isopropylamine	pg	0.101052040	x	0.005378587	2.376086885	0.000136949	3.428544281	0.000136949	5.599123195	0.001267565	x
327	Isopropylamine	pg	0.242526286	x	0.012908778	5.702739391	0.000328682	8.228645177	0.000328682	13.438154117	0.003042197	x
328	Kaolinite, 24% in crude ore, in ground	mg	0.021396917	x	0.000955078	1.496142934	0.000024318	1.517510265	0.000024318	2.787416015	0.000225082	0.000848735
329	Kieserite, 25% in crude ore, in ground	µg	0.386286499	x	0.004651346	3.614222167	0.000118432	3.681164306	0.000118432	6.749304579	0.001096177	0.002046447
330	Krypton-85	mBq	1.168486634	x	1.627641768	22.786716708	0.041442788	23.816597641	0.041442788	44.567058622	0.383584439	0.000573473
331	Krypton-85m	mBq	0.736418747	x	0.075237035	1.774946609	0.001915675	3.602590623	0.001915675	5.216901098	0.017731024	0.000062412
332	Krypton-87	mBq	0.172477282	x	0.030724352	0.589204419	0.000782299	1.001012311	0.000782299	1.537118339	0.007240772	0.000018739
333	Krypton-88	mBq	0.221320509	x	0.029930121	0.630339711	0.000762077	1.170538647	0.000762077	1.743957480	0.007053597	0.000021059
334	Krypton-89	µBq	90.903372775	x	7.437536041	194.607686423	0.189373507	422.505094573	0.189373507	599.468535811	1.752795454	0.007122232
335	Lactic acid	pg	0.284141276	x	0.125102373	18.765769194	0.003185339	19.743712543	0.003185339	36.886428621	0.029482730	x
336	Lactic acid	pg	0.681942341	x	0.300247789	45.038162826	0.007644867	47.385224891	0.007644867	88.528032840	0.070759047	x
337	Lanthanum-140	nBq	4.275050418	x	0.291718945	8.383392978	0.007427707	19.173053422	0.007427707	26.795233888	0.068749064	0.000316685
338	Lanthanum-140	nBq	138.603049368	x	9.457931672	271.801199571	0.240816540	621.616920156	0.240816540	868.738556863	2.228939739	0.010267375
339	Lanthanum, 7.2% in bastnasite, 0.72% in	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
340	Lead	µg	0.866674642	x	0.476061543	2.744916650	0.012121413	6.750737632	0.012121413	502.563513858	0.112192869	0.001590170
341	Lead	µg	1.358062444	x	1.067470188	69.086919030	0.027179777	73.906017874	0.027179777	135.709063486	0.251569456	0.011468952
342	Lead	µg	0.151116367	x	0.001090941	0.016028915	0.000027777	1.212931021	0.000027777	1.227091508	0.000257101	0.000004225
343	Lead-210	mBq	0.019315310	x	0.023757974	0.788750345	0.000604922	0.847537444	0.000604922	213.866020908	0.005599014	0.001538087
344	Lead-210	µBq	26.152340761	x	51.357220370	174.937263071	1.307650397	195.031989754	1.307650397	352.743553093	12.103296293	0.018365146
345	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, C	µg	294.265108326	x	4.641482698	22.485609478	0.118180786	37.077787332	0.118180786	57.618531321	1.093852820	0.000000694
346	Linuron	ng	8.182240109	x	0.270503522	28.427832398	0.006887523	124.727986982	0.006887523	150.688329658	0.063749250	0.000116252
347	Lithium, 0.15% in brine, in ground	ng	0.007035846	x	0.000829617	1.264857478	0.000021124	1.290842343	0.000021124	2.446302182	0.000195515	x
348	Lithium, ion	ng	115.186745526	x	9.172960037	99.500768182	0.233560632	129.402159092	0.233560632	217.666574879	2.161780805	0.023055617
349	m-Xylene	µg	0.003595261	x	0.004323114	0.063892243	0.000110075	15.786250206	0.000110075	15.844299001	0.001018823	0.000002782
350	m-Xylene	pg	3.847935805	x	0.331742563	115.823322725	0.008446783	118.669640099	0.008446783	224.401260190	0.078181383	0.000649749
351	Magnesite, 60% in crude ore, in ground	mg	0.730440454	x	0.819188997	2.088608144	0.020858076	2.283000253	0.020858076	4.190535738	0.193057317	0.000003757
352	Magnesium	mg	0.000517478	x	0.000504864	0.028618520	0.000012855	0.077011722	0.000012855	17.418655503	0.000118981	0.000019520
353	Magnesium	g	0.001908211	x	0.002206485	1.194793415	0.000056181	1.199164416	0.000056181	2.284118363	0.000520000	0.000056985
354	Magnesium	µg	10.982200248	x	30.052638404	13.084469797	0.765196096	603.241882598	0.765196096	615.163798611	7.082470281	0.000270616
355	Magnesium, 0.13% in water	ng	7.436029907	x	2.230435162	130.135685931	0.056791030	607.230282970	0.056791030	726.110387815	0.525644056	0.000001158
356	Mancozeb	µg	0.003223379	x	0.000498150	0.892620201	0.000012684	0.905073882	0.000012684	1.662718968	0.000117399	0.000506357
357	Manganese	µg	0.155451721	x	0.135788467	1.345326199	0.003457427	23.833031632	0.003457427	168.907445628	0.032001110	0.000772824
358	Manganese	mg	0.153818306	x	0.144810538	94.958568160	0.003687146	96.155964864	0.003687146	182.881848849	0.034127331	0.000172744
359	Manganese	µg	0.619341064	x	1.591444627	1.940822438	0.040521142	368.858950255	0.040521142	370.624640022	0.375053901	0.000063725
360	Manganese-54	nBq	0.397929221	x	0.027153713	0.780340982	0.000691384	1.784661577	0.000691384	2.494147557	0.006399284	0.000029478
361	Manganese-54	µBq	2.725018731	x	0.523551774	17.073166348	0.013330602	24.832348271	0.013330602	34.066637096	0.123384837	0.055762915
362	Manganese, 35.7% in sedimentary depos	mg	0.040621943	x	0.273830074	0.858998720	0.006972223	1.051630371	0.006972223	1.836292324	0.064533215	0.000000367
363	Mercury	µg	0.073689946	x	0.083833391	0.603677224	0.002134554	0.727250212	0.002134554	16.324625839	0.019756918	0.002690841
364	Mercury	µg	0.048513805	x	0.063060789	33.013145320	0.001605645	33.050417096	0.001605645	63.201545351	0.014861463	0.000058786
365	Mercury	ng	0.013341719	x	0.001281740	0.269786686	0.000032635	2.189780777	0.000032635	2.420284175	0.000302066	0.000139792
366	Metaldehyde	ng	0.037217864	x	0.001365107	0.432724382	0.000034758	0.862140137	0.000034758	1.237494963	0.000321713	0.000174796
367	Metamorphous rock, graphite containing,	µg	1.726619310	x	0.116730663	21.916776936	0.002972180	26.842829344	0.002972180	45.690609284	0.027509779	0.010284609
368	Methane, biogenic	mg	0.007893622	x	0.007664888	0.443094274	0.000195162	2.356413504	0.000195162	2.462125709	0.001806375	0.002621160
369	Methane, bromo-, Halon 1001	pg	0.000017315	x	0.000001379	0.000014657	0.000000035	0.000019146	0.000000035	0.000032140	0.000000325	0.000000003
370	Methane, bromochlorodifluoro-, Halon 12	ng	1.067440474	x	2.304239515	13.546237713	0.058670226	14.383469165	0.058670226	26.296942477	0.543037442	0.004041783
371	Methane, bromotrifluoro-, Halon 1301	ng	27.312034828	x	43.209511410	15.590460107	1.100194565	17.885139308	1.100194565	31.468068874	10.183135215	0.005776893
372	Methane, chlorodifluoro-, HCFC-22	ng	5.129017742	x	8.724228948	61.611096806	0.222135103	64.965930198	0.222135103	119.616454842	2.056028873	0.014302250
373	Methane, dichloro-, HCC-30	pg	33.930465369	x	9.836204062	268.603634093	0.250448059	359.275484559	0.250448059	545.449062244	2.318086752	0.518856938
374	Methane, dichloro-, HCC-30	ng	342.902208518	x	945.921771357	333.828032911	24.084928482	376.821146299	24.084928482	681.775358553	222.924281855	0.000008500
375	Methane, dichlorodifluoro-, CFC-12	pg	69.663877535	x	15.351363961	113.238939995	0.390874292	119.707929211	0.390874292	220.174676555	3.617838060	0.026102376
376	Methane, dichlorofluoro-, HCFC-21	pg	0.165740039	x	0.008203871	0.087596171	0.000208886	0.092461782	0.000208886	0.172480627	0.001933397	0.000000010
377	Methane, fossil	mg	2.800895499	x	2.750047663	332.767998632	0.070021331	339.358252009	0.070021331	682.102955585	0.648100529	0.261030050
378	Methane, monochloro-, R-40	pg	24.893760083	x	10.438300007	265.131157549	0.265778542	320.421786220	0.265778542	463.517528491	2.459982002	0.868618300
379	Methane, tetrachloro-, CFC-10	ng	1.102357767	x	0.801227512	5.539041079	0.020400743	6.514978447	0.020400743	7.784130035	0.188824354	0.033225368
380	Methane, tetrafluoro-, CFC-14	µg	0.250223024	x	0.015520299	3.189007738	0.000395176	3.906827370	0.000395176	6.648572827	0.003657651	0.001502661
381	Methane, trichlorofluoro-, CFC-11	pg	0.269070097	x	0.013318546	0.142207702	0.000339115	0.150106762	0.000339115	0.280013081	0.003138766	0.000000016

No	Substance	Unit	H0, Hoffman, transport of fuel, at plant, ZA	H1, Hoffman, clay extraction, extracted clay, ZA	H2, Hoffman, mining fuel, stockpiled clay, ZA	H3, Hoffman, clay preparation, wet green brick, ZA rev1	H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA	H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1	H6, Hoffman, dry green brick transport, at firing location, ZA	H7, Hoffman, brick firing, fired brick, ZA rev1	H8, Hoffman, fired brick transport, at sales bay, ZA	H9, Hoffman, factory overheads, additional water and electricity, ZA
382	Methane, trifluoro-, HFC-23	pg	52.735466912	x	2.610322522	27.871508661	0.066463669	29.419657676	0.066463669	54.880199009	0.615171668	0.000003133
383	Methanesulfonic acid	pg	0.702466485	x	0.023342124	2.594208139	0.000594334	10.852225095	0.000594334	13.222059914	0.005501011	x
384	Methanol	µg	0.538674847	x	0.476958487	3.215065895	0.012144251	3.413196881	0.012144251	6.233820751	0.112404251	0.001019953
385	Methanol	ng	43.477100968	x	34.070905692	199.618567973	0.867508658	214.788664742	0.867508658	390.011264018	8.029450652	0.062499864
386	Methyl acetate	pg	0.028527015	x	0.000969748	0.100104448	0.000024692	0.434447604	0.000024692	0.525894009	0.000228539	x
387	Methyl acetate	pg	0.068463589	x	0.002327355	0.240246287	0.000059259	1.042655177	0.000059259	1.262122539	0.000548485	x
388	Methyl acrylate	pg	601.031059961	x	23.895350458	207.871224222	0.608420087	215.767131875	0.608420087	405.655563602	5.631389404	0.000034955
389	Methyl acrylate	ng	11.741317853	x	0.466802676	4.060825294	0.011885665	4.215074168	0.011885665	7.924600341	0.110010843	0.000000683
390	Methyl amine	pg	1.472069456	x	0.135416076	1.328925045	0.003447945	4.110532275	0.003447945	5.324510848	0.031913349	0.000000067
391	Methyl amine	pg	3.532922009	x	0.324988732	3.189447325	0.008274818	9.865463375	0.008274818	12.779036816	0.076589716	0.000000160
392	Methyl borate	pg	0.054548406	x	0.005989317	8.870945776	0.000152499	9.110600674	0.000152499	17.214297539	0.001411495	0.000000000
393	Methyl ethyl ketone	ng	950.134672244	x	38.127337631	333.764880280	0.970792964	346.838272456	0.970792964	651.729482691	8.985425241	0.000055305
394	Methyl formate	pg	2.395422925	x	0.100188865	12.365015369	0.002550995	12.633003202	0.002550995	23.928551633	0.023611393	0.000000137
395	Methyl formate	pg	0.956354460	x	0.039999647	4.936638717	0.001018465	5.043630831	0.001018465	9.553292975	0.009426670	0.000000055
396	Methyl lactate	pg	0.311937384	x	0.137341715	20.601715730	0.003496976	21.675301729	0.003496976	40.495173156	0.032367162	x
397	Metolachlor	µg	0.059200842	x	0.001957024	0.205750895	0.000049829	0.902763406	0.000049829	1.090622885	0.000461210	0.000000841
398	Metribuzin	ng	0.113497256	x	0.017540197	31.429729108	0.000446606	31.868231221	0.000446606	58.545400010	0.004133678	0.017829150
399	Molybdenum	µg	0.016045485	x	0.030188292	0.153398287	0.000768650	0.167651965	0.000768650	12.631737614	0.007114440	0.000115805
400	Molybdenum	mg	0.001166824	x	0.000973450	0.575749918	0.000024786	0.576897821	0.000024786	1.102459340	0.000229412	0.000003433
401	Molybdenum	ng	0.032379714	x	0.019181278	0.503670099	0.000488391	68.375465545	0.000488391	68.816980391	0.004520429	0.000162960
402	Molybdenum-99	nBq	47.787355973	x	3.260891829	93.711218714	0.083028374	214.320169404	0.083028374	299.522404649	7.768490578	0.003539970
403	Molybdenum, 0.010% in sulfide, Mo 8.2E	µg	2.645864359	x	0.520735140	8.514097586	0.013258886	11.500629770	0.013258886	19.263372985	0.122721044	0.000131197
404	Molybdenum, 0.014% in sulfide, Mo 8.2E	µg	0.370342205	x	0.073967490	1.211483657	0.001883350	1.637199549	0.001883350	2.741767636	0.017431832	0.000018705
405	Molybdenum, 0.022% in sulfide, Mo 8.2E	µg	0.458830594	x	2.996533060	9.357610692	0.076297308	11.455462654	0.076297308	19.988601618	0.706189455	0.000132617
406	Molybdenum, 0.025% in sulfide, Mo 8.2E	µg	1.357048096	x	0.271039709	4.439249849	0.006901175	5.999204210	0.006901175	10.046682429	0.063875613	0.000068542
407	Molybdenum, 0.11% in sulfide, Mo 4.1E-2	µg	0.913421337	x	6.047172526	18.881231910	0.153972265	23.114987034	0.153972265	40.332641545	1.425130104	0.000267650
408	Monoethanolamine	ng	26.848920271	x	2.054473043	34.387626786	0.052310707	45.344242801	0.052310707	73.466945197	0.484175269	0.028842286
409	Napropamide	ng	0.065846854	x	0.002415185	0.765587696	0.000061495	1.525321681	0.000061495	2.189409605	0.000569184	0.000309254
410	Neodymium, 4% in bastnasite, 0.4% in cr	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
411	Nickel	µg	0.640592614	x	0.989657032	2.947819898	0.025198510	4.068502407	0.025198510	142.297814101	0.233231320	0.001510968
412	Nickel	µg	0.049081048	x	0.000629950	0.009958198	0.000016040	1.022001116	0.000016040	1.030786945	0.000148460	0.000002727
413	Nickel, 1.13% in sulfide, Ni 0.76% and Cu	µg	0.343570145	x	0.140955697	16.873732265	0.003588994	17.195546424	0.003588994	31.556358844	0.033218865	0.009233687
414	Nickel, 1.98% in silicates, 1.04% in crude	mg	0.549410926	x	1.436896224	4.323661100	0.036586052	5.486926463	0.036586052	9.424760227	0.338631659	0.000104066
415	Nickel, ion	mg	0.018058843	x	0.026692611	11.030849135	0.000679644	11.063895804	0.000679644	21.067860859	0.006290617	0.000638289
416	Niobium-95	nBq	0.047237664	x	0.003223382	0.092633270	0.000082073	0.211854871	0.000082073	0.296077036	0.000759651	0.000003499
417	Niobium-95	µBq	0.222038669	x	0.081624173	4.552099442	0.002078303	5.611812122	0.002078303	6.934194861	0.019236274	0.024856728
418	Nitrate	µg	0.032913802	x	0.022174504	1.633049875	0.000564604	1.707904540	0.000564604	3.114892524	0.005225840	0.000743415
419	Nitrate	mg	0.147218747	x	0.177972963	124.319596062	0.004531523	124.515633288	0.004531523	238.062261397	0.041942681	0.000180158
420	Nitrite	µg	0.088666920	x	0.029611326	1.020196896	0.000753959	1.072648529	0.000753959	1.866007498	0.006978467	0.001214796
421	Nitrobenzene	pg	1.895383724	x	0.759550839	113.501286222	0.019339578	121.557380609	0.019339578	225.241930062	0.179002461	x
422	Nitrobenzene	pg	7.595732530	x	3.043892878	454.855341794	0.077503177	487.140064620	0.077503177	902.654925732	0.717350688	x
423	Nitrogen	µg	2.089971984	x	4.856793527	31.583909834	0.123663001	33.110326163	0.123663001	60.719581793	1.144594872	0.000000000
424	Nitrogen oxides	mg	15.369279719	x	50.609294432	156.108609647	1.288606811	186.756158817	1.288606811	533.006713851	11.927033459	0.618046889
425	Nitrogen, organic bound	µg	3.074306280	x	5.883647957	5.943939058	0.149808625	6.877605748	0.149808625	12.196387641	1.386592460	0.000973452
426	NMVOC, non-methane volatile organic co	mg	2.128244836	x	7.318406376	13.929801997	0.186340245	16.083153850	0.186340245	31.392309076	1.724720305	0.007387304
427	Noble gases, radioactive, unspecified	Bq	47.900197855	x	39.103377281	956.630589373	0.995644750	#############	0.995644750	#############	9.215447368	2.980087180
428	o-Xylene	pg	2.364308747	x	0.188274284	2.001449813	0.004793814	2.614417255	0.004793814	4.388762507	0.044370381	0.000473282
429	Occupation, arable, non-irrigated	mm2a	0.275334148	x	0.010106144	3.216533318	0.000257321	6.392252537	0.000257321	9.182037843	0.002381703	0.001301994
430	Occupation, construction site	mm2a	0.075403068	x	0.156156953	1.031753931	0.003976047	1.242579301	0.003976047	1.403613262	0.036801327	0.006849466
431	Occupation, dump site	mm2a	0.579979863	x	0.523251794	215.181956977	0.013322964	220.433315763	0.013322964	393.696491420	0.123314141	0.204284724
432	Occupation, dump site, benthos	mm2a	0.144205824	x	0.476741943	0.201190650	0.012138737	0.224304310	0.012138737	0.408093096	0.112353218	0.000000007
433	Occupation, forest, intensive	mm2a	0.803021768	x	0.070133992	17.805341490	0.001785742	18.188507132	0.001785742	33.316579642	0.016528396	0.009967924
434	Occupation, forest, intensive, normal	cm2a	0.063892647	x	0.054710318	33.341950899	0.001393027	107.944394065	0.001393027	138.396465444	0.012893517	0.000053737
435	Occupation, forest, intensive, short-cycle	mm2a	0.024752846	x	0.020999457	0.014835242	0.000534685	0.016779246	0.000534685	0.030149664	0.004948918	0.000001593
436	Occupation, industrial area	mm2a	1.579066763	x	4.097702821	165.762651209	0.104335139	172.112120260	0.104335139	323.529582481	0.965700850	0.000073293
437	Occupation, industrial area, benthos	mm2a	0.001282525	x	0.003673867	0.001686610	0.000093543	0.001873266	0.000093543	0.003413993	0.000865816	0.000000000
438	Occupation, industrial area, built up	mm2a	0.327715884	x	0.339250328	1.225581744	0.008637945	1.398458770	0.008637945	2.518004050	0.079950730	0.000000304
439	Occupation, industrial area, vegetation	mm2a	0.307716607	x	0.136884784	1.819325224	0.003485341	1.915189824	0.003485341	3.577032906	0.032259478	0.000001126
440	Occupation, mineral extraction site	m2a	0.000000862	0.441750000	0.000000484	0.340468869	0.000000012	0.340473850	0.000000012	0.340683849	0.000000114	0.000000200
441	Occupation, permanent crop, fruit, intens	mm2a	0.036197146	x	0.030168189	0.019052726	0.000768138	0.021249379	0.000768138	0.038517378	0.007109702	0.000001199
442	Occupation, shrub land, sclerophyllous	mm2a	0.043771858	x	0.011228073	0.969123064	0.000285888	1.156173853	0.000285888	1.260353706	0.002646107	0.006846313
443	Occupation, traffic area, rail embankment	mm2a	0.108917729	x	0.077149615	23.405475281	0.001964373	23.440309781	0.001964373	44.821441056	0.018181760	0.000000021
444	Occupation, traffic area, rail network	mm2a	0.120437878	x	0.085309673	25.881054627	0.002172143	25.919573546	0.002172143	49.562170840	0.020104831	0.000000023
445	Occupation, traffic area, road embankme	mm2a	3.345587321	x	0.067983921	32.977125787	0.001730997	106.554233528	0.001730997	136.654370901	0.016021691	0.000217309
446	Occupation, traffic area, road network	mm2a	16.606257500	x	1.714214960	1.910604235	0.043647103	2.302523919	0.043647103	4.047870431	0.403987043	0.000000080
447	Occupation, urban, discontinuously built	mm2a	0.000266003	x	0.000122787	0.005588583	0.000003126	0.858630604	0.000003126	0.863735830	0.000028937	0.000000000
448	Occupation, water bodies, artificial	mm2a	0.507929953	x	0.491611334	53.569929238	0.012517339	63.053774355	0.012517339	68.031961310	0.115857470	0.385282743
449	Occupation, water courses, artificial	mm2a	0.870207991	x	0.444740462	2.532073031	0.011323920	3.044430600	0.011323920	5.329962483	0.104811467	0.000241396
450	Oil, crude, in ground	g	0.628984853	x	1.256833577	0.441859070	0.032001322	0.505886807	0.032001322	0.890594929	0.296196505	0.000165955
451	Oils, biogenic	µg	0.142788527	x	0.101184694	34.388967485	0.002576351	114.546138021	0.002576351	145.950146965	0.023846079	0.000093375
452	Oils, unspecified	mg	1.725470382	x	5.465705610	1.833218783	0.139167035	2.085193177	0.139167035	3.679048132	1.288096474	0.000708262
453	Oils, unspecified	mg	1.729238350	x	5.774702408	1.922991903	0.147034669	2.186629316	0.147034669	3.858074353	1.360917389	0.000746989
454	Olivine, in ground	ng	11.288888543	x	1.798324662	6.847944325	0.045788692	11.372615076	0.045788692	17.480796468	0.423809078	0.001292584
455	Orbencarb	ng	0.612896460	x	0.094718805	169.723659261	0.002411717	172.091614152	0.002411717	316.150975973	0.022322270	0.096279178
456	Ozone	µg	1.612504111	x	1.393143819	109.314489784	0.035472034	127.993128844	0.035472034	148.869832322	0.328320581	0.692263581
457	PAH, polycyclic aromatic hydrocarbons	µg	0.197150408	x	3.771787273	1.943098833	0.096036723	3.836450986	0.096036723	5.347237431	0.888892712	0.002316103
458	PAH, polycyclic aromatic hydrocarbons	ng	193.416980797	x	480.514691983	200.244292134	12.234798206	231.737847843	12.234798206	407.677119209	113.242337659	0.061228966
459	Paraffins	pg	x	x	x	0.000002638	x	0.000003122	x	0.000003173	x	0.000000021
460	Paraffins	pg	x	x	x	0.000007655	x	0.000009059	x	0.000009209	x	0.000000060
461	Particulates, < 2.5 um	mg	0.461431588	x	4.693748269	3.709966938	0.119511565	8.481044732	0.119511565	33.709657762	1.106170186	0.008826794
462	Particulates, > 10 um	mg	0.546001631	x	0.748551623	196.935627141	0.019059517	198.145386359	0.019059517	533.350183683	0.176410289	0.040528787
463	Particulates, > 2.5 um, and < 10um	mg	0.355549793	x	0.428048616	1.421638944	0.010898914	1.598637452	0.010898914	48.446479489	0.100877719	0.001262571
464	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%	ng	0.903342452	x	1.578288202	0.678908232	0.040186155	0.837480358	0.040186155	1.434563450	0.371953342	0.000202519
465	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%	ng	2.170894089	x	3.792909893	1.631541288	0.096574544	2.012619113	0.096574544	3.447517037	0.893870656	0.000486712
466	Peat, in ground	µg	14.018970841	x	0.839440976	75.936184617	0.021373729	79.004892479	0.021373729	144.835263811	0.197830077	0.031010179
467	Pentane	µg	47.371372392	x	92.354403062	72.671151778	2.351514956	84.079342739	2.351514956	124.697456379	21.765054576	0.225846107
468	Phenol	µg	0.038455725	x	0.009235215	0.141269442	0.000235146	0.162703149	0.000235146	228.752077922	0.002176452	0.000050301
469	Phenol	µg	3.193632438	x	7.677863395	2.734912384	0.195492689	3.111921170	0.195492689	5.490187698	1.809433122	0.001052665
470	Phenol, 2,4-dichloro-	pg	0.214488052	x	0.082468703	0.482825257	0.002099807	1.918574333	0.002099807	2.359639967	0.019435303	x
471	Phenol, pentachloro-	ng	0.717106013	x	1.111956194	15.501677659	0.028312474	17.057612041	0.028312474	31.174260132	0.262053421	0.000388168
472	Phosphate	mg	0.537522057	x	0.633673701	413.774630206	0.016134512	414.313383943	0.016134512	791.648183071	0.149337143	0.005718317
473	Phosphine	pg	0.457894005	x	0.018204614	0.158366174	0.000463523	0.164381652	0.000463523	0.309047680	0.004290260	0.000000027
474	Phosphorus	µg	0.018975459	x	0.032697003	0.645264318	0.000832527	39.973457520	0.000832527	329.305789961	0.007705665	0.000335047
475	Phosphorus	µg	0.284481757	x	0.454590482	0.523432266	0.011574720	0.726759501	0.011574720	1.180845715	0.107132809	0.000211004
476	Phosphorus	µg	0.714282435	x	1.914621918	1.344787546	0.048749837	181.186088368	0.048749837	182.411486462	0.451216717	0.000026983
477	Phosphorus, 18% in apatite, 12% in crud	µg	3.530792220	x	6.456677264	8.151770087	0.164399018	12.435966595	0.164399018	19.677520899	1.521637609	0.001798237
478	Phosphorus, 18% in apatite, 4% in crude	µg	6.544423198	x	14.671522002	11.339534756	0.373564251	12.866505274	0.373564251	22.873148001	3.457620498	0.003086348
479	Pirimicarb	pg	51.253086721	x	1.694292469	178.128691674	0.043139839	781.566778720	0.043139839	944.205989128	0.399291932	0.000728459
480	Platinum	pg	0.078088108	x	0.058479916	0.857459850	0.001489007	0.988595934	0.001489007	1.769532958	0.013781894	0.000020694
481	Plutonium-238	nBq	0.000680051	x	0.000555102	0.013578218	0.000014134	0.015650544	0.000014134	0.023229383	0.000130820	0.000042290
482	Plutonium-alpha	nBq	0.001558932	x	0.001272502	0.031126339	0.000032400	0.035876883	0.000032400	0.053250408	0.000299889	0.000096944
483	Polonium-210	mBq	0.033234055	x	0.041974839	1.408781041	0.001068757	1.510372736	0.001068757	390.879842706	0.009892161	0.002715067
484	Polonium-210	µBq	36.313809296	x	73.375019053	193.703080862	1.868264522	221.208579977	1.868264522	395.434591930	17.292205258	0.023872100
485	Polychlorinated biphenyls	ng	0.885069540	x	0.966571175	2.361216137	0.024610701	2.677477087	0.024610701	4.834039736	0.227790703	0.000003783
486	Potassium	mg	0.001254394	x	0.001264245	0.025776981	0.000032190	3.092740791	0.000032190	8.872830879	0.000297943	0.000007031
487	Potassium	mg	0.004946660	x	0.013335556	0.008426959	0.000339548	1.008686882	0.000339548	1.016367869	0.003142775	0.000000150
488	Potassium-40	mBq	0.003690070	x	0.005432225	0.350144401	0.000138315	0.390135650	0.000138315	62.217543412	0.001280206	0.001562655
489	Potassium-40	µBq	10.811531157	x	16.982020599	179.045892674	0.432393845	188.263219523	0.432393845	350.550402562	4.002133010	0.011157541
490	Potassium, ion	g	0.001179816	x	0.001413493	0.823496425	0.000035990	0.828815223	0.000035990	1.573519202	0.000333116	0.000066333
491	Praseodymium, 0.42% in bastnasite, 0.04	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
492	Propanal	ng	0.099797903	x	0.080459905	0.608470267	0.002048659	1.241269911	0.002048659	1.693526832	0.018961892	0.000907906
493	Propanal	pg	0.462008865	x	0.054477338	83.058016820	0.001387094	84.764261463	0.001387094	160.638582835	0.012838611	x
494	Propane	mg	0.038348955	x	0.076865304	0.057962212	0.001957134	0.064141749	0.001957134	2.393777113	0.018114757	0.000069892
495	Propene	mg	0.002047853	x	0.003502956	0.007961960	0.000089192	0.008820390	0.000089192	1.155435595	0.000825538	0.000026193
496	Propene	ng	589.184768304	x	122.945788279	272.927527123	3.130428549	314.369728697	3.130428549	553.437992884	28.974490692	0.089870092
497	Propionic acid	ng	11.073409076	x	24.906079531	150.008345147	0.634155130	158.489148852	0.634155130	293.112890176	5.869586747	0.021126120
498	Propionic acid	pg	0.914932340	x	0.210896324	3.412988740	0.005369813	11.530019774	0.005369813	14.647818742	0.049701691	x
499	Propylamine	pg	0.077016744	x	0.009081273	13.845571607	0.000231226	14.130010081	0.000231226	26.778076937	0.002140173	x
500	Propylamine	pg	0.184839472	x	0.021794852	33.228992082	0.000554937	33.911653234	0.000554937	64.266666760	0.005136367	x
501	Propylene oxide	ng	223.862610140	x	4.059141931	10.732003490	0.103353307	12.227931126	0.103353307	21.992071077	0.956613250	0.000347524
502	Propylene oxide	ng	538.652330866	x	9.766554242	25.816739118	0.248674645	29.415954978	0.248674645	52.904390477	2.301672460	0.000836229
503	Protactinium-234	µBq	0.826452541	x	0.552581903	13.677398683	0.014069763	16.126988354	0.014069763	23.815421392	0.130226333	0.042123190
504	Protactinium-234	µBq	15.201319485	x	10.189229851	252.137472529	0.259436752	297.261831354	0.259436752	439.025739991	2.401283929	0.776255691
505	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%	pg	17.807227409	x	38.441740273	47.842364927	0.978798240	55.503805814	0.978798240	98.676371363	9.059520146	0.004661386
506	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%	pg	63.837411030	x	137.810403099	171.510813555	3.508909302	198.976427308	3.508909302	353.746439783	32.477617149	0.016710385
507	Radioactive species, alpha emitters	nBq	59.382596580	x	125.294085878	113.029181607	3.190220575	144.423370802	3.190220575	242.543714375	29.527911251	0.044988560
508	Radioactive species, Nuclides, unspecifie	mBq	4.876610775	x	3.963697874	96.851346723	0.100923124	111.626797996	0.100923124	165.737659008	0.934120060	0.301188344

No	Substance	Unit	H0, Hoffman, transport of fuel, at plant, ZA	H1, Hoffman, clay extraction, extracted clay, ZA	H2, Hoffman, mining fuel, stockpiled clay, ZA	H3, Hoffman, clay preparation, wet green brick, ZA rev1	H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA	H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1	H6, Hoffman, dry green brick transport, at firing location, ZA	H7, Hoffman, brick firing, fired brick, ZA rev1	H8, Hoffman, fired brick transport, at sales bay, ZA	H9, Hoffman, factory overheads, additional water and electricity, ZA
509	Radioactive species, other beta emitters	mBq	2.448508829	x	0.016869343	0.217229021	0.000429525	0.294022179	0.000429525	0.481278070	0.003975578	0.000098033
510	Radium-224	mBq	1.723799725	x	4.006564811	1.378883073	0.102014596	1.573576918	0.102014596	2.773263871	0.944222461	0.000525324
511	Radium-226	mBq	0.031446149	x	0.024001223	0.641031052	0.000611116	0.734522942	0.000611116	55.953099255	0.005656340	0.001743010
512	Radium-226	mBq	12.239426603	x	12.801213632	159.162019322	0.325942720	187.560502764	0.325942720	277.770598985	3.016847103	0.483688465
513	Radium-228	mBq	0.002884502	x	0.004769228	0.477555682	0.000121433	0.492890809	0.000121433	297.881277892	0.001123958	0.000471076
514	Radium-228	mBq	3.447799064	x	8.013145517	2.757935123	0.204029596	3.147374565	0.204029596	5.546898274	1.888448669	0.001050687
515	Radon-220	mBq	0.152957878	x	0.220855022	3.205101524	0.005623380	3.333173944	0.005623380	10.811162669	0.052048646	0.000168497
516	Radon-222	Bq	108.968338818	x	73.058883122	############	1.860215113	############	1.860215113	############	17.217701872	5.564254478
517	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4	pg	12.358919553	x	36.107004290	17.775651552	0.919351518	21.757700503	0.919351518	37.467732990	8.509295636	0.004629511
518	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4	pg	38.709523571	x	113.091191012	55.675345602	2.879512165	68.147571678	2.879512165	117.353157362	26.652069234	0.014500220
519	Rhenium, in crude ore, in ground	pg	22.391039084	x	50.691149596	18.551568936	1.290690995	30.832498352	1.290690995	47.026910045	11.946324170	0.006596535
520	Rubidium	ng	344.759944869	x	801.312962117	279.605897401	20.402919109	319.246950217	20.402919109	559.259346253	188.844492251	0.135067003
521	Ruthenium-103	nBq	0.010378424	x	0.000708198	0.020352136	0.000018032	0.046545903	0.000018032	0.065050065	0.000166900	0.000000769
522	Ruthenium-103	nBq	10.083562308	x	0.688077533	19.773910765	0.017519734	45.223485114	0.017519734	63.201923768	0.162158431	0.000746966
523	Samarium, 0.3% in bastnasite, 0.03% in c	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
524	Sand, unspecified, in ground	µg	1.095122036	x	0.531459604	6.401170674	0.013531950	7.184807291	0.013531950	13.021295891	0.125248466	0.000096791
525	Scandium	µg	0.010092449	x	0.006829602	0.109051839	0.000173894	0.127000011	0.000173894	5.983225751	0.001609524	0.000006477
526	Scandium	µg	0.494827743	x	0.414282186	279.403965043	0.010548395	288.918514444	0.010548395	500.017714107	0.097633400	0.386865798
527	Selenium	µg	0.033535327	x	0.048942509	1.565841692	0.001246167	1.819353159	0.001246167	43.143384038	0.011534224	0.009981991
528	Selenium	µg	0.775455016	x	0.613327632	395.197930808	0.015616463	397.914353403	0.015616463	748.639013647	0.144542208	0.090211230
529	Shale, in ground	ng	71.822614474	x	14.447133883	46.568255457	0.367850912	64.186707091	0.367850912	105.487349029	3.404739211	0.010867061
530	Silicon	mg	0.001815068	x	0.001720473	0.114680473	0.000043806	0.119148182	0.000043806	72.409826941	0.000405462	0.000082029
531	Silicon	g	0.004304063	x	0.004665078	1.405778970	0.000118782	1.457892323	0.000118782	2.504521006	0.001099413	0.002082180
532	Silicon	mg	0.001785699	x	0.004138986	0.008636771	0.000105386	1.523926466	0.000105386	1.531681485	0.000975430	0.000001181
533	Silicon tetrafluoride	pg	48.774404904	x	110.882513298	79.186429772	2.823275120	90.693707183	2.823275120	160.369003421	26.131552731	0.023334138
534	Silver	ng	0.438232612	x	0.298924910	4.477721498	0.007611184	5.248038503	0.007611184	9.338371005	0.070447285	0.000000967
535	Silver-110	nBq	0.102858131	x	0.007018786	0.201705255	0.000178711	0.461305541	0.000178711	0.644695949	0.001654109	0.000007619
536	Silver-110	µBq	38.341788962	x	6.203782984	182.449319608	0.157959859	285.497382502	0.157959859	399.510616153	1.462038308	0.461514146
537	Silver, 0.007% in sulfide, Ag 0.004%, Pb,	ng	41.677294389	x	1.754888260	15.846465316	0.044682721	16.559020682	0.044682721	31.034645579	0.413572472	0.000002436
538	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu a	ng	29.722318911	x	1.253204934	11.325142726	0.031908930	11.835529554	0.031908930	22.180961204	0.295341347	0.000001738
539	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, i	ng	2.744146822	x	0.115597712	1.044059135	0.002943333	1.091002803	0.002943333	2.044742845	0.027242778	0.000000160
540	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, i	ng	6.267314930	x	0.264011842	2.384510659	0.006722233	2.491724579	0.006722233	4.669956844	0.062219363	0.000000366
541	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, i	ng	6.143018854	x	0.258775851	2.337220027	0.006588915	2.442307638	0.006588915	4.577340272	0.060985403	0.000000359
542	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63	ng	4.053497708	x	0.170754382	1.542224841	0.004347724	1.611567366	0.004347724	3.020377969	0.040241486	0.000000237
543	Silver, ion	µg	0.066208344	x	0.075351067	2.526009808	0.001918578	2.559070185	0.001918578	4.865360296	0.017757898	0.000010911
544	Sodium	mg	0.000758146	x	0.001360443	0.008379643	0.000034639	0.179221128	0.000034639	3.074263966	0.000320614	0.000003708
545	Sodium	µg	39.358353312	x	74.764703759	26.874587995	1.903648481	30.351254604	1.903648481	54.901377379	17.619710634	0.000000673
546	Sodium-24	µBq	0.361571874	x	0.024672777	0.709044061	0.000628215	1.621603533	0.000628215	2.266266357	0.005814605	0.000026784
547	Sodium chlorate	ng	0.586196742	x	1.195183078	2.592370595	0.030431585	2.919489557	0.030431585	4.777463003	0.281667404	0.004471597
548	Sodium chloride, in ground	mg	7.730418785	x	1.055187252	5.636840863	0.026867031	7.033586388	0.026867031	10.538424483	0.248674750	0.014413297
549	Sodium dichromate	ng	0.845494620	x	0.560689623	3.344935886	0.014276201	7.438417950	0.014276201	10.482925646	0.132137070	0.000097500
550	Sodium formate	ng	0.024622631	x	0.011193061	3.000522346	0.000284996	3.051210344	0.000284996	5.600077386	0.002637856	0.001684043
551	Sodium formate	ng	0.059154357	x	0.026890642	7.208571958	0.000684686	7.330346778	0.000684686	13.453844415	0.006337286	0.004045810
552	Sodium hydroxide	ng	5.313100797	x	0.211578031	1.842600277	0.005387170	1.912976210	0.005387170	3.596174533	0.049862348	0.000000309
553	Sodium nitrate, in ground	pg	3.526533306	x	0.180033294	2.071703562	0.004583983	2.672381862	0.004583983	4.562687044	0.042428237	0.000019295
554	Sodium sulphate, various forms, in groun	µg	11.864790549	x	29.070862557	17.725288235	0.740198256	20.085140820	0.740198256	35.535668077	6.851096311	0.006500757
555	Sodium, ion	g	0.014562176	x	0.026205880	1.297196080	0.000667250	1.301452996	0.000667250	2.477659976	0.006175909	0.000077081
556	Solids, inorganic	mg	0.157913641	x	0.227026864	8.389900981	0.005780526	8.585394502	0.005780526	15.811048704	0.053503157	0.003844226
557	Solved solids	mg	0.027886129	x	0.085822048	10.119596165	0.002185189	10.208457764	0.002185189	19.325009387	0.020225582	0.001120126
558	Stibnite, in ground	pg	158.643039327	x	1.091449757	14.052952071	0.027790342	19.027404887	0.027790342	31.140279922	0.257220693	0.006351209
559	Strontium	µg	0.032759668	x	0.039602841	1.745821536	0.001008362	1.824092182	0.001008362	620.093323660	0.009333155	0.001612394
560	Strontium	mg	0.111875587	x	0.204292840	42.341532890	0.005201676	42.533882981	0.005201676	80.480593515	0.048145456	0.006421889
561	Strontium	ng	137.048055588	x	377.223987841	132.921667375	9.604824674	150.054416254	9.604824674	271.430743671	88.899937748	0.000428764
562	Strontium-89	µBq	0.846476983	x	0.110587760	4.881941278	0.002815770	7.406110919	0.002815770	9.650386146	0.026062089	0.019417543
563	Strontium-90	mBq	3.711634930	x	5.687332130	80.066960120	0.144810059	82.847104882	0.144810059	155.032460866	1.340326937	0.008384339
564	Styrene	ng	2.593084801	x	1.568394248	5.307279716	0.039934236	5.928919264	0.039934236	10.761504093	0.369621645	0.000136918
565	Sulfate	µg	7.791126012	x	5.557457508	40.991671132	0.141503210	48.059176283	0.141503210	82.364682430	1.309719536	0.027528080
566	Sulfate	g	0.013226455	x	0.014644561	9.596174747	0.000372878	9.611078101	0.000372878	18.358285449	0.003451267	0.000166471
567	Sulfide	ng	46.577103122	x	95.736283858	155.554333466	2.437623934	168.841890067	2.437623934	300.669331164	22.562058484	0.090039553
568	Sulfite	µg	0.183904957	x	0.254754776	3.683671538	0.006486531	3.850751389	0.006486531	7.198292208	0.060037761	0.000153641
569	Sulfur	µg	4.581696191	x	14.663625369	5.183329480	0.373363188	5.947441372	0.373363188	10.479176552	3.455759508	0.001781752
570	Sulfur	µg	8.221514044	x	22.467320355	9.351758479	0.572059784	179.135775878	0.572059784	187.618917968	5.294847214	0.000523963
571	Sulfur dioxide	g	0.002201521	x	0.006343368	0.160526381	0.000161514	0.188680338	0.000161514	2.213672218	0.001494934	0.001158272
572	Sulfur hexaflouride	µg	0.017980128	x	0.020744314	1.589854670	0.000528189	1.875409594	0.000528189	2.053958194	0.004888788	0.011164467
573	Sulfur trioxide	ng	0.015791601	x	0.006117967	0.914808030	0.000155775	0.986213688	0.000155775	1.821899887	0.001441814	x
574	Sulfur, in ground	µg	0.840514126	x	0.217435732	1.325727318	0.005536318	2.607922009	0.005536318	3.790581065	0.051242826	0.000248965
575	Sulfuric acid	ng	1.112131062	x	0.044565793	0.389762650	0.001134728	0.404961717	0.001134728	0.761006369	0.010502769	0.000000065
576	Sulfuric acid	pg	0.686841001	x	0.027306918	0.237549253	0.000695285	0.246572468	0.000695285	0.463571503	0.006435390	0.000000040
577	Suspended solids, unspecified	mg	0.382862658	x	1.162238804	0.606153850	0.029592763	0.691418791	0.029592763	1.223685177	0.273903465	0.000188100
578	Sylvite, 25 % in sylvinite, in ground	µg	4.895454865	x	1.008822051	39.122928882	0.025686487	55.444494314	0.025686487	89.010558991	0.237747918	0.019046723
579	t-Butyl methyl ether	ng	1.872562643	x	0.111740597	16.989609787	0.002845124	92.949792824	0.002845124	108.454797854	0.026333776	0.000132730
580	t-Butyl methyl ether	ng	52.242314399	x	174.406999275	58.435015227	4.440726740	67.588803149	4.440726740	118.373901107	41.102294335	0.022751956
581	t-Butylamine	pg	0.547574588	x	0.020503974	4.358171822	0.000522069	10.639728363	0.000522069	14.620961492	0.004832148	x
582	t-Butylamine	pg	1.314198624	x	0.049210289	10.459790035	0.001252986	25.535749512	0.001252986	35.090871319	0.011597332	x
583	Talc, in ground	µg	0.292229350	x	0.101625894	158.206357888	0.002587584	160.396412025	0.002587584	294.693193233	0.023950056	0.089630374
584	Tantalum, 81.9% in tantalite, 1.6E-4% in	ng	32.875487997	x	1.369645991	12.285319381	0.034873736	12.822193008	0.034873736	24.044734723	0.322782875	0.000001920
585	Tebutam	ng	0.156026477	x	0.005722867	1.814087451	0.000145715	3.614304325	0.000145715	5.187884434	0.001348702	0.000732788
586	Technetium-99m	µBq	1.098335137	x	0.075563731	2.161996854	0.001923993	4.933285304	0.001923993	6.898985778	0.017808016	0.000081556
587	Teflubenzuron	ng	0.007566484	x	0.001169346	2.095315268	0.000029774	2.124548741	0.000029774	3.903026660	0.000275579	0.011188610
588	Tellurium-123m	µBq	0.160364775	x	0.116824448	3.830656656	0.002974568	4.483662644	0.002974568	6.130611229	0.027531881	0.016235675
589	Tellurium-132	nBq	2.766982315	x	0.188812079	5.426064690	0.004807507	12.409561197	0.004807507	17.342938935	0.044497123	0.000204971
590	Tellurium, 0.5ppm in sulfide, Te 0.2ppm,	ng	4.458422162	x	0.187983883	1.698799739	0.004786419	1.775359042	0.004786419	3.327199669	0.044301943	0.000000261
591	Terpenes	pg	800.934958690	x	679.485465202	480.028178590	17.300964339	542.930873696	17.300964339	975.561331379	160.133547982	0.051535373
592	Thallium	µg	0.000414414	x	0.000186816	0.012109616	0.000004757	0.012442919	0.000004757	7.242105255	0.000044027	0.000008129
593	Thallium	µg	0.057907645	x	0.030269392	14.221140238	0.000770715	14.966715892	0.000770715	24.541442066	0.007133552	0.029943945
594	Thiram	pg	3.646433940	x	3.093508199	2.185434689	0.078766475	2.471813152	0.078766475	4.441459210	0.729043473	0.000234626
595	Thorium	µg	0.000133121	x	0.000172264	0.012883667	0.000004386	0.013253930	0.000004386	6.603731537	0.000040597	0.000009767
596	Thorium-228	mBq	0.000815945	x	0.001234462	0.060287944	0.000031432	0.063497910	0.000031432	25.238187540	0.000290924	0.000102117
597	Thorium-228	mBq	6.895436445	x	16.026772441	5.515970257	0.408071449	6.294918537	0.408071449	11.094051771	3.777010790	0.002101423
598	Thorium-230	µBq	3.140516407	x	2.243776951	50.677943322	0.057130736	59.773199619	0.057130736	88.322073969	0.528788300	0.155537699
599	Thorium-230	mBq	2.074071732	x	1.390220986	34.401697176	0.035397613	40.558475512	0.035397613	59.900777286	0.327631760	0.105912512
600	Thorium-232	mBq	0.001151476	x	0.001708295	0.060379765	0.000043496	0.064538593	0.000043496	16.097038471	0.000402592	0.000133943
601	Thorium-232	µBq	1.579103892	x	2.222877959	32.576459990	0.056598609	33.977153471	0.056598609	63.525676034	0.523863059	0.001844054
602	Thorium-234	µBq	0.826625297	x	0.552687213	13.680496242	0.014072445	16.130678668	0.014072445	23.820608673	0.130251152	0.042134871
603	Thorium-234	µBq	15.203166516	x	10.190355690	252.170583166	0.259465418	297.301278155	0.259465418	439.081189166	2.401549254	0.776380540
604	Tin	µg	0.019020858	x	0.016163405	0.138931804	0.000411550	0.162854679	0.000411550	3.173561652	0.003809211	0.000035231
605	Tin	ng	0.079941037	x	0.007165009	1.028932326	0.000182434	1.048223613	0.000182434	1.915042426	0.001688569	0.000640884
606	Tin, 79% in cassiterite, 0.1% in crude ore	µg	1.631446867	x	0.113630822	2.454837367	0.002893252	2.553159999	0.002893252	4.791592429	0.026779243	0.000035794
607	Tin, ion	µg	0.547450199	x	0.179705263	25.861879821	0.004575630	28.125809447	0.004575630	42.766296038	0.042350930	0.078747276
608	TiO2, 54% in ilmenite, 2.6% in crude ore,	µg	162.123058221	x	60.216588249	207.666165093	1.533226389	256.566199156	1.533226389	444.651266281	14.191173200	0.014199043
609	TiO2, 95% in rutile, 0.40% in crude ore, i	ng	2.283986617	x	0.022129161	1.083964645	0.000563450	1.473712959	0.000563450	2.459861339	0.005215154	0.000035620
610	Titanium	mg	0.000240366	x	0.000153311	0.004395216	0.000003904	0.004790544	0.000003904	1.740356089	0.000036131	0.000001948
611	Titanium	µg	0.005218268	x	0.006537653	0.096556430	0.000166461	25.409199837	0.000166461	25.496971824	0.001540721	0.000003797
612	Titanium, ion	mg	0.038141073	x	0.011539047	4.614806460	0.000293806	5.311599522	0.000293806	6.672874858	0.002719394	0.025017919
613	TOC, Total Organic Carbon	mg	1.899927860	x	5.541450959	2.307990122	0.141095653	2.970687883	0.141095653	4.983625027	1.305947292	0.000836455
614	Toluene	µg	5.779148308	x	10.834391858	32.117550650	0.275863777	75.915344646	0.275863777	315.462498037	2.553328507	0.160031198
615	Toluene	µg	4.309049805	x	10.166354473	3.470446998	0.258854303	3.962578036	0.258854303	6.981181208	2.395892915	0.001329467
616	Toluene, 2-chloro-	pg	0.701781973	x	0.228628225	34.186100703	0.005821300	38.231637455	0.005821300	69.460979135	0.053880547	x
617	Toluene, 2-chloro-	pg	1.333218729	x	0.473943664	71.145695628	0.012067488	78.021220656	0.012067488	143.013518471	0.111693751	x
618	Transformation, from arable	mm2	0.000581141	x	0.000153072	0.007064638	0.000003897	0.008628482	0.000003897	0.014780103	0.000036074	0.000002647
619	Transformation, from arable, non-irrigated	mm2	0.508725743	x	0.018659641	5.914204665	0.000475109	11.783170213	0.000475109	16.913284784	0.004397496	0.002388994
620	Transformation, from arable, non-irrigated	mm2	0.000142139	x	0.000012849	0.001803521	0.000000327	0.002209651	0.000000327	0.003760943	0.000003028	0.000000844
621	Transformation, from dump site, inert mat	mm2	0.007432189	x	0.000602448	0.011689319	0.000015339	0.013429929	0.000015339	0.024103856	0.000141978	0.000000038
622	Transformation, from dump site, residual	mm2	0.001273968	x	0.001596570	0.181538591	0.000040652	0.214603646	0.000040652	0.224513052	0.000376262	0.001366661
623	Transformation, from dump site, sanitary	mm2	0.000015919	x	0.000040346	0.000277779	0.000001027	0.002131055	0.000001027	0.002342795	0.000009508	0.000000368
624	Transformation, from dump site, slag com	mm2	0.000030257	x	0.000003696	0.000028462	0.000000094	0.000726775	0.000000094	0.000751817	0.000000871	0.000000000
625	Transformation, from forest	mm2	0.585560402	x	1.621778412	0.584772969	0.041293496	0.659309947	0.041293496	1.193499388	0.382202629	0.000000056
626	Transformation, from forest, extensive	mm2	0.054027750	x	0.040609825	22.572545054	0.001034002	79.898761895	0.001034002	100.506221321	0.009570470	0.000112048
627	Transformation, from forest, intensive, cle	mm2	0.000884034	x	0.000749984	0.000529832	0.000019096	0.000599261	0.000019096	0.001076779	0.000176748	0.000000057
628	Transformation, from industrial area	mm2	0.000666468	x	0.000901258	0.006836875	0.000022948	0.007881663	0.000022948	0.012670695	0.000212398	0.000012766
629	Transformation, from industrial area, bent	mm2	0.000000610	x	0.000001284	0.000007777	0.000000033	0.000008219	0.000000033	0.000015323	0.000000303	0.000000000
630	Transformation, from industrial area, built	mm2	0.000002303	x	0.000005236	0.000003739	0.000000133	0.000004283	0.000000133	0.000007573	0.000001234	0.000000001
631	Transformation, from industrial area, vege	mm2	0.000003929	x	0.000008932	0.000006379	0.000000227	0.000007306	0.000000227	0.000012919	0.000002105	0.000000002
632	Transformation, from mineral extraction s	cm2	0.000088696	155.000000000	0.000036850	119.373914909	0.000000938	119.373961504	0.000000938	119.374481609	0.000008684	0.000000056
633	Transformation, from pasture and meado	cm2	0.000159856	155.000000000	0.000053709	119.375568511	0.000001368	119.376166926	0.000001368	119.376642104	0.000012657	0.000013690
634	Transformation, from pasture and meado	mm2	0.000415123	x	0.000015226	0.004826549	0.000000388	0.009616194	0.000000388	0.013802851	0.000003588	0.000001950
635	Transformation, from sea and ocean	mm2	0.144347013	x	0.476904953	0.201378595	0.012142888	0.224504848	0.012142888	0.408465116	0.112391635	0.000000009

No	Substance	Unit	H0, Hoffman, transport of fuel, at plant, ZA	H1, Hoffman, clay extraction, extracted clay, ZA	H2, Hoffman, mining fuel, stockpiled clay, ZA	H3, Hoffman, clay preparation, wet green brick, ZA rev1	H4, Hoffman, wet green brick transport, wet green bricks ready for drying, ZA	H5, Hoffman, drying of wet green brick, dry green brick, ZA rev1	H6, Hoffman, dry green brick transport, at firing location, ZA	H7, Hoffman, brick firing, fired brick, ZA rev1	H8, Hoffman, fired brick transport, at sales bay, ZA	H9, Hoffman, factory overheads, additional water and electricity, ZA
636	Transformation, from shrub land, sclerophl	mm2	0.010213346	x	0.003107526	0.206897738	0.000079123	0.247198005	0.000079123	0.280053907	0.000732347	0.001368583
637	Transformation, from tropical rain forest	mm2	0.000884034	x	0.000749984	0.000529832	0.000019096	0.000599261	0.000019096	0.001076779	0.000176748	0.000000057
638	Transformation, from unknown	mm2	0.147223441	x	0.060408290	9.379839195	0.001538107	9.951995660	0.001538107	17.882756479	0.014236351	0.005590257
639	Transformation, to arable	mm2	0.003440552	x	0.004859451	0.054961244	0.000123731	0.058218788	0.000123731	0.108040925	0.001145221	0.000003378
640	Transformation, to arable, non-irrigated	mm2	0.509141397	x	0.018674888	5.919031098	0.000475497	11.792785990	0.000475497	16.927087125	0.004401089	0.002390943
641	Transformation, to arable, non-irrigated, f	mm2	0.000208179	x	0.000029571	0.002174733	0.000000753	0.002621899	0.000000753	0.004504690	0.000006969	0.000000910
642	Transformation, to dump site	mm2	0.003819272	x	0.003856900	1.808640882	0.000098204	1.844498640	0.000098204	3.335668804	0.000908951	0.001411477
643	Transformation, to dump site, benthos	mm2	0.144205824	x	0.476741943	0.201190650	0.012138737	0.224304310	0.012138737	0.408093096	0.112353218	0.000000007
644	Transformation, to dump site, inert materi	mm2	0.007432189	x	0.000602448	0.011689319	0.000015339	0.013429929	0.000015339	0.024103856	0.000141978	0.000000038
645	Transformation, to dump site, residual ma	mm2	0.001274005	x	0.001596573	0.181539020	0.000040652	0.214604170	0.000040652	0.224513968	0.000376263	0.001366661
646	Transformation, to dump site, sanitary lar	mm2	0.000015919	x	0.000040346	0.000277779	0.000001027	0.002131055	0.000001027	0.002342795	0.000009508	0.000000368
647	Transformation, to dump site, slag compa	mm2	0.000030257	x	0.000003696	0.000028462	0.000000094	0.000726775	0.000000094	0.000751817	0.000000871	0.000000008
648	Transformation, to forest	mm2	0.013056417	x	0.002860772	0.207250912	0.000072841	0.246125988	0.000072841	0.279328631	0.000674195	0.001368372
649	Transformation, to forest, intensive	mm2	0.005352223	x	0.000467165	0.118613536	0.000011895	0.121166305	0.000011895	0.221944721	0.000110096	0.000066403
650	Transformation, to forest, intensive, clear	mm2	0.000884034	x	0.000749984	0.000529832	0.000019096	0.000599261	0.000019096	0.001076779	0.000176748	0.000000057
651	Transformation, to forest, intensive, norm	mm2	0.047498304	x	0.039313441	22.232663473	0.001000993	78.995460393	0.001000993	99.300261932	0.009264953	0.000043445
652	Transformation, to forest, intensive, short	mm2	0.000884034	x	0.000749984	0.000529832	0.000019096	0.000599261	0.000019096	0.001076779	0.000176748	0.000000057
653	Transformation, to heterogeneous, agricu	mm2	0.029079563	x	0.075373192	0.027264494	0.001919142	0.030738579	0.001919142	0.055644888	0.017763112	0.000000001
654	Transformation, to industrial area	mm2	0.007554329	x	0.006966407	4.800387875	0.000177378	5.206038788	0.000177378	9.591138308	0.001641765	0.000000897
655	Transformation, to industrial area, benthc	mm2	0.000141189	x	0.000163010	0.000187946	0.000004151	0.000200539	0.000004151	0.000372022	0.000038416	0.000000002
656	Transformation, to industrial area, built up	mm2	0.007229137	x	0.007643334	0.029248609	0.000194614	0.032987362	0.000194614	0.056813443	0.001801296	0.000025355
657	Transformation, to industrial area, vegeta	mm2	0.006744185	x	0.003823172	0.032814686	0.000097345	0.034856837	0.000097345	0.064831956	0.000901002	0.000000012
658	Transformation, to mineral extraction site	cm2	0.006199308	155.000000000	0.015570447	119.400985095	0.000396453	119.402293020	0.000396453	119.425665486	0.003669469	0.000016504
659	Transformation, to pasture and meadow	cm2	0.000001212	77.500000000	0.000002532	59.686682527	0.000000064	59.686683324	0.000000064	59.686695437	0.000000597	0.000000000
660	Transformation, to permanent crop, fruit,	mm2	0.000509552	x	0.000424682	0.000268208	0.000010813	0.000299130	0.000010813	0.000542214	0.000100084	0.000000017
661	Transformation, to sea and ocean	mm2	0.000000610	x	0.000001284	0.000007777	0.000000033	0.000008219	0.000000033	0.000015323	0.000000303	0.000000000
662	Transformation, to shrub land, sclerophyll	mm2	0.008752333	x	0.002243060	0.193534151	0.000057112	0.230891404	0.000057112	0.251711520	0.000528619	0.001367076
663	Transformation, to traffic area, rail emban	mm2	0.000253443	x	0.000179521	0.054462741	0.000004571	0.054543798	0.000004571	0.104296046	0.000042308	0.000000000
664	Transformation, to traffic area, rail networ	mm2	0.000278578	x	0.000197325	0.059864005	0.000005024	0.059953101	0.000005024	0.114639457	0.000046503	0.000000000
665	Transformation, to traffic area, road emba	mm2	0.008659733	x	0.000427266	0.219918098	0.000010879	0.780510257	0.000010879	0.981233821	0.000100693	0.000001523
666	Transformation, to traffic area, road netw	mm2	0.035642714	x	0.020387081	0.024815003	0.000519093	0.028566404	0.000519093	0.051235043	0.004804600	0.000000001
667	Transformation, to unknown	mm2	0.002610984	x	0.001129992	0.007897445	0.000028772	0.009152123	0.000028772	0.014907573	0.000266304	0.000012787
668	Transformation, to urban, discontinuously	mm2	0.000005299	x	0.000002446	0.000111321	0.000000062	0.017103368	0.000000062	0.017205060	0.000000576	0.000000000
669	Transformation, to water bodies, artificial	cm2	0.000144913	77.500000000	0.000043262	59.690381584	0.000001102	59.691031024	0.000001102	59.691558357	0.000010195	0.000025101
670	Transformation, to water courses, artificia	mm2	0.008288554	x	0.004309818	0.029811905	0.000109736	0.035993564	0.000109736	0.062886129	0.001015690	0.000002988
671	Tributyltin compounds	ng	35.472124016	x	80.853399897	63.152610152	2.058678014	70.215644930	2.058678014	126.495009892	19.054626559	0.012368459
672	Triethylene glycol	ng	11.156469600	x	23.439756325	150.671532453	0.596819813	159.799041107	0.596819813	291.875842339	5.524020066	0.048758660
673	Trimethylamine	pg	0.050521883	x	0.001726366	0.177624568	0.000043956	0.769246444	0.000043956	0.931508246	0.000406851	x
674	Trimethylamine	pg	0.121252518	x	0.004143278	0.426298964	0.000105496	1.846191467	0.000105496	2.235619791	0.000976442	x
675	Tungsten	ng	1.127360265	x	0.755653668	11.351353191	0.019240349	13.350316669	0.019240349	23.719889984	0.178084020	x
676	Tungsten	µg	0.722028385	x	0.199077054	26.864927680	0.005068872	29.340383147	0.005068872	44.626965715	0.046916257	0.081115482
677	Ulexite, in ground	µg	0.043808881	x	0.042616079	0.588783247	0.001085085	0.607272500	0.001085085	1.145130810	0.010043282	0.000000009
678	Uranium	µg	0.000106823	x	0.000158300	0.016989645	0.000004031	0.017445674	0.000004031	8.256260330	0.000037306	0.000013005
679	Uranium-234	µBq	9.681731611	x	6.626948897	159.144996603	0.168734450	187.654005117	0.168734450	277.186730787	1.561765326	0.489489119
680	Uranium-234	µBq	18.241583689	x	12.227075955	302.564967421	0.311324106	356.714198100	0.311324106	526.830888818	2.881540746	0.931506830
681	Uranium-235	µBq	0.465160387	x	0.311790437	7.715406575	0.007938765	9.096211941	0.007938765	13.434187555	0.073479289	0.023753423
682	Uranium-235	µBq	30.098613038	x	20.174675274	499.232189892	0.513684774	588.578419361	0.513684774	869.270958829	4.754542218	1.536986220
683	Uranium-238	mBq	0.012574280	x	0.010878453	0.307969470	0.000276986	0.345387856	0.000276986	46.233698520	0.002563712	0.000755825
684	Uranium-238	mBq	0.059149583	x	0.056893771	0.847895867	0.001448621	0.994335049	0.001448621	1.500373115	0.013408089	0.002353525
685	Uranium alpha	mBq	0.044798558	x	0.030037019	0.742638977	0.000764798	0.875513192	0.000764798	1.293386099	0.007078789	0.002283512
686	Uranium alpha	mBq	0.875765387	x	0.587026650	14.525434709	0.014946791	17.124962726	0.014946791	25.292282767	0.138343887	0.044715808
687	Uranium, in ground	µg	3.402336152	x	2.250554096	55.622778499	0.057303295	65.587314843	0.057303295	96.870270678	0.530385462	0.171165807
688	Urea	pg	0.594985358	x	0.064789957	95.667334921	0.001649673	98.378497699	0.001649673	185.771556097	0.015268974	x
689	Vanadium	µg	0.700329932	x	1.412119774	6.326109024	0.035955197	6.588350813	0.035955197	176.680885250	0.332792622	0.001595125
690	Vanadium	ng	0.149363305	x	0.187128331	2.763750833	0.004764636	727.292311905	0.004764636	729.804624155	0.044100316	0.000108695
691	Vanadium, ion	mg	0.003800552	x	0.003527881	0.815223687	0.000089826	0.874647893	0.000089826	1.347539831	0.000831412	0.002382446
692	Vermiculite, in ground	µg	0.028544489	x	0.009631022	3.633301288	0.000245224	3.638387410	0.000245224	6.957443911	0.002269732	0.000000002
693	VOC, volatile organic compounds, unspe	µg	12.103216970	x	28.071454228	10.284676539	0.714751460	11.757288721	0.714751460	20.508608490	6.615566915	0.005643006
694	Volume occupied, final repository for low-	mm3	0.006900495	x	0.004637127	0.111091253	0.000118070	0.130919618	0.000118070	0.195321694	0.001092826	0.000325003
695	Volume occupied, final repository for radi	mm3	0.001580004	x	0.001171687	0.028902337	0.000029833	0.033669107	0.000029833	0.049810311	0.000276130	0.000089938
696	Volume occupied, reservoir	cm3y	6.512591611	x	2.715793876	255.996788144	0.069149166	308.326538776	0.069149166	353.525374571	0.640027979	1.653519546
697	Volume occupied, underground deposit	mm3	0.019210148	x	0.019498848	0.135251284	0.000496477	0.159526808	0.000496477	0.276700176	0.004595271	0.000055919
698	Water	mg	0.028835590	x	0.023015358	44.748613204	0.000586014	45.362424311	0.000586014	83.343483810	0.005424003	0.025393452
699	Water, cooling, unspecified natural origin	cm3	7.270482424	x	10.135196405	97.023609298	0.258060960	105.041102027	0.258060960	171.313744466	2.388549929	0.195973241
700	Water, fresh	cm3	x	x	x	x	x	x	x	x	x	9.696030000
701	Water, lake	cm3	0.029703985	x	0.010140956	4.240505269	0.000258208	4.322029128	0.000258208	7.824492746	0.002389907	0.003254157
702	Water, process, drinking	g	x	x	x	21.719107000	x	21.719107000	x	21.719107000	x	x
703	Water, rain	cm3	x	x	x	x	x	x	x	x	x	15.352000000
704	Water, river	cm3	1.849740012	x	1.934383930	162.234829887	0.049253014	171.489557212	0.049253014	194.912085741	0.455874007	0.296699548
705	Water, salt, ocean	cm3	0.276070037	x	0.559637023	3.862878584	0.014249400	4.357693165	0.014249400	6.580174814	0.131889005	0.011449290
706	Water, salt, sole	mm3	404.339693131	x	997.278392802	458.140543871	25.392563629	511.018554230	25.392563629	914.652826550	235.027437000	0.130433001
707	Water, turbine use, unspecified natural or	dm3	2.405093584	x	1.446925009	33.691030106	0.036841403	40.585643988	0.036841403	60.914156365	0.340995131	0.091578619
708	Water, unspecified natural origin/m3	cm3	5.050927311	x	4.084910028	9.306805313	0.104009411	10.669994894	0.104009411	18.997164523	0.962685987	0.001531096
709	Water, well, in ground	cm3	0.576108658	x	0.470407652	57.687709058	0.011977454	58.649231342	0.011977454	97.366954261	0.110860423	0.033983851
710	Wood, hard, standing	cm3	0.001662169	x	0.001659616	0.570272532	0.000042257	4.485775088	0.000042257	5.006504174	0.000391120	0.000001933
711	Wood, primary forest, standing	mm3	0.009153290	x	0.007765334	0.005485885	0.000197720	0.006204753	0.000197720	0.011148965	0.001830047	0.000000589
712	Wood, soft, standing	cm3	0.003886499	x	0.003450923	0.062058647	0.000087867	10.071838037	0.000087867	10.127516558	0.000813275	0.000008875
713	Wood, unspecified, standing/m3	mm3	0.000089555	x	0.000042863	0.000097015	0.000001091	0.000670873	0.000001091	0.000757981	0.000010101	0.000000013
714	Xenon-131m	mBq	0.892630580	x	0.140711315	2.807062322	0.003582772	4.961000360	0.003582772	7.514871176	0.033161272	0.000091226
715	Xenon-133	mBq	32.310257865	x	4.459174006	93.210317971	0.113538868	171.961930000	0.113538868	256.756486746	1.050888343	0.003102616
716	Xenon-133m	µBq	40.095099820	x	19.550210313	301.257999106	0.497784734	381.605041976	0.497784734	655.864866324	4.607375288	0.008259281
717	Xenon-135	mBq	12.948550343	x	1.829614928	37.918326360	0.046585401	69.425774213	0.046585401	103.921148400	0.431183218	0.001256786
718	Xenon-135m	mBq	8.122304755	x	1.076715310	22.845711702	0.027415175	42.697531088	0.027415175	63.479915085	0.253748243	0.000766030
719	Xenon-137	mBq	0.248852086	x	0.020391573	0.533157555	0.000519207	1.156998581	0.000519207	1.641817626	0.004805658	0.000019507
720	Xenon-138	mBq	1.872532506	x	0.181434172	4.382500653	0.004619652	9.041995822	0.004619652	13.027701463	0.042758380	0.000155591
721	Xylene	µg	4.265477434	x	7.724016926	191.381722241	0.196667844	223.642734816	0.196667844	474.617351172	1.820310070	1.335043556
722	Xylene	µg	3.458018184	x	8.213219293	2.821105090	0.209123846	3.218545556	0.209123846	5.672859759	1.935599822	0.001076244
723	Zinc	µg	3.084138196	x	2.236512897	5.528836753	0.056945780	45.676843427	0.056945780	772.473545600	0.527076389	0.001811704
724	Zinc	µg	10.507938366	x	0.616236790	0.819428364	0.015690535	33.127421499	0.015690535	33.861401413	0.145227806	0.000127754
725	Zinc-65	nBq	1.986957393	x	0.135585093	3.896432332	0.003452249	8.911249355	0.003452249	12.453885431	0.031953181	0.000147189
726	Zinc-65	µBq	4.902096644	x	0.334507038	9.613033435	0.008517172	21.985275428	0.008517172	30.725444934	0.078832884	0.000363135
727	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, C	µg	240.160446390	x	32.685335015	363.229950283	0.832229451	472.821632930	0.832229451	796.501344379	7.702914824	0.071295536
728	Zinc, ion	mg	0.120350555	x	0.044361910	13.770725649	0.001129537	13.884043746	0.001129537	26.456359700	0.010454720	0.000064669
729	Zirconium	ng	1.054616877	x	1.063926496	2.492747956	0.027089548	3.046784302	0.027089548	5.322716723	0.250734318	0.000010671
730	Zirconium-95	nBq	1.942175418	x	0.132529281	3.808614678	0.003374442	8.710407935	0.003374442	12.173200205	0.031233021	0.000143872
731	Zirconium-95	nBq	56.767650559	x	3.873685079	111.321616503	0.098631230	254.595640074	0.098631230	355.809248093	0.912906850	0.004205209
732	Zirconium, 50% in zircon, 0.39% in crude	ng	45.129049945	x	1.802950021	15.736014385	0.045906462	16.343546549	0.045906462	30.718251793	0.424899131	0.000002626

Appendix 5.5: Inventory of emitted substances for the VSBK firing technology for the cradle to gate phase

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
1	1-Butanol	pg	0.74312936	0.307571267	0.412627446	0.007765052	0.006095104	0.005935797	0.003134673	2.10206E-08
2	1-Butanol	ng	11.50952968	1.199242255	10.18396944	0.042774628	0.033575545	0.032697982	0.017267688	2.14331E-06
3	1-Pentanol	pg	24.03827205	23.63121733	0.392745459	0.004845576	0.00380349	0.003704078	0.001956111	x
4	1-Pentanol	pg	57.69186169	56.71492632	0.942593114	0.011629397	0.009128387	0.008889799	0.004694671	x
5	1-Pentene	pg	18.16525901	17.85765581	0.296789968	0.003661708	0.002874223	0.0027991	0.001478195	x
6	1-Pentene	pg	43.59650408	42.85825331	0.712299045	0.008788092	0.006898131	0.006717835	0.003547665	x
7	1-Propanol	pg	270.5690196	238.9007009	27.55608039	1.392533919	1.0930565	1.064487314	0.562151969	8.61265E-06
8	1-Propanol	pg	82.62876071	78.83047274	3.727064721	0.024118495	0.018931588	0.018436774	0.009736395	x
9	1,4-Butanediol	pg	38.8672552	4.799466951	33.52458551	0.183943629	0.144384557	0.140611293	0.074256472	6.78898E-06
10	1,4-Butanediol	pg	15.54701456	1.919800668	13.40993122	0.073577984	0.05775424	0.056244924	0.029702803	2.71559E-06
11	2-Aminopropanol	pg	0.601689007	0.396403129	0.203097757	0.000740968	0.000581616	0.000566415	0.000299121	x
12	2-Aminopropanol	pg	1.494713058	0.978471423	0.510751973	0.001858977	0.001459187	0.001421048	0.00075045	x
13	2-Butene, 2-methyl-	pg	0.00402927	0.00396104	6.58317E-05	8.12184E-07	6.37543E-07	6.20877E-07	3.27883E-07	x
14	2-Methyl-1-propanol	pg	41.9093079	40.92211574	0.943827558	0.014684657	0.011526584	0.011225315	0.005928049	x
15	2-Methyl-1-propanol	pg	100.5802659	98.21104294	2.265148694	0.035242907	0.027663591	0.026940549	0.014227209	x
16	2-Methyl-2-butene	pg	0.009670392	0.009506637	0.000157998	1.94927E-06	1.53013E-06	1.49013E-06	7.86931E-07	x
17	2-Nitrobenzoic acid	pg	0.795018878	0.427341513	0.363855489	0.001294211	0.001015879	0.000989327	0.00052246	x
18	2-Propanol	ng	682.0962627	69.91563819	604.7570869	2.513806749	1.973189149	1.921615971	1.014798571	0.000127173
19	2-Propanol	pg	14.68444554	13.00477716	1.652491132	0.009203094	0.007223883	0.007035072	0.003715197	x
20	2,4-D	ng	1.395774538	0.191056988	0.95484785	0.084538931	0.066358045	0.064623647	0.034127519	0.000221558
21	4-Methyl-2-pentanone	pg	1.735174567	0.374789042	1.326779151	0.011054985	0.008677508	0.008450704	0.004462787	0.00096039
22	Acenaphthene	pg	6.817710813	5.598127077	0.851582963	0.120946046	0.094935471	0.092454145	0.048824706	0.010840406
23	Acenaphthene	ng	1.25766225	0.168748136	0.633356214	0.154030285	0.120904635	0.117744554	0.062180481	0.000697945
24	Acenaphthylene	pg	78.65443955	10.55354091	39.61021973	9.63308375	7.5613992	7.363767114	3.888779263	0.043649596
25	Acetaldehyde	µg	3.342405077	1.580832524	1.678623002	0.027652068	0.021705233	0.021137924	0.011162863	0.001291462
26	Acetaldehyde	ng	24.43764372	5.051772289	19.14081705	0.08298201	0.065135954	0.063433497	0.033499005	3.91284E-06
27	Acetic acid	µg	7.647729188	4.252024036	2.554519004	0.282740263	0.221934331	0.21613364	0.114139408	0.006238507
28	Acetic acid	ng	263.4431594	85.77314999	151.5760237	8.811037813	6.916141913	6.735374919	3.556927577	0.074503489
29	Acetone	µg	1.889321804	0.917582668	0.891542968	0.026849545	0.0210753	0.020524455	0.010838892	0.000907977
30	Acetone	pg	446.8848691	271.6334062	173.400022	0.626182616	0.491516202	0.478669458	0.252783641	0.00228905
31	Acetonitrile	ng	4.152139122	0.568653492	2.838698996	0.251985171	0.197793409	0.192623688	0.101723886	0.000660481
32	Acetonitrile	pg	3.861915913	2.12502641	1.719237462	0.005977552	0.004692023	0.004569388	0.002413078	x
33	Acetyl chloride	pg	45.32093568	44.55348587	0.740471604	0.009135693	0.007170977	0.006983549	0.003687988	x
34	Acidity, unspecified	ng	120.2585723	21.58025511	85.12442858	4.573492969	3.589920629	3.496090974	1.846273229	0.048110809
35	Aclonifen	ng	6.815124621	3.647278927	3.135655711	0.010845996	0.008513463	0.008290947	0.00437842	0.000161156
36	Acrolein	ng	1.948620904	1.16060034	0.607530649	0.053084096	0.041667866	0.040578794	0.021429517	0.023729643
37	Acrylate, ion	ng	4.17710884	0.42864381	3.702974708	0.01540423	0.012091406	0.011775374	0.006218533	7.78738E-07
38	Acrylic acid	ng	1.764912118	0.181110595	1.56458095	0.006508596	0.005108862	0.004975331	0.002627455	3.29035E-07
39	Actinides, radioactive, unspec	µBq	1.315471126	0.970985305	0.272514636	0.012083103	0.009484519	0.009236622	0.004877827	0.036289114
40	Actinides, radioactive, unspec	µBq	188.8443775	153.5193692	23.91536203	2.042588935	1.603311125	1.561405429	0.824572663	5.377768184
41	Aerosols, radioactive, unspeci	µBq	27.63407637	22.97227095	2.936446641	0.304501582	0.239015675	0.23276853	0.122924234	0.826148757
42	Aldehydes, unspecified	ng	81.96953266	49.18302704	25.67439605	1.904385991	1.494830013	1.455759685	0.76878152	1.488352353
43	Aldrin	pg	45.40084716	4.670386525	40.23536383	0.167652915	0.131597591	0.128158032	0.067679801	8.46465E-06
44	Aluminium	mg	54.41139731	54.15339735	0.064762488	0.005463381	0.00428843	0.004176343	0.002205512	0.177103806
45	Aluminium	mg	137.2341237	130.0329475	1.058616027	0.109408141	0.085878899	0.083634285	0.044166969	5.819471873
46	Aluminium	µg	89.86996835	15.2244192	40.43198858	11.583878	9.092656945	8.855002417	4.676295331	0.005727877
47	Aluminium, 24% in bauxite, 11	mg	18.23544997	14.60474802	3.459769567	0.032743482	0.025701691	0.025029931	0.013218218	0.074239066
48	Ammonia	mg	11.84087064	11.65361626	0.082729729	0.011615965	0.009117843	0.00887953	0.004689248	0.070222062
49	Ammonium carbonate	ng	1.203041607	0.585643414	0.511344169	0.035875336	0.02816001	0.027423993	0.014482513	0.000112173
50	Ammonium, ion	µg	156.9363927	135.9953186	13.45967568	2.119177357	1.663428492	1.619951507	0.855490638	1.223350473
51	Anhydrite, in ground	ng	95.88076977	16.25348765	74.92880922	1.577084828	1.237918019	1.20556259	0.636653323	0.041254145
52	Aniline	pg	88.22407275	83.75701879	3.950996482	0.174753744	0.137171321	0.133586078	0.070546334	x
53	Aniline	pg	212.0685907	201.1999883	9.628492326	0.419941361	0.329629052	0.321013548	0.169526115	x
54	Anthranilic acid	pg	0.57974139	0.311722626	0.265227552	0.000945195	0.000741922	0.00072253	0.000381566	x
55	Antimony	µg	4.388694957	4.345024358	0.04037943	0.000994344	0.000780501	0.000760101	0.000401407	0.000354815
56	Antimony	µg	57.34759549	54.84921726	1.461538331	0.060730452	0.047669801	0.046423858	0.024516274	0.857499519
57	Antimony	pg	4.067832581	0.98918356	2.984767196	0.031361911	0.024617239	0.023973827	0.012660493	0.001268356
58	Antimony-122	nBq	147.1751042	57.5604028	87.74120038	0.626469142	0.491741107	0.478888484	0.252899308	0.023502987
59	Antimony-124	nBq	0.365051683	0.142772258	0.217632412	0.001553888	0.00121971	0.00118783	0.000627289	5.82966E-05
60	Antimony-124	µBq	37.51300455	28.53865912	6.887621837	0.332037362	0.260629629	0.25381756	0.134040152	1.106198893
61	Antimony-125	nBq	1.809621054	1.489948478	2.271177085	0.016216126	0.012728697	0.012396007	0.006546287	0.000608374
62	Antimony-125	µBq	41.27861213	32.24459678	6.568786637	0.302453083	0.237407725	0.231202606	0.122097275	1.57206802
63	AOX, Adsorbable Organic Hal	ng	409.2879452	232.3358997	113.4226079	20.3748244	15.99302844	15.5750189	8.225112112	3.361453742
64	Argon-41	mBq	8.728580895	7.181933943	1.070190774	0.160683002	0.126126623	0.122830055	0.064866116	0.001950382
65	Arsenic	µg	64.49572787	64.09765741	0.327119479	0.02077268	0.016305322	0.01587915	0.008385723	0.009608104
66	Arsenic	ng	35.8224572	5.803704614	16.34576683	4.629820094	3.63413408	3.539148816	1.869011922	0.00087084
67	Arsenic, ion	µg	487.5531462	481.2505476	5.187036073	0.375517945	0.294759307	0.287055193	0.151592828	0.006637258
68	Arsine	pg	0.020572386	0.002111083	0.018237262	7.58663E-05	5.95505E-05	5.79941E-05	3.06265E-05	3.8353E-09
69	Atrazine	pg	11.91049449	1.225232951	10.55537744	0.043982203	0.03452342	0.033621083	0.017755175	2.22059E-06
70	Barite	µg	660.3856351	123.9194143	265.3782435	91.7991363	72.05687544	70.17352683	37.05839033	4.83827E-05
71	Barite, 15% in crude ore, in gr	mg	14.90836496	2.292743622	6.759714842	1.982873509	1.556438058	1.515757478	0.800466142	0.000371309
72	Barium	µg	216.232542	216.0289904	0.111172554	0.012692019	0.009962482	0.009702093	0.005123641	0.054898899
73	Barium	mg	3.733630645	3.55697451	0.105022193	0.02371178	0.01861234	0.01812587	0.009572208	0.001611743
74	Barium	µg	43.56929478	6.515692348	20.00337285	5.773757943	4.532057421	4.413603158	2.330808155	2.90581E-06
75	Barium-140	nBq	247.8101809	96.91893148	147.7366899	1.054834857	0.827982778	0.806341816	0.42582625	0.03957381
76	Barium-140	nBq	644.7051006	252.1451268	384.3530447	2.744267439	2.154087119	2.097785805	1.107833234	0.102955565
77	Basalt, in ground	µg	737.5019667	280.5967067	405.2626955	17.48656665	13.72591732	13.3671633	7.05915147	0.003765726
78	Benomyl	pg	8.879305429	1.216059456	6.070527664	0.538867613	0.422979104	0.411923711	0.217535449	0.001412432
79	Bentazone	ng	3.478124586	1.861402573	1.600293733	0.005535295	0.004344878	0.004231316	0.002234543	8.22466E-05
80	Benzal chloride	pg	0.000292375	6.31516E-05	0.000223561	1.86275E-06	1.46215E-06	1.42394E-06	7.51975E-07	1.61825E-07
81	Benzaldehyde	pg	773.3174914	413.1039409	279.3888899	24.08629893	18.90631559	18.41216174	9.723397233	9.696487085
82	Benzene	µg	685.5298488	659.1749379	14.78982888	2.763611856	2.169271339	2.112573153	1.11564238	3.403983291
83	Benzene	µg	15.66370258	2.392848413	8.030631941	1.771249907	1.390326086	1.353987171	0.715035817	0.009623244
84	Benzene, 1-methyl-2-nitro-	pg	0.68654271	0.369033036	0.314209277	0.001117621	0.000877266	0.000854337	0.000451172	x
85	Benzene, 1,2-dichloro-	pg	54.05444425	46.99196992	6.972892582	0.030335276	0.023811392	0.023189034	0.012246047	x
86	Benzene, 1,2-dichloro-	ng	5.275826613	0.835967152	4.384796231	0.018645879	0.014635909	0.014253371	0.007527154	9.15951E-07
87	Benzene, chloro-	ng	106.406315	15.05664422	90.21680974	0.383616971	0.301116558	0.293246293	0.15486232	1.89138E-05
88	Benzene, ethyl-	µg	4.63662141	0.595821226	2.513716847	0.516318227	0.405279174	0.394686403	0.208432488	0.002367045
89	Benzene, ethyl-	µg	4.85320459	0.651186188	2.444080628	0.594382521	0.466555014	0.454360678	0.23994626	0.002693301
90	Benzene, hexachloro-	ng	3.369462625	1.390277139	1.466992018	0.173431412	0.136133369	0.132575255	0.070012521	4.09111E-05
91	Benzene, pentachloro-	pg	37.58071261	13.75576595	22.15476867	0.552913764	0.434004499	0.422660928	0.223205735	0.037393062
92	Benzo(a)pyrene	ng	366.8028657	314.3040136	18.36730882	11.48403508	9.014286177	8.778680037	4.635989753	0.218552158
93	Beryllium	µg	3.014020992	3.011829971	0.001757215	0.000122972	9.65254E-05	9.40026E-05	4.96424E-05	7.06635E-05
94	Beryllium	µg	191.4927719	189.8559778	0.818943621	0.080080962	0.062858804	0.061215866	0.032327881	0.581366984
95	BOD5, Biological Oxygen Den	mg	39.08055871	6.18058609	16.67434644	5.486032182	4.306209769	4.193658481	2.214656152	0.025069603
96	Borate	ng	4.426171857	4.331322542	0.092026439	0.000955917	0.000750338	0.000730727	0.000385894	x
97	Borax, in ground	ng	49.02026399	21.82128804	24.21208744	1.009805812	0.792637649	0.771920498	0.407648474	0.00487608
98	Boron	mg	1.394448872	1.387281342	0.002898237	0.000451491	0.000354394	0.000345131	0.000182262	0.002936014
99	Boron	µg	317.4501848	227.1156394	70.4600422	2.527164785	1.983674416	1.931827199	1.020191084	12.41164569
100	Boron	µg	1.025853885	0.209695967	0.462038284	0.119916219	0.094127117	0.09166692	0.048408975	4.03205E-07
101	Boron trifluoride	pg	0.000281558	2.88965E-05	0.00024959	1.03908E-06	8.17127E-07	7.96187E-07	4.19371E-07	2.86139E-11
102	Bromate	µg	1.14508639	0.560309238	0.4888368	0.025182627	0.019766868	0.019250222	0.010165974	0.021574661
103	Bromide	ng	230.0364992	223.3747435	6.241878573	0.142183962	0.111605974	0.108688934	0.05739824	x
104	Bromine	µg	34.80375213	33.5208433	0.323340057	0.049469392	0.038830537	0.037815626	0.019970298	0.813482919

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
105	Bromine	µg	171.1058058	44.34462103	73.09496222	17.43555311	13.68587472	13.32816738	7.038557863	2.178069435
106	Bromine, 0.0023% in water	ng	273.1591525	265.7252084	7.017346828	0.141073298	0.110734169	0.107839915	0.056949876	x
107	Butadiene	pg	36.44890204	17.60267142	18.35092416	0.167595497	0.131552521	0.128114143	0.067656624	0.000387683
108	Butane	µg	218.5930358	38.66796034	111.2051488	23.13085571	18.15634935	17.68179734	9.337694383	0.413229937
109	Butene	µg	4.604750435	0.572213748	2.50705309	0.515780093	0.404856771	0.39427504	0.208215249	0.002356445
110	Butene	ng	3.485158214	0.986431022	2.443101073	0.018136126	0.014235783	0.013863703	0.007321372	0.002069135
111	Butyl acetate	ng	14.96016861	1.558023907	13.23800011	0.055583723	0.043629925	0.04248957	0.022438591	2.78628E-06
112	Butyrolactone	pg	10.59389646	1.122074736	9.354426062	0.039753297	0.031203979	0.030388403	0.016048007	1.97103E-06
113	Butyrolactone	pg	25.4258147	2.693028388	22.45103161	0.095409648	0.074890912	0.072933493	0.038515917	4.73064E-06
114	Cadmium	µg	4.157944993	3.933019881	0.16217012	0.021045247	0.01651927	0.016087507	0.008495755	0.000607214
115	Cadmium	ng	13.37449808	1.620784861	11.66015215	0.030915405	0.024266759	0.023632499	0.012480239	0.002266162
116	Cadmium, 0.30% in sulfide, C	µg	14.04016394	1.849842431	12.16409694	0.008880826	0.006970921	0.006788722	0.0035851	-9.98823E-07
117	Cadmium, ion	µg	86.98120172	84.9159682	1.827453345	0.079570236	0.062457914	0.060825454	0.032121706	0.002804868
118	Calcite, in ground	mg	386.1513405	206.478514	154.103522	8.640429112	6.782224205	6.604957443	3.488054571	0.053639198
119	Calcium	mg	3.024907301	3.020036755	0.003797553	0.000339106	0.000266178	0.000259221	0.000136894	7.15963E-05
120	Calcium	µg	376.0326227	74.33257335	163.9240731	46.64666708	36.61486605	35.65786429	18.83079151	0.025787333
121	Calcium, ion	g	2.147118839	2.127531448	0.013604198	0.001939947	0.001522743	0.001482943	0.000783137	0.000254423
122	Carbetamide	ng	1.92723242	1.343017324	0.573821887	0.002079325	0.001632147	0.001589487	0.000839403	0.004252847
123	Carbofuran	ng	4.867973307	0.666690093	3.328094395	0.295427742	0.23189325	0.225832262	0.119261216	0.000774349
124	Carbon	µg	275.4075178	50.13348952	122.5483973	34.76370677	27.287744724	26.57423597	14.03375965	0.066481397
125	Carbon-14	mBq	119.4276852	93.89687052	18.67667185	1.242783885	0.975511614	0.950014696	0.501699387	3.184133233
126	Carbon dioxide, biogenic	mg	96.69476764	75.98444498	15.72556128	1.628255256	1.27808377	1.244678533	0.657310313	0.17643351
127	Carbon dioxide, fossil	g	256.805667	245.5039701	6.048175392	1.291760572	1.013955407	0.987453683	0.521470783	1.438881066
128	Carbon dioxide, in air	mg	752.310191	728.576878	18.35665811	1.780392147	1.397502203	1.360975735	0.718726453	0.11905838
129	Carbon dioxide, land transforn	µg	245.3573518	160.6057299	64.01119019	7.006483581	5.499673907	5.355929087	2.828447132	0.04989793
130	Carbon disulfide	µg	13.12324833	6.376562098	6.231660944	0.173632423	0.13629115	0.132728915	0.070093668	0.002279133
131	Carbon disulfide	ng	2.764794956	2.730668731	0.032586673	0.000521342	0.000409223	0.000398527	0.000210461	x
132	Carbon monoxide	mg	41.412	41.412	x	x	x	x	x	x
133	Carbon monoxide, biogenic	µg	110.3785708	97.27512377	6.263300974	0.277974257	0.218193299	0.212490391	0.112215421	6.019272681
134	Carbon monoxide, fossil	g	11.95672049	11.92815858	0.014847683	0.004564925	0.003583196	0.003489542	0.001842815	0.000233749
135	Carbon, in organic matter, in s	µg	6.148880843	0.842115945	4.203814314	0.373163506	0.292911212	0.2852554	0.150642364	0.000978103
136	Carbonate	µg	3.988548465	2.083897341	1.710954951	0.045205135	0.035483349	0.034555921	0.018248859	0.060202909
137	Carboxylic acids, unspecified	µg	856.2109524	117.3962881	421.2251291	107.3830377	84.28931339	82.08624588	43.34945495	0.481483341
138	Cerium-141	nBq	60.0747937	23.49534142	35.81471568	0.255715835	0.200721759	0.1954755	0.103229917	0.009593587
139	Cerium-141	nBq	257.7636375	100.8117432	153.6706299	1.097202986	0.861239245	0.83872906	0.442929838	0.041163318
140	Cerium-144	nBq	78.47168158	30.69039173	46.78236563	0.334024474	0.262189394	0.255336557	0.134842329	0.01253146
141	Cerium, 24% in bastnasite, 2.4	pg	-8.18404E-12	-7.48108E-12	x	x	x	x	x	-7.02964E-13
142	Cesium	ng	202.1965029	27.12992526	101.8257578	24.76371144	19.43804422	18.92999258	9.996861861	0.11220976
143	Cesium-134	nBq	2.87719632	1.125275773	1.715294582	0.012247144	0.009613281	0.009362019	0.004944049	0.000459471
144	Cesium-134	µBq	36.72436687	30.96880228	3.278372248	0.279313225	0.21924431	0.213513928	0.112755947	1.652364936
145	Cesium-136	nBq	45.74801351	17.89211633	27.2735368	0.19473211	0.152853153	0.148858034	0.078611399	0.007305685
146	Cesium-137	nBq	51.00333694	19.94748117	30.40659648	0.217102048	0.170412227	0.165958168	0.087641919	0.008144929
147	Cesium-137	mBq	21.79181404	17.68690118	2.791239616	0.23497235	0.184439353	0.179618667	0.09485598	0.619786894
148	Chloramine	pg	85.3364043	83.48317586	1.798581836	0.018505104	0.014525409	0.01414576	0.007470325	x
149	Chloramine	pg	761.9456379	745.1849198	16.270835	0.165890227	0.130213986	0.126810592	0.066968223	x
150	Chlorate	µg	9.039598068	4.413318991	3.834620142	0.211500779	0.166015563	0.161676419	0.085380743	0.167085431
151	Chloride	g	1.181778971	1.081420963	0.05562895	0.012889917	0.01011782	0.009853371	0.00520353	0.00666442
152	Chloride	mg	11.44426484	0.182455347	11.12885371	0.045023075	0.035340443	0.03441675	0.018175364	1.51099E-07
153	Chlorinated solvents, unspecif	ng	5.846151827	2.560137585	2.838361572	0.135291057	0.106195452	0.103419825	0.054615642	0.048130694
154	Chlorine	µg	3.810219009	1.057034028	2.293499768	0.154210892	0.121046401	0.117882614	0.06225339	0.004291915
155	Chlorine	µg	2.247638551	2.168077773	0.044585003	0.001607	0.0012614	0.00122843	0.00064873	0.030230216
156	Chloroacetic acid	ng	2.601268458	2.105602654	0.487626613	0.00272233	0.002136868	0.002081016	0.001098977	x
157	Chloroacetic acid	ng	86.84003755	50.87861932	35.58775648	0.126533947	0.099321641	0.096725675	0.051080485	x
158	Chloroacetyl chloride	pg	1.993470856	1.304974192	0.681175255	0.002479266	0.001946076	0.001895212	0.001000855	x
159	Chloroform	ng	2.922788913	1.195091175	1.652002982	0.019904415	0.015623785	0.015215426	0.008035213	0.016915919
160	Chloroform	pg	258.0480486	47.84281065	207.644137	0.867256892	0.680745204	0.66295259	0.350102909	4.33519E-05
161	Chlorosilane, trimethyl-	pg	396.0246925	141.8539239	228.3149274	8.755621694	6.872643547	6.693013404	3.534556611	5.93826E-06
162	Chlorosulfonic acid	pg	5.631455661	3.098718739	2.506996667	0.008716482	0.006841922	0.006663094	0.003518757	x
163	Chlorosulfonic acid	pg	14.04343816	7.727427898	6.251820528	0.021736718	0.017062034	0.016616084	0.008774895	x
164	Chlorothalonil	ng	686.3526511	674.5086822	7.330135909	0.118531514	0.093040206	0.090608422	0.047849986	4.163802858
165	Chromium	µg	29.19108546	26.4419245	1.338915926	0.474958657	0.372814366	0.363070141	0.191736052	0.007665813
166	Chromium	ng	512.1127132	84.12697578	256.3566374	58.10954679	45.61254652	44.42037262	23.45824104	0.028393048
167	Chromium-51	nBq	3.849582116	1.505577308	2.295000623	0.016386225	0.012862215	0.012526035	0.006614955	0.000614755
168	Chromium-51	µBq	70.07350838	38.46586161	29.34826942	0.349991587	0.27472263	0.267542213	0.141288093	1.225832835
169	Chromium VI	ng	443.0425944	379.9284568	29.29699585	11.19587524	8.788097796	8.558403857	4.519662685	0.755102205
170	Chromium VI	mg	1.086675605	1.043495576	0.029171605	0.003591126	0.002818821	0.002745146	0.001449702	0.003403629
171	Chromium VI	ng	869.2096359	448.1607954	348.2784106	24.64237895	19.34280541	18.83724316	9.947881221	0.000121198
172	Chromium, 25.5% in chromite	mg	2.104690439	1.422640136	0.303913304	0.127818608	0.100330024	0.097707704	0.051599092	0.000681571
173	Chromium, ion	ng	953.928708	280.9191228	435.1990063	78.75188335	61.81555598	60.19988449	31.79134522	5.251909782
174	Chrysotile, in ground	ng	221.675427	107.1309378	96.52790383	4.71850646	3.703747616	3.606942879	1.904813726	4.082574706
175	Cinnabar, in ground	ng	20.03138986	9.817138629	8.515003177	0.44778258	0.351482758	0.342296064	0.180765336	0.376921316
176	Clay, bentonite, in ground	mg	5.686563096	2.075045746	2.590983135	0.342872188	0.269134325	0.262099969	0.138414063	0.008013669
177	Clay, unspecified, in ground	oz	36.44885239	36.44715791	0.001556601	4.66456E-05	3.6614E-05	3.5657E-05	1.88303E-05	1.28177E-07
178	Coal, brown, in ground	mg	944.5419681	783.5082399	109.6033065	17.32697313	13.60064588	13.2451662	6.994725235	0.262911244
179	Coal, hard, unspecified, in grou	g	120.4688944	119.1662141	0.204924756	0.024141526	0.018949666	0.018454379	0.009745692	1.026464275
180	Cobalt	µg	11.19792352	11.01399993	0.106728668	0.025579428	0.020078333	0.019553546	0.010326158	0.001657454
181	Cobalt	mg	2.369704492	2.350081426	0.013506723	0.001735762	0.00136247	0.001326859	0.00070071	0.000990541
182	Cobalt	ng	2.026424586	1.649975173	0.29279611	0.02721596	0.021362914	0.020804552	0.01098681	0.003283067
183	Cobalt-57	µBq	1.452214521	0.567963266	0.86576494	0.006181532	0.004852136	0.004725316	0.002495422	0.00023191
184	Cobalt-58	nBq	5.360702198	2.096578627	3.195883218	0.022818496	0.017911165	0.017443022	0.009211598	0.000856072
185	Cobalt-58	µBq	393.4652301	244.6875673	133.0999446	2.630596199	2.064861939	2.010892704	1.061945296	7.909422091
186	Cobalt-60	nBq	47.3568162	18.52132147	28.23265471	0.201580179	0.15822848	0.154092867	0.081375896	0.007562601
187	Cobalt-60	µBq	330.4677981	200.8189124	116.9143642	2.056797598	1.614464082	1.572266882	0.830308557	6.66068439
188	Cobalt, in ground	ng	82.97852523	8.775930423	43.58910353	10.35207769	8.125766786	7.913383839	4.179029903	0.043233052
189	COD, Chemical Oxygen Dema	mg	41.28379659	7.010318488	17.68087656	5.609550168	4.40316406	4.28807868	2.264519124	0.027289507
190	Colemanite, in ground	µg	10.43410171	2.204889888	7.980232833	0.079365534	0.062297236	0.060668995	0.032039081	0.014608141
191	Copper	µg	55.95249052	39.98975145	13.97948415	0.668127576	0.524440506	0.51073322	0.2697164	0.010237213
192	Copper	µg	1.330069775	0.327730998	0.953688147	0.016408187	0.012879453	0.012542824	0.006623821	0.000196345
193	Copper, 0.99% in sulfide, Cu 0	µg	123.1357628	62.08128445	57.52657512	1.191151473	0.934983234	0.910545633	0.480855915	0.010366974
194	Copper, 1.18% in sulfide, Cu 0	µg	677.0069993	343.6460317	313.9298416	6.560591471	5.149675057	5.01507831	2.648445046	0.057336146
195	Copper, 1.42% in sulfide, Cu 0	µg	179.58578	91.15702023	83.27437598	1.740290617	1.36602488	1.33032117	0.702537886	0.015209232
196	Copper, 2.19% in sulfide, Cu 1	µg	898.9631013	452.8055641	420.5098385	8.659607228	6.797277888	6.619617845	3.495796677	0.075399108
197	Copper, ion	mg	1.474411524	1.448384028	0.021382412	0.001267112	0.000994608	0.000968612	0.00051152	0.000903232
198	Cumene	ng	946.2041694	273.2520162	554.7017129	39.68087491	31.14713248	30.33304074	16.0187711	1.070621083
199	Cumene	µg	2.273706187	0.656614385	1.332938214	0.095352474	0.074846035	0.072889786	0.038492837	0.002572457
200	Cyanide	ng	171.6593874	87.14997458	65.38961911	6.429881692	5.047075635	4.9151605	2.595678806	0.131997057
201	Cyanide	µg	2.013800763	0.621817386	1.126882405	0.089664768	0.070381523	0.068541963	0.036196768	0.000315949
202	Cyanoacetic acid	pg	4.611949923	2.537733959	2.053135668	0.00713847	0.005603275	0.005456823	0.002881729	x
203	Cypermethrin	pg	749.5110757	143.2419986	482.6145717	41.76344493	32.78182639	31.9250087	16.85948373	0.324741643
204	Diatomite, in ground	ng	4.651898819	0.132911027	4.50875027	0.003245721	0.002547698	0.002481117	0.001310269	0.000652716
205	Dichromate	ng	22.6797036	11.69597175	9.086301883	0.642524474	0.50434359	0.491161579	0.259380685	1.96397E-05
206	Diethylamine	pg	39.51441451	37.41827726	1.866043441	0.077917204	0.061160382	0.059561835	0.031454394	x
207	Diethylamine	pg	94.83624382	89.80544687	4.478562128	0.187004561	0.146787485	0.142950906	0.075491866	x
208	Dimethyl malonate	pg	5.783373499	3.18231185	2.574627009	0.008951624	0.007026494	0.006842842	0.003613681	x

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
209	Dimethylamine	pg	74.46516088	56.14186301	17.93207599	0.132480374	0.103989234	0.10127127	0.053480998	x
210	Dinitrogen monoxide	mg	5.273480941	4.868053733	0.212985051	0.044354462	0.034815621	0.033905646	0.017905451	0.061460977
211	Dioxin, 2,3,7,8 Tetrachlorodibe	ng	1.195335657	1.192999251	0.001621524	0.000204965	0.000160885	0.00015668	8.27422E-05	0.000109611
212	Dioxins (unspec.)	ng	3.1552	3.1552	x	x	x	x	x	x
213	Dipropylamine	pg	24.89839593	23.68132235	1.071326403	0.049354703	0.038740513	0.037727954	0.019923998	x
214	Dipropylamine	pg	59.75650657	56.83550378	2.57120752	0.118451985	0.092977781	0.090547623	0.047817878	x
215	DOC, Dissolved Organic Carb	mg	12.90491647	2.255139974	5.591799479	1.709796733	1.342088991	1.307010848	0.690227787	0.008852656
216	Dolomite, in ground	µg	812.0520489	352.3202495	320.7656943	47.05653139	36.93658521	35.97117476	18.99624965	0.005564119
217	Energy, gross calorific value, i	kJ	8.102697951	7.871545571	0.180657194	0.016658709	0.013076098	0.012734329	0.006724954	0.001301097
218	Energy, gross calorific value, i	J	0.426297337	0.058383261	0.291447331	0.025871149	0.020307317	0.019776545	0.010443923	6.78099E-05
219	Energy, kinetic (in wind), conv	J	382.2368756	317.2972162	43.83427893	7.117980343	5.58719225	5.441159971	2.873457259	0.085590682
220	Energy, potential (in hydropow	kJ	8.156548627	6.618890574	1.009960529	0.052400127	0.041130991	0.040055952	0.021153406	0.372957048
221	Energy, solar, converted	J	6.145641644	4.734127402	1.107442334	0.102543895	0.080490874	0.078387086	0.041395942	0.00125411
222	Ethane	mg	1.943356619	1.868091815	0.0448208	0.010004346	0.007852818	0.007647569	0.004038654	0.000900617
223	Ethane, 1,1-difluoro-, HFC-152	ng	2.241550212	1.733595658	0.396486265	0.037746682	0.029628906	0.028854497	0.015237958	2.46159E-07
224	Ethane, 1,1,1-trichloro-, HCFC	ng	12.69969985	9.372665962	2.632336412	0.116634999	0.091551554	0.089158676	0.04708438	0.350267867
225	Ethane, 1,1,1,2-tetrafluoro-, H	µg	14.03018427	0.151095532	13.86331437	0.005303841	0.004163201	0.004054387	0.002141107	0.000111834
226	Ethane, 1,1,2-trichloro-1,2,2-tr	pg	83.76205032	8.595438268	74.25441116	0.308895422	0.242464579	0.236127291	0.124697984	1.56158E-05
227	Ethane, 1,2-dichloro-	ng	94.54608449	43.63273424	42.30548314	2.882463783	2.26256305	2.203426497	1.163621709	0.095792077
228	Ethane, 1,2-dichloro-	ng	11.1124305	8.091664931	2.032912097	0.276586223	0.217103775	0.21142934	0.111655084	0.171079051
229	Ethane, 1,2-dichloro-1,1,2,2-te	ng	53.4872251	41.72287617	8.684390821	0.504694593	0.396155311	0.385801021	0.203740149	1.589567037
230	Ethane, hexafluoro-, HFC-116	ng	439.4657787	348.8040316	87.23984102	0.554929265	0.435586548	0.424201749	0.224019437	1.783169073
231	Ethanol	µg	1.661003765	1.307731548	0.240905663	0.037334055	0.029305018	0.028539074	0.015071383	0.002117023
232	Ethanol	ng	27.90401464	3.725324161	23.88028752	0.10104722	0.079316073	0.07724299	0.040791749	4.93173E-06
233	Ethene	mg	3.607194803	3.594185914	0.008645846	0.001419228	0.00111401	0.001084893	0.000572928	0.000171984
234	Ethene	ng	747.550696	144.3652282	485.4437833	39.75009553	31.20146657	30.38595474	16.0467148	0.357452907
235	Ethene, chloro-	ng	42.71109037	24.79816691	15.43120809	0.838329701	0.658039076	0.640839924	0.338425288	0.006081379
236	Ethene, chloro-	pg	540.4635643	377.4734245	141.441062	7.161703513	5.621512345	5.474583001	2.891107842	0.400171124
237	Ethene, tetrachloro-	pg	29.46881296	21.63061996	6.248287024	0.283547021	0.22256759	0.216750352	0.114465091	0.752575925
238	Ethyl acetate	µg	3.171030863	0.329980164	2.806254415	0.011782947	0.009248914	0.009007175	0.004756657	5.9066E-07
239	Ethyl acetate	pg	103.1616409	96.44235624	6.111602401	0.205780741	0.161525672	0.157303881	0.083071621	3.36387E-07
240	Ethyl cellulose	ng	6.407195032	0.657318555	5.680109549	0.023624933	0.01854417	0.018059482	0.009537148	1.19452E-06
241	Ethylamine	pg	28.73049502	27.81894221	0.887605976	0.008109171	0.006365218	0.006198851	0.003273591	x
242	Ethylamine	pg	68.95359261	66.76585129	2.130268498	0.019462155	0.015276637	0.014877352	0.007856677	x
243	Ethylene diamine	pg	615.6311834	585.5846956	28.852553	0.119714977	0.093969153	0.091513086	0.048327738	0.84040986
244	Ethylene diamine	ng	1.481404971	1.408701195	0.069815533	0.000288137	0.000226171	0.000220259	0.000116318	0.002037357
245	Ethylene oxide	ng	12.11777195	2.286013875	8.317424671	0.511041583	0.401137322	0.390652807	0.20630236	0.005199334
246	Ethylene oxide	ng	2.268408066	0.395312881	1.848730822	0.008097107	0.006355749	0.006189629	0.003268721	0.000453158
247	Ethyne	µg	598.6817945	598.4585185	0.142909422	0.017895317	0.014046762	0.013679623	0.00722416	0.027520713
248	Feldspar, in ground	ng	1.705008755	1.431835304	0.24790145	0.008429128	0.006616365	0.006443434	0.003402754	0.000380321
249	Fenpiclonil	ng	27.2493064	26.67390157	0.3966339	0.005039306	0.003955556	0.00385217	0.002034317	0.16388958
250	Fluoride	mg	2.276874983	1.829443024	0.413534506	0.008158768	0.006404149	0.006236764	0.003293613	0.009804161
251	Fluoride	µg	4.944670112	0.954692374	2.235800088	0.594021177	0.46627138	0.454084457	0.239800389	2.46327E-07
252	Fluorine	µg	2.414929782	1.763438202	0.536780809	0.038836826	0.030484604	0.029687829	0.015678037	2.34736E-05
253	Fluorine, 4.5% in apatite, 1% i	µg	10.98058261	2.792716575	4.832281574	1.133518845	0.88974504	0.866489799	0.457590186	0.008240595
254	Fluorine, 4.5% in apatite, 3% i	µg	5.60194469	1.736694492	2.383774522	0.500055236	0.392513691	0.382254572	0.201867282	0.004784895
255	Fluorspar, 92%, in ground	µg	388.5313619	154.9446787	137.4453549	31.63152458	24.82887006	24.17991857	12.76932913	2.731685993
256	Fluosilicic acid	ng	506.8065667	406.9162854	95.96764255	0.6225962	0.488701077	0.475928044	0.25133591	2.084077605
257	Fluosilicic acid	ng	912.2518188	732.4493121	172.7417569	1.120673171	0.879661949	0.856670489	0.452404643	3.75133953
258	Formaldehyde	µg	260.1361918	254.4937705	4.338727539	0.134833604	0.105836379	0.103070137	0.054430973	0.905522642
259	Formaldehyde	ng	147.6887989	48.44331912	83.93173911	5.122741225	4.021047923	3.915949912	2.067999242	0.18600235
260	Formamide	pg	43.96407567	43.21960756	0.71829765	0.008862163	0.006956272	0.006774457	0.003577567	x
261	Formamide	pg	105.516856	103.7300898	1.723955279	0.021269782	0.016695517	0.016259147	0.008586398	x
262	Formate	ng	1.832128345	1.327882877	0.498477993	0.001953054	0.001533031	0.001492962	0.000788428	x
263	Formic acid	ng	31.74842108	4.222275727	22.50157779	1.699984833	1.334387232	1.29951039	0.686266822	0.004418284
264	Formic acid	pg	30.62968985	30.1110196	0.500437337	0.006174255	0.004846424	0.004719753	0.002492485	x
265	Furan	ng	7.885706706	1.079983703	5.391231067	0.478567893	0.375647402	0.365829116	0.193193057	0.001254467
266	Gadolinium, 0.15% in bastnas	pg	-3.0328E-15	-2.7723E-15	x	x	x	x	x	-2.60501E-16
267	Gallium, 0.014% in bauxite, in	pg	17.27332567	13.35350595	3.061381502	0.290694488	0.228177672	0.222213725	0.117350435	1.89593E-06
268	Gas, mine, off-gas, process, c	cm3	488.2649488	481.4679965	1.997369663	0.234390693	0.183982788	0.179174036	0.094621172	4.107413904
269	Gas, natural, in ground	cm3	568.4609579	284.7353622	195.6760559	29.48144463	23.14118487	22.53634436	11.90136343	0.989202513
270	Glutaraldehyde	ng	81.52909061	15.29869308	32.76274602	11.3332267	8.895910546	8.663398372	4.575109916	5.97315E-06
271	Glyphosate	µg	1.858204955	1.561868881	0.289541992	0.002300171	0.001805498	0.001758307	0.000928556	1.55126E-06
272	Gold, Au 1.1E-4%, Ag 4.2E-39	ng	6.276216555	0.643999094	5.563869926	0.023144289	0.018166893	0.017692066	0.009343117	1.17008E-06
273	Gold, Au 1.3E-4%, Ag 4.6E-59	ng	11.50922028	1.180954698	10.20293102	0.042441609	0.033314145	0.032443415	0.017133252	2.14476E-06
274	Gold, Au 1.4E-4%, in ore, in g	ng	13.78040627	1.413999834	12.21633882	0.050816875	0.039888231	0.038845675	0.020514263	2.56883E-06
275	Gold, Au 2.1E-4%, Ag 2.1E-49	ng	21.04811635	2.159735489	18.65916843	0.077617408	0.06092506	0.059332665	0.03133337	3.92401E-06
276	Gold, Au 4.3E-4%, in ore, in g	ng	5.216575952	0.535269961	4.62449786	0.01923674	0.0150997	0.01470504	0.007765679	9.72601E-07
277	Gold, Au 4.9E-5%, in ore, in g	ng	12.49436544	1.282039889	11.07626284	0.046074443	0.036165705	0.035220444	0.018599791	2.33031E-06
278	Gold, Au 6.7E-4%, in ore, in g	ng	19.34330722	1.984805976	17.14785406	0.071330724	0.055990386	0.054526969	0.028795499	3.60638E-06
279	Gold, Au 7.1E-4%, in ore, in g	ng	21.81158335	2.238074443	19.33598237	0.080432787	0.063134965	0.06148481	0.03246991	4.06638E-06
280	Gold, Au 9.7E-4%, Ag 9.7E-49	ng	1.306996008	0.134110134	1.158652785	0.004819702	0.00378318	0.003684299	0.001945665	2.43686E-07
281	Granite, in ground	pg	70.35894683	65.28071634	4.498443993	0.06758447	0.053049799	0.051663255	0.027283181	0.380205795
282	Gravel, in ground	g	9.482479605	3.756350186	5.66675717	0.02008637	0.015766609	0.015354517	0.008108666	5.60868E-05
283	Gypsum, in ground	ng	518.918103	277.3761939	200.4845523	13.54566528	10.63254357	10.35464107	5.46824918	1.056257763
284	Heat, waste	Wh	758.3187673	714.8017825	25.33658796	5.27751723	4.142537904	4.034264504	2.130480758	2.595596386
285	Heat, waste	kJ	6.317390233	3.482827199	1.670912317	0.382645881	0.300354314	0.292503962	0.154470304	0.033676256
286	Heat, waste	J	96.14042375	36.3530234	48.27297391	3.881729397	3.046927269	2.96728982	1.567015217	0.05146474
287	Helium	µg	14.02073368	1.176452962	10.079734	0.934661952	0.733654178	0.714478678	0.377313653	0.004438258
288	Helium, 0.08% in natural gas,	pg	0.000111441	0.000101869	x	x	x	x	x	9.57217E-06
289	Heptane	µg	46.03321281	5.718036032	25.06051536	5.157744728	4.048523596	3.942707444	2.0821298	0.023555849
290	Hexane	µg	106.3043592	18.68046088	54.60904949	11.15154042	8.753297598	8.524512895	4.501764989	0.083732953
291	Hydrocarbons, aliphatic, alkan	ng	15.27077002	3.569527291	9.680248544	0.67860913	0.532667905	0.518745577	0.273947698	0.017023876
292	Hydrocarbons, aliphatic, alkan	µg	704.7449876	662.4775656	29.62077168	3.122396414	2.450895929	2.386836933	1.260480108	3.426040944
293	Hydrocarbons, aliphatic, alkan	µg	26.28554538	3.526890286	13.23734851	3.219282488	2.526945749	2.460899036	1.299592042	0.014587269
294	Hydrocarbons, aliphatic, unsat	µg	643.3337747	638.740602	0.871878854	0.120834687	0.09484806	0.09236902	0.048779751	3.364462289
295	Hydrocarbons, aliphatic, unsat	µg	2.426389306	0.325584518	1.221914781	0.297164595	0.233256576	0.227159955	0.119962365	0.001346517
296	Hydrocarbons, aromatic	µg	17.08966742	7.178824028	7.589806656	0.783995167	0.615389691	0.599305268	0.316490984	0.005855627
297	Hydrocarbons, aromatic	µg	107.8137733	14.51255423	54.21570358	13.21556095	10.37343125	10.10230116	5.334989367	0.059232749
298	Hydrocarbons, chlorinated	ng	190.4553931	128.8962772	57.06263759	1.327082515	1.041681037	1.014454642	0.535729894	0.577530229
299	Hydrocarbons, unspecified	µg	14.33218816	3.081068793	5.929625228	1.799845243	1.412771728	1.375846152	0.726579467	0.006451547
300	Hydrogen	µg	15.34864037	6.848773732	5.712043627	0.893267805	0.701162228	0.682835971	0.360603251	0.149953754
301	Hydrogen-3, Tritium	mBq	674.4694289	553.6150817	79.31613108	7.188614852	5.642636149	5.495154736	2.901971702	20.30983861
302	Hydrogen-3, Tritium	Bq	50.10861852	40.73607184	6.341136911	0.538236367	0.422483614	0.411441172	0.217280622	1.441967989
303	Hydrogen chloride	mg	44.37766984	44.3011699	0.041452785	0.005544672	0.004352239	0.004238485	0.002238329	0.018673435
304	Hydrogen fluoride	mg	4.78933691	4.760954418	0.008088844	0.000921082	0.000722994	0.000704097	0.000371831	0.017573643
305	Hydrogen peroxide	ng	4.749813704	0.490308183	4.207610607	0.017572996	0.013793759	0.013433232	0.007094042	8.85191E-07
306	Hydrogen peroxide	ng	79.42869974	42.43909436	36.1867256	0.183433676	0.143984552	0.140221235	0.074050336	0.261189988
307	Hydrogen sulfide	mg	2.399869435	2.391592703	0.005952535	0.000778974	0.000611448	0.000595467	0.000314464	2.38433E-05
308	Hydrogen sulfide	µg	6.36224826	4.968642912	0.66044097	0.150821613	0.118386017	0.11529176	0.060885169	0.287779818
309	Hydroxide	ng	133.3079832	15.21918188	116.5550341	0.51937479	0.407678396	0.397022919	0.209666394	2.46674E-05
310	Hypochlorite	µg	1.623329283	1.337502365	0.199629035	0.028999652	0.022763006	0.02216805	0.011706869	0.000560307
311	Indium, 0.005% in sulfide, In 0	ng	234.8555447	31.49337763	202.8824844	0.162442264	0.12750754	0.124174881	0.065576314	-1.82774E-05
312	Iodide	µg	20.47416529	2.937627262	10.20351374	2.479381463	1.946167344	1.89530042	1.000901422	0.011273635

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
313	Iodine	µg	33.98755693	33.28179336	0.168623038	0.026255952	0.020609364	0.020070698	0.010599264	0.459605254
314	Iodine-129	µBq	116.2636201	94.51548342	14.7236925	1.257536954	0.987091898	0.961292306	0.507655053	3.310867954
315	Iodine-131	mBq	3.417816972	2.83268653	0.396579986	0.063589268	0.049913802	0.048609207	0.02567035	0.00076783
316	Iodine-131	µBq	7.40637875	5.40662296	1.611896359	0.060186133	0.047242544	0.046007767	0.024296538	0.210126449
317	Iodine-133	nBq	452.4567603	235.1286509	204.7443134	2.715751724	2.131703974	2.075987718	1.096321742	4.564030754
318	Iodine-133	nBq	404.7315358	158.2911075	241.2883005	1.72279012	1.352288029	1.316943315	0.695473088	0.064633216
319	Iodine-135	nBq	338.6833567	258.6303556	60.94063031	3.15469059	2.476244941	2.411523461	1.273516977	9.796394799
320	Iodine, 0.03% in water	ng	59.58537357	57.69183509	1.754277671	0.047158212	0.037016398	0.036048902	0.019037297	x
321	Iron	mg	10.59629354	10.58230393	0.01091285	0.000959344	0.000753028	0.000733346	0.000387277	0.000243766
322	Iron	mg	3.167324147	2.966162745	0.123040606	0.026280447	0.020628592	0.020089423	0.010609153	0.00051318
323	Iron-59	nBq	111.2693516	43.51760941	66.3353121	0.473631836	0.37177289	0.362055872	0.191200421	0.017769053
324	Iron, 46% in ore, 25% in crude	mg	371.2985577	139.5317539	176.334395	18.77053985	14.7337601	14.34866424	7.577478631	0.001965979
325	Iron, ion	mg	223.3583071	221.2003617	1.62810785	0.163080401	0.128008439	0.124662686	0.065833922	0.048252121
326	Isocyanic acid	ng	329.9122084	320.5816925	7.297395316	0.688478335	0.540414645	0.526290517	0.277932153	4.88882E-06
327	Isoprene	pg	365.9283125	50.11547589	250.1747458	22.20746826	17.43154498	16.97593717	8.964932139	0.058208263
328	Isopropylamine	pg	2.652202797	2.348834383	0.298459862	0.001662194	0.001304724	0.001270622	0.000671011	x
329	Isopropylamine	pg	6.365420337	5.637331885	0.716307774	0.003989318	0.003131378	0.003049534	0.001610448	x
330	Kaolinite, 24% in crude ore, in	mg	1.54149782	1.468365302	0.06319636	0.000295157	0.00023168	0.000225625	0.000119152	0.009064543
331	Kieserite, 25% in crude ore, in	µg	4.714176346	3.547167938	1.140907363	0.001437447	0.001128311	0.001098822	0.000580284	0.021856181
332	Krypton-85	mBq	27.46087344	22.51819075	3.451156057	0.503005105	0.394829163	0.384509525	0.203058115	0.006124729
333	Krypton-85m	mBq	3.998169232	1.753808446	2.175032167	0.023251193	0.018250807	0.017773786	0.009386273	0.00066656
334	Krypton-87	mBq	1.119867872	0.582212194	0.509416196	0.009495029	0.007453035	0.007258235	0.003833048	0.000200136
335	Krypton-88	mBq	1.304062076	0.622846686	0.653675953	0.00924958	0.007260372	0.007070608	0.003733963	0.000224913
336	Krypton-89	µBq	467.635719	192.2865786	268.4855059	2.298490163	1.804178405	1.757022646	0.92787742	0.076065866
337	Lactic acid	pg	19.5039238	18.5505354	0.839218744	0.038661537	0.030347012	0.029553834	0.015607275	x
338	Lactic acid	pg	46.80974184	44.52159808	2.014134669	0.092788335	0.072833338	0.070929695	0.03745772	x
339	Lanthanum-140	nBq	21.17936182	8.283280002	12.62647401	0.090152588	0.070764433	0.068914865	0.036393695	0.003382218
340	Lanthanum-140	nBq	686.6642133	268.5553984	409.3677572	2.922871605	2.294280792	2.234315241	1.179933944	0.109656184
341	Lanthanum, 7.2% in bastnasite	pg	2.75829E-12	2.52137E-12	x	x	x	x	x	2.36922E-13
342	Lead	µg	262.7916844	259.7804964	2.559746388	0.147121677	0.115481787	0.112463444	0.059391545	0.016983108
343	Lead	µg	73.25879758	68.15105147	4.011073201	0.329890129	0.258944179	0.252176162	0.133173336	0.122489104
344	Lead	ng	463.1591141	15.79221275	446.3261711	0.337143531	0.264637668	0.257720842	0.136101461	0.045126694
345	Lead-210	mBq	111.5458362	111.4506793	0.057048278	0.007342145	0.005763148	0.005612517	0.00296395	0.016426865
346	Lead-210	µBq	297.0079498	172.7010765	77.24162731	15.87139414	12.45810273	12.13248565	6.407122587	0.196140872
347	Lead, 5.0% in sulfide, Pb 3.0%	µg	895.5833215	22.22770328	869.1197479	1.434400085	1.125918962	1.096490851	0.579052925	7.4138E-06
348	Linuron	ng	52.5148928	28.10032537	24.16646167	0.083596191	0.06561805	0.063902993	0.033746944	0.001241578
349	Lithium, 0.15% in brine, in gro	ng	1.271887898	1.250350228	0.020780562	0.000256381	0.000201244	0.000195984	0.000103499	x
350	Lithium, ion	ng	446.8957978	98.07114185	340.2070869	2.834804198	2.225153103	2.166994345	1.144382019	0.246235387
351	m-Xylene	ng	77.71835632	63.1246307	10.618698	1.336011758	1.048689963	1.021280387	0.539334546	0.029710966
352	m-Xylene	pg	126.1614311	114.4867605	11.36497976	0.102521455	0.080473259	0.078369933	0.041386883	0.006939361
353	Magnesite, 60% in crude ore,	mg	4.969621117	2.064605919	2.157375121	0.25316151	0.198716765	0.19352291	0.102198762	4.01297E-05
354	Magnesium	mg	9.052091478	9.049893873	0.001528386	0.000156023	0.000122469	0.000119268	6.29848E-05	0.000208475
355	Magnesium	g	1.188635077	1.180376861	0.005635951	0.00068189	0.000535243	0.000521254	0.000275272	0.000608606
356	Magnesium	µg	72.79645426	12.9310126	32.43621769	9.287443243	7.290091909	7.099550974	3.749247658	0.002890194
357	Magnesium, 0.13% in water	ng	152.6411218	128.6430821	21.96251026	0.689291889	0.541053237	0.526911744	0.278260221	1.23711E-05
358	Mancozeb	ng	891.4306781	876.0478029	9.520336244	0.153948014	0.120840057	0.117681671	0.062147272	5.40792194
359	Manganese	µg	76.89522982	76.30392336	0.459130753	0.041963959	0.032939218	0.032078287	0.016940429	0.008253808
360	Manganese	mg	94.45558759	93.86728073	0.45430642	0.044752132	0.035127769	0.034209635	0.018065987	0.001844916
361	Manganese	µg	5.200053803	1.917765028	1.829240147	0.49181877	0.386048554	0.375958413	0.198542303	0.000680589
362	Manganese-54	nBq	1.971412295	0.77102229	1.175294437	0.008391562	0.006586878	0.006414717	0.003387589	0.000314823
363	Manganese-54	µBq	25.30152019	16.17975577	8.0484146	0.16179802	0.127001846	0.123682402	0.065316237	0.59555131
364	Manganese, 35.7% in sedime	mg	1.219023816	0.849141895	0.119977981	0.084624226	0.066424997	0.064688848	0.034161951	3.91836E-06
365	Mercury	µg	8.884242631	8.561351914	0.217645197	0.025907804	0.020336089	0.019804565	0.010458721	0.028738341
366	Mercury	µg	32.83523049	32.63376595	0.143286803	0.019488256	0.015297124	0.014897304	0.007867213	0.00062784
367	Mercury	pg	307.0114141	264.9435823	39.4051184	0.396107972	0.310921257	0.302794719	0.159904816	1.49298463
368	Metaldehyde	pg	538.6111502	425.5745652	109.9239428	0.421871709	0.331144261	0.322489156	0.170305378	1.866831691
369	Metamorphous rock, graphite	µg	26.85272832	21.5367429	5.09961562	0.036074348	0.028316223	0.027576127	0.014562855	0.109840252
370	Methane, biogenic	µg	463.5248509	405.2216307	23.31401947	2.368750943	1.859328949	1.81073173	0.956240997	27.99414813
371	Methane, bromo-, Halon 1001	pg	6.68803E-05	1.44458E-05	5.11391E-05	4.26101E-07	3.34464E-07	3.25722E-07	1.72013E-07	3.70171E-08
372	Methane, bromochlorodifluoro	ng	18.63905863	13.34030691	3.15271356	0.712100329	0.558956508	0.544347078	0.287467759	0.043166485
373	Methane, bromotrifluoro-, Hal	ng	135.5013149	15.3393774	80.66681422	13.35343271	10.4816524	10.20769374	5.390646814	0.061697565
374	Methane, chlorodifluoro-, HCF	ng	83.98878436	60.72552919	15.14868901	2.696128707	2.116301071	2.06098737	1.088400112	0.152748902
375	Methane, dichloro-, HCC-30	pg	373.7645824	259.032019	100.2145232	3.039772567	2.386041111	2.323677255	1.227125707	5.541423561
376	Methane, dichloro-, HCC-30	µg	2.20602742	0.329999101	1.012770704	0.292326905	0.229459276	0.223461905	0.118009439	9.07761E-08
377	Methane, dichlorodifluoro-, CF	pg	331.6562867	111.6136086	205.7540972	4.744173199	3.723894484	3.626563161	1.915175127	0.278774957
378	Methane, dichlorofluoro-, HCF	pg	0.583595975	0.086591365	0.489517572	0.002535318	0.001990074	0.001938059	0.001023482	1.05179E-07
379	Methane, fossil	mg	374.9624241	361.3923681	8.272518638	0.849872521	0.667099505	0.649663545	0.343085011	2.78781676
380	Methane, monochloro-, R-40	pg	343.5512428	251.2238753	73.52437611	3.225843778	2.532095972	2.465914713	1.302240804	9.276896122
381	Methane, tetrachloro-, CFC-10	ng	9.401763285	5.059863524	3.255842702	0.247610707	0.194359714	0.189279739	0.099957958	0.35484894
382	Methane, tetrafluoro-, CFC-14	µg	3.902886042	3.133633259	0.739040294	0.00479638	0.003764874	0.003666472	0.001936251	0.016048511
383	Methane, trichlorofluoro-, CFC	pg	0.94743688	0.140576454	0.794705619	0.004115953	0.003230779	0.003146336	0.001661569	1.70752E-07
384	Methane, trifluoro-, HFC-23	pg	185.6896278	27.55179778	155.7555905	0.806691975	0.633205339	0.616655271	0.325653459	3.34659E-05
385	Methanesulfonic acid	pg	4.660509414	2.564453895	2.074753266	0.007213631	0.005662273	0.005514278	0.002912071	x
386	Methanol	µg	5.202591743	3.165431218	1.59099035	0.147398868	0.115699366	0.112675335	0.059503444	0.010893162
387	Methanol	ng	356.7188866	196.5471773	128.4107629	10.52924533	8.264832874	8.048815176	4.250550709	0.667502335
388	Methyl acetate	pg	0.184096592	0.098956301	0.084255289	0.00029969	0.000235239	0.000229091	0.000120982	x
389	Methyl acetate	pg	0.441823765	0.237490785	0.202209013	0.000719244	0.000564564	0.000549808	0.000290352	x
390	Methyl acrylate	ng	2.002455182	0.205486611	1.775161066	0.0073846	0.005796473	0.005644971	0.002981089	3.73325E-07
391	Methyl acrylate	ng	39.11854871	4.014241173	34.67829153	0.144260324	0.113235795	0.110276155	0.058236446	7.29289E-06
392	Methyl amine	pg	5.785060797	1.313682134	4.347795909	0.041848875	0.032848884	0.031990314	0.016893971	7.10495E-07
393	Methyl amine	pg	13.88403185	3.152864027	10.4345782	0.100434256	0.078834932	0.076774427	0.040544302	1.70515E-06
394	Methyl borate	pg	8.935776558	8.76920054	0.161110154	0.001850905	0.00145285	0.001414904	0.000747206	1.25981E-10
395	Methyl ethyl ketone	µg	3.170979831	0.329936077	2.80624778	0.011782842	0.009248832	0.009007095	0.004756615	5.9066E-07
396	Methyl formate	pg	19.38957259	12.22319324	7.074944562	0.030962281	0.024303555	0.023668332	0.012499163	1.46194E-06
397	Methyl formate	pg	7.741139986	4.880017305	2.824618031	0.012361457	0.009703011	0.009449403	0.004990196	5.83674E-07
398	Methyl lactate	pg	21.41207925	20.36542456	0.92131528	0.042443973	0.033316001	0.032445222	0.017134206	x
399	Metolachlor	ng	380.0267427	203.3805114	174.8512452	0.60479724	0.47472995	0.462321948	0.244150579	0.008986425
400	Metribuzin	ng	31.38784525	30.84620436	0.335217137	0.005420608	0.004254856	0.004143647	0.002188245	0.190416403
401	Molybdenum	µg	6.653541759	6.577364064	0.047390762	0.009329365	0.007322998	0.007131597	0.003766171	0.0012368
402	Molybdenum	µg	573.4747006	569.103407	3.44624416	0.300834146	0.236136956	0.229965052	0.121443727	0.036669536
403	Molybdenum	pg	610.7344254	495.8546408	95.63433798	5.927766796	4.652945233	4.531331358	2.392979999	1.740423147
404	Molybdenum-99	nBq	236.7470798	92.59213614	141.1412146	1.007743391	0.791018771	0.770343936	0.406815897	0.037807099
405	Molybdenum, 0.010% in sulfid	µg	16.70606371	8.414804389	7.814630112	0.160927568	0.126318593	0.123017012	0.064964847	0.001401195
406	Molybdenum, 0.014% in sulfid	µg	2.358873312	1.197354616	1.093815461	0.022858854	0.017942844	0.017473873	0.00922789	0.000199774
407	Molybdenum, 0.022% in sulfid	µg	13.33987527	9.248625088	1.355168251	0.926046169	0.726891299	0.707892563	0.373835549	0.001416356
408	Molybdenum, 0.025% in sulfid	µg	8.643639542	4.387476682	4.008077315	0.083761893	0.065748117	0.064029662	0.033813837	0.000732035
409	Molybdenum, 0.11% in sulfide	µg	26.88070813	18.66132643	2.697813988	1.868813337	1.466907591	1.428567072	0.754421198	0.002858518
410	Monoethanolamine	ng	115.1143688	33.63240562	79.29899347	0.634912686	0.498368789	0.485342983	0.256307906	0.308037369
411	Napropamide	pg	952.9254338	752.9380461	194.480417	0.746386856	0.585869398	0.570556551	0.301308888	3.302849046
412	Neodymium, 4% in bastnasite	pg	-3.91579E-12	-3.57945E-12	x	x	x	x	x	-3.36345E-13
413	Nickel	µg	76.40533571	73.59402056	1.892007162	0.305842814	0.240068463	0.233793801	0.123465676	0.016137231
414	Nickel	ng	155.3760602	9.809873905	144.9621682	0.194679147	0.152811579	0.148817548	0.078590019	0.029119774
415	Nickel, 1.13% in sulfide, Ni 0.7	µg	17.8066836	16.56468623	1.014743474	0.043560835	0.034192671	0.033298979	0.017585072	0.098616336
416	Nickel, 1.98% in silicates, 1.04	mg	7.207906024	4.272769279	1.622699666	0.44405725	0.348558595	0.339448337	0.179261461	0.001111436

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
417	Nickel, ion	mg	10.98086013	10.89634596	0.053337269	0.008249063	0.006475025	0.006305788	0.003330064	0.006816961
418	Niobium-95	nBq	0.234023808	0.09152706	0.139517685	0.000996151	0.00078192	0.000761483	0.000402136	3.73722E-05
419	Niobium-95	µBq	5.184692299	4.188932851	0.655797056	0.025225069	0.019800183	0.019282666	0.010183107	0.265471367
420	Nitrate	µg	1.730407719	1.605019549	0.097211781	0.006852791	0.005379034	0.005238443	0.002766403	0.007939718
421	Nitrate	mg	123.4906183	122.8914598	0.434814448	0.055000621	0.043172225	0.042043833	0.022203199	0.001924093
422	Nitrite	µg	1.295176492	0.993298727	0.261880084	0.00915106	0.007183039	0.006995296	0.003694191	0.012974094
423	Nitrobenzene	pg	118.4907237	112.1994844	5.598065756	0.234730981	0.184249893	0.17943416	0.094758543	x
424	Nitrobenzene	pg	474.8504659	449.6383832	22.43419612	0.940682209	0.738379722	0.719080716	0.379743972	x
425	Nitrogen	µg	41.80686848	31.08537333	6.172787307	1.500939572	1.178148511	1.147355277	0.605914247	0.116350233
426	Nitrogen dioxide	mg	181.424	181.424	x	x	x	x	x	x
427	Nitrogen oxides	mg	387.5933662	289.412475	45.39357245	15.64025572	12.27667278	11.95579772	6.313814318	6.600778258
428	Nitrogen, organic bound	µg	20.32350364	5.86358747	9.08004458	1.81827784	1.427240224	1.389936486	0.734020522	0.010396523
429	NMVOC, non-methane volatile	mg	28.50651939	15.46294563	6.285827179	2.26167443	1.77528024	1.728879788	0.913015277	0.078896854
430	Noble gases, radioactive, uns	Bq	1117.365933	908.3777978	141.4744961	12.0844763	9.485596911	9.237672146	4.878381856	31.82751182
431	o-Xylene	pg	9.132497712	1.972573903	6.983048158	0.058184133	0.045671093	0.044477389	0.023488351	0.005054686
432	Occupation, arable, non-irriga	mm2a	3.99968844	3.163353445	0.813206657	0.003123195	0.002451523	0.002387447	0.001260802	0.013905371
433	Occupation, construction site	mm2a	1.372601811	0.934233768	0.222704953	0.048258619	0.037880153	0.036890081	0.019481521	0.073152717
434	Occupation, dump site	mm2a	214.5306218	210.158338	1.71298581	0.161705314	0.126929077	0.123611537	0.065278814	2.181773245
435	Occupation, dump site, benthc	mm2a	1.05987818	0.198883011	0.4259157	0.147331947	0.115646837	0.112624179	0.059476429	7.76515E-08
436	Occupation, forest, intensive	mm2a	20.0186342	17.47642524	2.371745961	0.021674152	0.017012923	0.016568259	0.008749639	0.106458033
437	Occupation, forest, intensive,	cm2a	33.19807517	32.95886347	0.188708617	0.016907633	0.013271489	0.012924612	0.006825442	0.000573914
438	Occupation, forest, intensive,	mm2a	0.106934673	0.014645168	0.073108184	0.006489655	0.005093994	0.004960853	0.002619809	1.70101E-05
439	Occupation, industrial area	mm2a	172.2647232	163.8605212	4.663815242	1.266350797	0.994010244	0.968029812	0.511213108	0.000782775
440	Occupation, industrial area, be	mm2a	0.008808043	0.001667264	0.00378797	0.001135369	0.000891197	0.000867904	0.000458337	7.09159E-10
441	Occupation, industrial area, bu	mm2a	2.489045359	1.211521424	0.96791751	0.104841642	0.082294467	0.080143549	0.042323523	3.24511E-06
442	Occupation, industrial area, ve	mm2a	2.832228247	1.798445919	0.908848891	0.042302248	0.033204573	0.032337398	0.017077187	1.20303E-05
443	Occupation, mineral extraction	cm2a	605.5008597	605.449644	0.02544505	0.001495556	0.001173923	0.001143239	0.000603741	0.021354229
444	Occupation, permanent crop,	mm2a	0.153273022	0.018819201	0.106909226	0.009323153	0.007318122	0.007126848	0.003763663	1.28099E-05
445	Occupation, shrub land, sclerc	mm2a	1.085007917	0.872360694	0.129281336	0.003469915	0.002723677	0.002652488	0.00140077	0.073119037
446	Occupation, traffic area, rail e	mm2a	23.52912524	23.13702614	0.321691382	0.023842255	0.018714756	0.018225609	0.009624879	2.20057E-07
447	Occupation, traffic area, rail n	mm2a	26.01778292	25.5842118	0.355716442	0.026364024	0.020694191	0.02015332	0.010642895	2.43328E-07
448	Occupation, traffic area, road	mm2a	42.54182038	32.59617644	9.881280271	0.021009696	0.016491365	0.016060331	0.008481404	0.002320869
449	Occupation, traffic area, road	mm2a	52.50011987	1.888690657	49.04701892	0.529759611	0.41582986	0.404961334	0.213858641	8.49596E-07
450	Occupation, urban, discontinu	mm2a	0.00642219	0.005524485	0.000785648	3.79459E-05	2.97853E-05	2.90068E-05	1.53184E-05	5.64393E-11
451	Occupation, water bodies, arti	mm2a	54.19932068	48.13564376	1.500184505	0.151927172	0.119253815	0.116136882	0.061331475	4.114843063
452	Occupation, water courses, ar	mm2a	5.478646549	2.500011676	2.570182224	0.137442235	0.107884	0.105064239	0.055484052	0.002578124
453	Oil, crude, in ground	g	3.441209539	0.434715099	1.85772333	0.38841084	0.304879464	0.296910838	0.156797559	0.00177241
454	Oils, biogenic	µg	34.50844452	33.99337545	0.421729677	0.031270037	0.024545123	0.023903588	0.0126234	0.000997247
455	Oils, unspecified	mg	11.89517571	1.803332446	5.096222219	1.689117273	1.325856842	1.291202958	0.681879697	0.007564277
456	Oils, unspecified	mg	12.27697063	1.891591441	5.107351013	1.784609396	1.400812492	1.364199494	0.720428908	0.007977886
457	Olivine, in ground	ng	41.75023567	6.753232337	33.34202965	0.55575281	0.436232982	0.424831173	0.224351834	0.013804879
458	Orbencarb	ng	169.4974823	166.5725677	1.810205846	0.029271823	0.022976644	0.022376106	0.011816742	1.028267455
459	Ozone	µg	112.8279135	99.40052633	4.762573371	0.430536047	0.337945252	0.329112388	0.173803083	7.393417028
460	PAH, polycyclic aromatic hydr	µg	5.941033455	1.891838201	0.582288925	1.16563011	0.914950478	0.891036443	0.470553181	0.024736117
461	PAH, polycyclic aromatic hydr	µg	1.207620145	0.197181629	0.571262147	0.148497875	0.116562021	0.113515443	0.059947102	0.000653929
462	Paraffins	pg	2.56981E-06	2.34908E-06	x	x	x	x	x	2.20733E-07
463	Paraffins	pg	7.45782E-06	6.81723E-06	x	x	x	x	x	6.40585E-07
464	Particulates, < 2.5 um	mg	21.19984862	15.45916669	1.362850348	1.450552196	1.138597411	1.108837921	0.585573369	0.094270692
465	Particulates, > 10 um	mg	280.2136954	277.4850798	1.6126302	0.231331792	0.181581732	0.176835735	0.093386324	0.432849902
466	Particulates, > 2.5 um, and <	mg	26.64813791	25.19388652	1.050125678	0.132283801	0.103834935	0.101121004	0.053401643	0.013484335
467	Pd, Pd 2.0E-4%, Pt 4.8E-4%,	ng	4.779158017	0.668588019	2.668045726	0.487752919	0.382857102	0.372850377	0.19690096	0.002162916
468	Pd, Pd 7.3E-4%, Pt 2.5E-4%,	ng	11.48517756	1.606739643	6.411792871	1.172157828	0.920074349	0.896026391	0.473188355	0.005198119
469	Peat, in ground	µg	117.1799722	74.67729988	41.40539964	0.259420162	0.203629436	0.198307181	0.104725318	0.331190592
470	Pentane	µg	295.6205141	69.01233012	139.9125961	28.54113057	22.40309412	21.81754505	11.52176806	2.412050123
471	Phenol	µg	119.2833039	119.1607585	0.113579998	0.002854043	0.002240255	0.002181701	0.001152149	0.000537222
472	Phenol	µg	19.14098944	2.690375645	9.432477522	2.372760739	1.862476401	1.813796906	0.957859705	0.011242523
473	Phenol, 2,4-dichloro-	pg	1.186045373	0.477287511	0.633496111	0.025486062	0.020005046	0.019482175	0.010288467	x
474	Phenol, pentachloro-	ng	18.45594478	15.31902545	2.1179915	0.343638049	0.26973548	0.262685412	0.138723233	0.004145654
475	Phosphate	mg	411.1842645	408.9573101	1.587585557	0.195830012	0.15371494	0.149697298	0.079054611	0.061071977
476	Phosphine	pg	1.525565459	0.156549462	1.352402004	0.005625939	0.004416028	0.004300607	0.002271135	2.84414E-07
477	Phosphorus	µg	151.1666121	151.0771497	0.056044519	0.010104656	0.007931555	0.007724248	0.004079148	0.003578322
478	Phosphorus	µg	1.772130782	0.514789138	0.840224362	0.140486277	0.110273393	0.10739118	0.056712901	0.002253532
479	Phosphorus	µg	5.186268977	1.329025996	2.109651984	0.59169322	0.464444072	0.45230491	0.238860617	0.000288177
480	Phosphorus, 18% in apatite, 1	µg	24.37569811	8.035777746	10.42828783	1.995366357	1.566244202	1.525307322	0.80550938	0.019205275
481	Phosphorus, 18% in apatite, 4	µg	43.92233045	11.1708663	19.32912629	4.534075379	3.55898016	3.465959193	1.830360742	0.032962379
482	Pirimicarb	pg	329.0078831	176.0765335	151.3773416	0.523602784	0.410997119	0.4002549	0.211373191	0.007779991
483	Platinum	pg	1.131592009	0.84736637	0.230635283	0.018072586	0.014185908	0.013815131	0.007295722	0.000221009
484	Plutonium-238	nBq	0.015860239	0.012893442	0.00200855	0.000171548	0.000134655	0.000131136	6.92524E-05	0.000451656
485	Plutonium-alpha	nBq	0.036357583	0.029556576	0.004604346	0.000393253	0.00030868	0.000300612	0.000158752	0.001035364
486	Polonium-210	mBq	203.8610747	203.6956133	0.098157659	0.01297187	0.010182149	0.009916018	0.005236614	0.028997079
487	Polonium-210	µBq	365.6542814	191.1827686	107.2537923	22.67575697	17.79912384	17.33390863	9.153975594	0.254955478
488	Polychlorinated biphenyls	ng	5.830305901	2.334086925	2.614076199	0.29870838	0.234468355	0.228340063	0.120585576	4.04041E-05
489	Potassium	mg	3.029674927	3.024741184	0.003704885	0.000390701	0.000306677	0.000298662	0.000157722	7.5095E-05
490	Potassium	µg	35.11028153	8.328428528	14.61009065	4.121209433	3.234904888	3.150354267	1.663690901	0.001602854
491	Potassium-40	mBq	32.49499459	32.46244911	0.01089872	0.001678771	0.001317735	0.001283294	0.000677703	0.016689254
492	Potassium-40	µBq	224.402013	176.8527484	31.93214208	5.248110005	4.119454977	4.011784904	2.118609362	0.119163211
493	Potassium, ion	mg	818.7045447	813.2215221	3.484617989	0.436824675	0.342881453	0.333919571	0.176341739	0.708437101
494	Praseodymium, 0.42% in bast	pg	-3.33258E-14	-3.04633E-14	x	x	x	x	x	-2.8625E-15
495	Propanal	pg	968.0147613	590.1340316	294.7557366	24.86526442	19.51775728	19.00762219	10.03785778	9.696491452
496	Propanal	pg	83.51965558	82.10538367	1.364555357	0.016835633	0.013214973	0.012869574	0.006796376	x
497	Propane	mg	1.430799588	1.246640451	0.113264648	0.023754392	0.018645788	0.018158444	0.00958941	0.000746456
498	Propene	µg	612.1766221	602.6516628	6.048386942	1.082550636	0.84973802	0.82752844	0.437014831	0.279740438
499	Propene	µg	2.122007023	0.268672936	1.740172732	0.037995068	0.029823874	0.029044368	0.015338228	0.000959818
500	Propionic acid	ng	203.6843075	148.0235404	32.70560541	7.696954815	6.041652859	5.883742352	3.107183442	0.225628243
501	Propionic acid	pg	6.26858636	3.373843532	2.702276766	0.06517523	0.051158689	0.049821556	0.026310587	x
502	Propylamine	pg	13.92252859	13.68676995	0.227470982	0.002806469	0.002202912	0.002145335	0.001132944	x
503	Propylamine	pg	33.41369091	32.84787247	0.54592825	0.006735463	0.005286939	0.005148755	0.002719039	x
504	Propylene oxide	ng	675.4968053	10.60456552	661.1841153	1.254433963	0.984656234	0.958920301	0.506402406	0.003711581
505	Propylene oxide	µg	1.625356005	0.025510173	1.590923847	0.003018248	0.002369146	0.002307223	0.001218436	8.93098E-06
506	Protactinium-234	µBq	16.38868644	12.99356718	2.440949348	0.170769467	0.134043899	0.130540398	0.068937921	0.449878225
507	Protactinium-234	µBq	302.0214165	239.5346697	44.8974975	3.148871395	2.471677219	2.407075073	1.271167799	8.290457862
508	Pt, Pt 2.5E-4%, Pd 7.3E-4%,	pg	134.961535	47.23532518	52.59411518	11.88000455	9.325098715	9.081368862	4.795838647	0.049783887
509	Pt, Pt 4.8E-4%, Pd 2.0E-4%,	pg	483.8257052	169.3346313	188.5454749	42.58881632	33.42969396	32.55594296	17.19267787	0.178467921
510	Radioactive species, alpha em	nBq	401.3831538	111.1699934	175.3880631	38.72078369	30.39351785	29.5991233	15.63119191	0.480480545
511	Radioactive species, Nuclides	mBq	113.2098794	91.97266157	14.40319838	1.224938007	0.961503658	0.936372866	0.494495185	3.216709782
512	Radioactive species, other bet	mBq	7.461688721	0.213511189	7.231735403	0.005213283	0.004092118	0.003985175	0.002104557	0.001046996
513	Radium-224	mBq	10.10982515	1.356496264	5.091287891	1.238185572	0.971902211	0.946499629	0.499843093	0.005610488
514	Radium-226	mBq	29.3104873	29.17709106	0.092877029	0.007417319	0.005822155	0.005669982	0.002994297	0.018615451
515	Radium-226	mBq	204.283406	151.285597	36.14946886	3.956076772	3.105285547	3.024122792	1.597028508	5.165822139
516	Radium-228	mBq	155.2123484	155.1944454	0.008519453	0.001473878	0.001156907	0.001126669	0.00059499	0.005031124
517	Radium-228	mBq	20.22042133	2.713159068	10.18316534	2.476376057	1.943808278	1.893003013	0.999688169	0.011221403
518	Radon-220	mBq	6.201786699	5.546667552	0.451765125	0.068252859	0.053574444	0.052174172	0.027552995	0.001799553
519	Radon-222	Bq	2165.78938	1717.847689	321.8408589	22.57805846	17.7224363	17.25922558	9.114535739	59.42657528
520	Rh, Rh 2.0E-5%, Pt 2.5E-4%,	pg	87.01730508	17.51385949	36.50239442	11.15847961	8.758744451	8.529817384	4.50456627	0.049443455

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
521	Rh, Rh 2.4E-5%, Pt 4.8E-4%,	pg	272.5479778	54.85538247	114.3295974	34.94961087	27.43337093	26.71634565	14.10880727	0.15486323
522	Rhenium, in crude ore, in grou	pg	130.7204878	18.25627038	66.13252368	15.66555217	12.296529	11.97513495	6.324026242	0.070451398
523	Rubidium	µg	2.025695491	0.274709289	1.018257578	0.247637114	0.194380442	0.189299926	0.099968619	0.001442524
524	Ruthenium-103	nBq	0.051416564	0.020109095	0.030652949	0.000218861	0.000171793	0.000167303	8.8352E-05	8.21092E-06
525	Ruthenium-103	nBq	49.95576512	19.53777427	29.78206688	0.212642928	0.166912082	0.162549506	0.085841817	0.007977638
526	Samarium, 0.3% in bastnasite	pg	-2.21554E-13	-2.02524E-13	x	x	x	x	x	-1.90303E-14
527	Sand, unspecified, in ground	µg	10.04706258	6.326541777	3.234471791	0.164241852	0.128920109	0.125550527	0.066302788	0.001033735
528	Scandium	µg	3.143178111	3.107067859	0.029808315	0.002110615	0.001656707	0.001613406	0.000852034	6.91748E-05
529	Scandium	µg	277.3309873	271.3596724	1.461486777	0.128029434	0.100495509	0.097868862	0.051684198	4.13175018
530	Selenium	µg	23.0496335	22.79931234	0.099047473	0.015125154	0.011872348	0.011562041	0.006105873	0.106608274
531	Selenium	µg	393.350191	389.5366739	2.29032682	0.189542278	0.148779443	0.144890799	0.076516317	0.963461411
532	Shale, in ground	ng	271.3288401	45.89819901	212.1299836	4.464730657	3.504548667	3.412950376	1.802366974	0.116060866
533	Silicon	mg	37.73101542	37.72320838	0.00536085	0.000531694	0.000417348	0.00040644	0.000214639	0.000876071
534	Silicon	g	1.402814803	1.36360744	0.012712163	0.001441692	0.001131643	0.001102065	0.000581997	0.022237805
535	Silicon	µg	17.58693922	8.522936074	5.274109462	1.279108932	1.004024621	0.977782457	0.516363443	0.012614229
536	Silicon tetrafluoride	pg	323.483405	77.98629504	144.0554263	34.26704288	26.89759555	26.19457383	13.83326142	0.249210014
537	Silver	ng	5.993496067	4.426352359	1.294331564	0.092379514	0.072512437	0.070617182	0.037292683	1.03281E-05
538	Silver-110	nBq	0.509577517	0.199296527	0.3037942	0.00216908	0.001702599	0.001658098	0.000875636	8.13765E-05
539	Silver-110	µBq	298.4173334	174.5832172	113.2434836	1.91721211	1.504897755	1.465564287	0.773959296	4.928999071
540	Silver, 0.007% in sulfide, Ag 0	ng	140.3612252	15.66468406	123.0949867	0.542329298	0.425696322	0.414569907	0.218932895	2.60162E-05
541	Silver, 3.2ppm in sulfide, Ag 1	ng	100.1245842	11.19522675	87.78565166	0.387289479	0.303999264	0.296053606	0.156344858	1.8559E-05
542	Silver, Ag 2.1E-4%, Au 2.1E-4	ng	9.242489546	1.032082302	8.104909917	0.035724226	0.028041398	0.027308479	0.014421511	1.71361E-06
543	Silver, Ag 4.2E-3%, Au 1.1E-4	ng	21.10878041	2.357156968	18.51067972	0.081590011	0.064043318	0.062369417	0.032937068	3.91371E-06
544	Silver, Ag 4.6E-5%, Au 1.3E-4	ng	20.69014204	2.310408823	18.14356798	0.079971885	0.062773185	0.061132481	0.032283846	3.83609E-06
545	Silver, Ag 9.7E-4%, Au 9.7E-4	ng	13.65248026	1.524533349	11.97211225	0.052769798	0.041421162	0.040338536	0.021302638	2.53173E-06
546	Silver, ion	µg	2.761332015	2.496901272	0.195548087	0.023286433	0.018278468	0.017800725	0.009400499	0.00011653
547	Sodium	mg	1.516192283	1.512671919	0.002239205	0.00042043	0.000330013	0.000321387	0.000169723	3.96043E-05
548	Sodium	µg	211.0432865	26.56634072	116.2459335	23.10522405	18.13623002	17.66220385	9.327347132	7.18405E-06
549	Sodium-24	µBq	1.791291516	0.700576784	1.067912054	0.007624855	0.005985059	0.005828628	0.003078078	0.000286059
550	Sodium chlorate	ng	5.376538312	2.506698014	1.73134752	0.369358418	0.289924444	0.282346697	0.149106288	0.04775693
551	Sodium chloride, in ground	mg	29.34078434	5.391879679	22.83199549	0.326094221	0.255964616	0.249274476	0.131640966	0.153934886
552	Sodium dichromate	ng	6.315274406	3.305351591	2.497190634	0.17327507	0.13601065	0.132455744	0.069949408	0.001041309
553	Sodium formate	ng	3.045964775	2.945040609	0.072723588	0.003459094	0.002715184	0.002644217	0.001396402	0.01798568
554	Sodium formate	ng	7.317744587	7.075280469	0.174713953	0.008310262	0.006523063	0.00635257	0.00335477	0.0432095
555	Sodium hydroxide	ng	17.70693737	1.821462732	15.69238314	0.065385905	0.051324056	0.049982601	0.026395634	3.30058E-06
556	Sodium nitrate, in ground	pg	12.62791627	2.047701035	10.41570901	0.055637345	0.043672015	0.04253056	0.022460238	0.000206071
557	Sodium sulphate, various form	µg	79.08341994	17.44066459	35.0429714	8.984036022	7.051935243	6.867619004	3.626765208	0.06942848
558	Sodium, ion	g	1.349102367	1.281353622	0.043009771	0.008098644	0.006356955	0.006190803	0.003269341	0.000823231
559	Solids, inorganic	mg	8.960227653	8.245582035	0.466402099	0.0701602	0.055071594	0.053632189	0.028322969	0.041056567
560	Solved solids	mg	10.16216432	9.98951684	0.082362415	0.026522377	0.020818492	0.02027436	0.010706817	0.011963016
561	Stibnite, in ground	pg	483.4326226	13.81232249	468.5564008	0.337300427	0.264760823	0.257841586	0.136165226	0.067831292
562	Strontium	µg	323.2144401	323.0643212	0.096756543	0.01223883	0.009606756	0.009355664	0.004940693	0.017220468
563	Strontium	mg	42.36101288	41.77555957	0.330427494	0.063134495	0.049556833	0.048261567	0.025486762	0.068586159
564	Strontium	ng	880.4297119	131.3917644	404.7750418	116.5769983	91.50602702	89.11433647	47.06096463	0.00457922
565	Strontium-89	µBq	7.391431879	4.583035792	2.500092067	0.034175952	0.026826095	0.026124942	0.013796489	0.207380541
566	Strontium-90	mBq	95.28601782	79.04374571	10.96241155	1.757608554	1.379618433	1.343559387	0.709528941	0.089545244
567	Styrene	ng	14.33623879	5.244700181	7.658744275	0.484695302	0.380457055	0.370513057	0.19566663	0.001462294
568	Sulfate	µg	68.55423175	40.17714384	23.01129589	1.717472202	1.348113779	1.312878169	0.693326299	0.294001559
569	Sulfate	g	9.53823634	9.484028963	0.039064683	0.004525743	0.00355244	0.00345959	0.001826997	0.001777923
570	Sulfide	ng	378.5420208	152.6438165	137.5667009	29.58626429	23.22346208	22.61647109	11.94367807	0.961627883
571	Sulfite	µg	4.416800437	3.639499687	0.543168136	0.078729211	0.06179776	0.060182554	0.031782193	0.001640896
572	Sulfur	µg	32.0349484	5.101589882	13.53216037	4.53163501	3.557064615	3.464093714	1.829375589	0.019029217
573	Sulfur	µg	54.02989616	9.2379441	24.28245827	6.943282643	5.450064921	5.307616721	2.802933543	0.005595962
574	Sulfur dioxide	g	2.547348287	2.522686606	0.006502249	0.00196035	0.001538758	0.00149854	0.000791373	0.012370411
575	Sulfur hexafluoride	µg	1.623226367	1.431952936	0.053104783	0.006410806	0.005032103	0.004900579	0.002587978	0.119237182
576	Sulfur trioxide	pg	956.539876	904.3156491	46.64090997	1.890691598	1.484080727	1.445291358	0.763253234	x
577	Sulfur, in ground	µg	3.990980985	1.307407418	2.482480611	0.067196164	0.052745002	0.051366408	0.027126417	0.002658965
578	Sulfuric acid	ng	3.710671719	0.385291463	3.284708383	0.013772577	0.010810656	0.010528098	0.005559851	6.91271E-07
579	Sulfuric acid	pg	2.288348163	0.234824185	2.028602988	0.008438908	0.006624042	0.00645091	0.003406703	4.2662E-07
580	Suspended solids, unspecified	mg	2.790322914	0.596848473	1.130794945	0.359177347	0.281932907	0.274564034	0.144996291	0.002008917
581	Sylvite, 25 % in sylvinite, in gr	µg	54.01887149	38.43593551	14.45885489	0.311765556	0.244717464	0.238321291	0.125856628	0.203420157
582	t-Butyl methyl ether	ng	22.4271449	16.79308868	5.530663088	0.034532225	0.027105747	0.026397285	0.013940313	0.001417565
583	t-Butyl methyl ether	ng	371.1877607	57.48017165	154.2990516	53.89859902	42.30720236	41.20142015	21.75832367	0.242992266
584	t-Butylamine	pg	5.944173915	4.308185817	1.617275969	0.006336532	0.004973801	0.004843801	0.002557994	x
585	t-Butylamine	pg	14.26625163	10.33982159	3.881520251	0.015207908	0.011937306	0.011625301	0.00613928	x
586	Talc, in ground	µg	157.1836498	155.2705401	0.863107085	0.031406385	0.024652149	0.024007816	0.012678442	0.957257828
587	Tantalum, 81.9% in tantalite,	ng	110.4929818	12.14438906	97.09861981	0.423274305	0.332245219	0.323561333	0.17087159	2.0507E-05
588	Tebutam	ng	2.257990928	1.784113654	0.46082831	0.00176859	0.001388239	0.001351954	0.000713962	0.007826219
589	Technetium-99m	µBq	5.449973087	2.136180104	3.243961758	0.023352155	0.018330056	0.017850964	0.009427031	0.00087102
590	Teflubenzuron	ng	2.092523011	2.056413618	0.022347809	0.000361374	0.000283657	0.000276243	0.000145883	0.012694426
591	Tellurium-123m	µBq	4.337268272	3.583613548	0.473641586	0.036103333	0.028338975	0.02759828	0.014574554	0.173397997
592	Tellurium-132	nBq	13.70812362	5.361267598	8.17235515	0.058350333	0.045801549	0.044604436	0.023555444	0.002189106
593	Tellurium, 0.5ppm in sulfide, T	ng	15.01893802	1.679312017	13.16806727	0.058094393	0.045600652	0.044408783	0.023452121	2.78388E-06
594	Terpenes	ng	3.460115935	0.47387791	2.365582497	0.209987643	0.164827841	0.16051974	0.084769905	0.000550401
595	Thallium	µg	3.774437261	3.772955967	0.001223982	5.77334E-05	4.53173E-05	4.41329E-05	2.33064E-05	8.68226E-05
596	Thallium	µg	14.20189282	13.68343378	0.171031755	0.009354428	0.007342671	0.007150756	0.003776289	0.319803145
597	Thiram	pg	15.75294478	2.157434226	10.76983869	0.95601529	0.750415281	0.730801697	0.385933781	0.002505822
598	Thorium	µg	3.441094484	3.440439784	0.000393177	5.32362E-05	4.17873E-05	4.06951E-05	2.14909E-05	0.000104314
599	Thorium-228	mBq	13.15533735	13.15071024	0.002409914	0.000381497	0.000299453	0.000291626	0.000154007	0.001090618
600	Thorium-228	mBq	40.44090324	5.426416391	20.36585316	4.952900887	3.887733334	3.786119753	1.999436397	0.022443324
601	Thorium-230	µBq	61.1353683	48.15092538	9.275597929	0.693415024	0.544289653	0.530063572	0.27992469	1.661152055
602	Thorium-230	mBq	41.20787464	32.68216774	6.125825493	0.429632775	0.337236238	0.328421905	0.173438442	1.131152047
603	Thorium-232	mBq	8.395923765	8.389533327	0.003400915	0.00052793	0.000414394	0.000403563	0.00021312	0.001430516
604	Thorium-232	µBq	38.89199564	32.17975578	4.663924944	0.686956419	0.539220031	0.525126453	0.277317415	0.019694604
605	Thorium-234	µBq	16.39233344	12.99648309	2.44145959	0.170802012	0.134069445	0.130565277	0.068951059	0.450002974
606	Thorium-234	µBq	302.0604016	239.5658387	44.90295276	3.149219324	2.471950322	2.407341039	1.271308254	8.291791256
607	Tin	µg	1.712638128	1.641332371	0.056178606	0.004995126	0.003920877	0.003818397	0.002016482	0.000376269
608	Tin	ng	1.258605068	1.009113571	0.236107959	0.002214269	0.001738069	0.001692642	0.000893878	0.00684468
609	Tin, 79% in cassiterite, 0.1% i	µg	7.348838777	2.426234594	4.818521295	0.035116378	0.027564273	0.026843827	0.01417613	0.000382282
610	Tin, ion	µg	27.20206798	24.58013291	1.616908585	0.05553597	0.043592441	0.042453067	0.022419314	0.841025687
611	TiO2, 54% in ilmenite, 2.6% in	µg	739.0473341	205.1067134	478.8347226	18.60928608	14.60718546	14.22539786	7.512382094	0.151646644
612	TiO2, 95% in rutile, 0.40% in g	ng	7.837476888	1.071086546	6.745814631	0.006838778	0.005368035	0.005227731	0.002760746	0.000380421
613	Titanium	µg	907.3758581	906.5052108	0.709926239	0.047379161	0.037189831	0.036217801	0.019126492	0.020807795
614	Titanium	ng	116.8206462	95.40147176	15.41229107	2.020391023	1.585887081	1.544436803	0.815611591	0.040556913
615	Titanium, ion	mg	4.639278287	4.248904079	0.112650665	0.003566018	0.002799112	0.002725952	0.001439566	0.267192895
616	TOC, Total Organic Carbon	µg	611.32	611.32	x	x	x	x	x	x
617	TOC, Total Organic Carbon	mg	12.94865781	2.271054719	5.611486975	1.712525555	1.344230954	1.309096826	0.691329385	0.008933391
618	Toluene	µg	177.4345177	148.7689353	17.06886674	3.34825176	2.628178976	2.559486333	1.351655644	1.709142903
619	Toluene	µg	25.4330174	3.414011297	12.72689209	3.141802024	2.466128181	2.401671056	1.268313956	0.01419879
620	Toluene, 2-chloro-	pg	36.07538349	33.79400357	2.072731543	0.070655083	0.055460048	0.054010491	0.028522748	x
621	Toluene, 2-chloro-	pg	74.6999131	70.32969081	3.937696635	0.146467169	0.114968038	0.111963122	0.059127327	x
622	Transformation, from arable	mm2	0.008834877	0.006950498	0.001716415	4.73053E-05	3.71318E-05	3.61613E-05	1.90967E-05	2.82691E-05
623	Transformation, from arable, r	mm2	7.361564013	5.816485564	1.502534881	0.00576656	0.004526408	0.004408101	0.002327903	0.025514596
624	Transformation, from arable, r	mm2	0.00221283	0.001772283	0.000419812	3.97092E-06	3.11693E-06	3.03547E-06	1.60302E-06	9.00905E-06

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
625	Transformation, from dump si	mm2	0.034056144	0.011554769	0.021951165	0.00018618	0.00014614	0.000142321	7.5159E-05	4.10154E-07
626	Transformation, from dump si	mm2	0.182175343	0.162359578	0.003762698	0.000493403	0.000387292	0.000377169	0.000199182	0.014596021
627	Transformation, from dump si	mm2	0.000357757	0.000269986	4.70179E-05	1.24683E-05	9.78691E-06	9.53111E-06	5.03335E-06	3.93276E-06
628	Transformation, from dump si	mm2	0.000120859	2.80301E-05	8.93654E-05	1.14232E-06	8.96653E-07	8.73217E-07	4.61143E-07	8.9688E-08
629	Transformation, from forest	mm2	3.78758486	0.57806524	1.729468071	0.501193098	0.393406846	0.383124382	0.202326625	5.98878E-07
630	Transformation, from forest, e	mm2	22.51007774	22.31224775	0.159572385	0.012550028	0.009851027	0.009593551	0.00506632	0.001196684
631	Transformation, from forest, i	mm2	0.003819113	0.000523044	0.002611018	0.000231774	0.000181929	0.000177174	9.3565E-05	6.07507E-07
632	Transformation, from industria	mm2	0.009526029	0.00659876	0.001968431	0.000278524	0.000218625	0.000212911	0.000112437	0.000136341
633	Transformation, from industria	mm2	1.06623E-05	7.68775E-06	1.80242E-06	3.96919E-07	3.11558E-07	3.03415E-07	1.60232E-07	6.574E-12
634	Transformation, from industria	mm2	1.52756E-05	3.68269E-06	6.80262E-06	1.61817E-06	1.27016E-06	1.23697E-06	6.53237E-07	1.17683E-08
635	Transformation, from industria	mm2	2.60584E-05	6.28223E-06	1.16045E-05	2.7604E-06	2.16675E-06	2.11012E-06	1.11435E-06	2.00753E-08
636	Transformation, from mineral	cm2	17.73484604	17.73454984	0.000261966	1.1388E-05	8.93892E-06	8.70528E-06	4.59723E-06	6.0339E-07
637	Transformation, from pasture	cm2	17.73668128	17.73601392	0.00047214	1.65981E-05	1.30285E-05	1.2688E-05	6.70047E-06	0.000146211
638	Transformation, from pasture	mm2	0.006007596	0.004746801	0.001226077	4.7055E-06	3.69354E-06	3.597E-06	1.89956E-06	2.08224E-05
639	Transformation, from sea and	mm2	1.060629735	0.199068778	0.426332704	0.147382324	0.11568638	0.112662688	0.059496765	9.7016E-08
640	Transformation, from shrub la	mm2	0.235021717	0.18740382	0.030165385	0.000960347	0.000753816	0.000734113	0.000387683	0.014616553
641	Transformation, from tropical	mm2	0.003819113	0.000523044	0.002611018	0.000231774	0.000181929	0.000177174	9.3565E-05	6.07507E-07
642	Transformation, from unknowr	mm2	9.751986288	9.202324506	0.434828308	0.018668524	0.014653682	0.014270685	0.007536298	0.059704285
643	Transformation, to arable	mm2	0.068921227	0.054288602	0.01016176	0.001501761	0.001178793	0.001147983	0.000606246	3.60822E-05
644	Transformation, to arable, nor	mm2	7.367573083	5.821232252	1.503762528	0.005771273	0.004530107	0.004411703	0.002329805	0.025535417
645	Transformation, to arable, nor	mm2	0.002789974	0.002138405	0.000614862	9.13851E-06	7.17319E-06	6.98571E-06	3.68913E-06	9.71987E-06
646	Transformation, to dump site	mm2	1.800114011	1.77023918	0.011280321	0.001191933	0.000935597	0.000911143	0.000481171	0.015074665
647	Transformation, to dump site,	mm2	1.05987818	0.198883011	0.4259157	0.147331947	0.115646837	0.112624179	0.059476429	7.76515E-08
648	Transformation, to dump site,	mm2	0.034056144	0.011554769	0.021951165	0.00018618	0.00014614	0.000142321	7.5159E-05	4.10154E-07
649	Transformation, to dump site,	mm2	0.182175878	0.162360001	0.003762807	0.000493404	0.000387293	0.00037717	0.000199182	0.014596021
650	Transformation, to dump site,	mm2	0.000357757	0.000269986	4.70179E-05	1.24683E-05	9.78691E-06	9.53111E-06	5.03335E-06	3.93276E-06
651	Transformation, to dump site,	mm2	0.000120859	2.80301E-05	8.93654E-05	1.14232E-06	8.96653E-07	8.73217E-07	4.61143E-07	8.9688E-08
652	Transformation, to forest	mm2	0.243543378	0.187755842	0.038562473	0.000884091	0.000693959	0.000675821	0.000356899	0.014614294
653	Transformation, to forest, inte	mm2	0.133365861	0.1164224	0.015807931	0.000144372	0.000113324	0.000110362	5.82817E-05	0.00070919
654	Transformation, to forest, inte	mm2	0.003819113	0.000523044	0.002611018	0.000231774	0.000181929	0.000177174	9.3565E-05	6.07507E-07
655	Transformation, to forest, inte	mm2	22.15375198	21.97712266	0.140287492	0.012149394	0.009536554	0.009287297	0.004904589	0.000463991
656	Transformation, to forest, inte	mm2	0.003819113	0.000523044	0.002611018	0.000231774	0.000181929	0.000177174	9.3565E-05	6.07507E-07
657	Transformation, to heterogene	mm2	0.181625358	0.026951778	0.085887256	0.023293271	0.018283835	0.017805951	0.00940326	6.93436E-09
658	Transformation, to industrial a	mm2	4.77399775	4.745318647	0.022311909	0.002152893	0.001689893	0.001645724	0.000869101	9.58322E-06
659	Transformation, to industrial a	mm2	0.000751557	0.000185768	0.000417005	5.03765E-05	3.95426E-05	3.85091E-05	2.03365E-05	1.93655E-08
660	Transformation, to industrial a	mm2	0.057193581	0.028595964	0.021351447	0.00236209	0.0018541	0.00180564	0.000953552	0.000270788
661	Transformation, to industrial a	mm2	0.055846521	0.032438209	0.019919125	0.001181505	0.000927409	0.000903177	0.000476964	1.32813E-07
662	Transformation, to mineral ext	cm2	17.79379962	17.7611038	0.01830982	0.004811879	0.003777039	0.003678319	0.001942507	0.00017626
663	Transformation, to pasture an	mm2	886.7009387	886.7003495	0.000357917	7.82565E-05	6.14267E-05	5.98212E-05	3.15914E-05	1.30398E-07
664	Transformation, to permanent	mm2	0.002157645	0.00026492	0.001504976	0.000131243	0.000103018	0.000100326	5.29816E-05	1.80327E-07
665	Transformation, to sea and oc	mm2	1.06623E-05	7.68775E-06	1.80242E-06	3.96919E-07	3.11558E-07	3.03415E-07	1.60232E-07	6.574E-12
666	Transformation, to shrub land,	mm2	0.216710102	0.174212363	0.025850247	0.000693193	0.000544116	0.000529894	0.000279835	0.014600454
667	Transformation, to traffic area	mm2	0.054750465	0.05383808	0.000748551	5.54791E-05	4.35478E-05	4.24096E-05	2.23964E-05	5.12054E-10
668	Transformation, to traffic area	mm2	0.060180264	0.059177395	0.000822788	6.09811E-05	4.78665E-05	4.66155E-05	2.46175E-05	5.62834E-10
669	Transformation, to traffic area	mm2	0.243359637	0.217376693	0.025576748	0.000132042	0.000103645	0.000100936	5.3304E-05	1.62686E-05
670	Transformation, to traffic area	mm2	0.148407554	0.024530398	0.105271695	0.006300407	0.004945446	0.004816187	0.002543411	9.61769E-09
671	Transformation, to unknown	mm2	0.01652632	0.007646907	0.007711609	0.000349212	0.00027411	0.000266946	0.000140973	0.000136562
672	Transformation, to urban, disc	mm2	0.000127926	0.000110044	1.56496E-05	7.55859E-07	5.93304E-07	5.77797E-07	3.05133E-07	1.12425E-12
673	Transformation, to water bodie	mm2	887.1081682	887.0346112	0.042800551	0.001336951	0.001049427	0.001021999	0.000539714	0.026808425
674	Transformation, to water cours	mm2	0.057878155	0.0294326	0.024480461	0.001331903	0.001045464	0.001018139	0.000537676	3.19113E-05
675	Tributyltin compounds	ng	240.9611119	62.27355439	104.7678526	24.98686978	19.61321028	19.10058033	10.08694865	0.132095897
676	Triethylene glycol	ng	203.1964647	148.3334399	32.95092685	7.243803469	5.685955939	5.537342272	2.92425079	0.520745448
677	Trimethylamine	pg	0.326380514	0.175587305	0.149217711	0.000533515	0.000418777	0.000407832	0.000215375	x
678	Trimethylamine	pg	0.783313235	0.421409532	0.358122506	0.001280435	0.001005066	0.000978796	0.000516899	x
679	Tungsten	ng	15.24046453	11.22115932	3.329688237	0.233526602	0.183304527	0.178513502	0.094272347	x
680	Tungsten	µg	28.72257796	25.54205016	2.132529859	0.061522613	0.048291601	0.047029405	0.024836062	0.866318263
681	Ulexite, in ground	ng	750.3127311	582.0300976	129.3906851	13.17003918	10.33769936	10.06750313	5.316612654	9.39645E-05
682	Uranium	µg	4.302013543	4.301414676	0.000315503	4.89209E-05	3.84E-05	3.73964E-05	1.97489E-05	0.000138898
683	Uranium-234	µBq	191.0670452	151.1962036	28.59524933	2.047986956	1.60754825	1.565531815	0.826751792	5.22777348
684	Uranium-234	µBq	362.4257012	287.441604	53.87699791	3.778645715	2.966012695	2.88849012	1.525401375	9.948549434
685	Uranium-235	µBq	9.241855298	7.329760818	1.373863454	0.096355466	0.075633324	0.073656498	0.038897735	0.253688002
686	Uranium-235	µBq	598.0024006	474.2786409	88.89704641	6.234765415	4.893920934	4.766008685	2.516912262	16.41510604
687	Uranium-238	mBq	24.15446812	24.09932961	0.037138468	0.003361868	0.002638867	0.002569895	0.001357153	0.008072257
688	Uranium-238	mBq	1.060485928	0.808728475	0.174699852	0.017582405	0.013801145	0.013440425	0.007097841	0.025135786
689	Uranium alpha	µBq	889.6685283	705.5546835	132.3137209	9.282616136	7.286302917	7.09586106	3.747299028	24.38804479
690	Uranium alpha	mBq	17.39933314	13.79944316	2.586596137	0.181414244	0.142399418	0.138677529	0.073235111	0.47756754
691	Uranium, in ground	µg	66.77436754	52.84353907	10.04888944	0.695509427	0.545933635	0.531664586	0.28077018	1.828061195
692	Urea	pg	96.3865122	94.57007931	1.75730493	0.020022636	0.015716581	0.015305798	0.008082938	x
693	Vanadium	µg	95.30344204	91.92924869	2.068442902	0.436400361	0.342548391	0.333595213	0.176170448	0.017036031
694	Vanadium	ng	3.343776763	2.730692281	0.441148456	0.057829989	0.04539311	0.044206672	0.023345387	0.001160868
695	Vanadium, ion	µg	815.9584838	776.0692046	11.22502967	1.090253454	0.855784275	0.83341667	0.440124384	25.4446707
696	Vermiculite, in ground	µg	3.684725496	3.591629208	0.084306901	0.002976363	0.002336269	0.002275206	0.001201528	2.0302E-08
697	VOC, volatile organic compou	µg	71.52184652	10.09612317	35.7471701	8.675179676	6.809501336	6.631521583	3.502082999	0.060267648
698	Volume occupied, final reposit	mm3	0.133835058	0.105751327	0.020380794	0.001433054	0.001124862	0.001095462	0.000578509	0.003471049
699	Volume occupied, final reposit	mm3	0.034142142	0.027445725	0.004666582	0.000362097	0.000284225	0.000276796	0.000146175	0.000960541
700	Volume occupied, reservoir	cm3y	271.7484521	232.3751919	19.23511089	0.839286757	0.658790309	0.64157153	0.338811647	17.65968903
701	Volume occupied, undergroun	mm3	0.208130216	0.13300048	0.056737678	0.006025908	0.00472998	0.004606353	0.002432599	0.000597217
702	Water	mg	44.29507292	43.9176986	0.085166675	0.007112648	0.005583006	0.005437084	0.002871305	0.271203607
703	Water, cooling, unspecified na	cm3	126.2752307	93.45918321	21.47356137	3.132172957	2.458569935	2.394310368	1.264426803	2.093006099
704	Water, fresh	cm3	9.475906	x	x	x	x	x	x	9.475906
705	Water, lake	cm3	4.28290039	4.151159562	0.087731502	0.003133953	0.002459967	0.002395671	0.001265145	0.03475459
706	Water, process, drinking	g	10.64534161	10.64534161	x	x	x	x	x	x
707	Water, rain	cm3	43.04783321	20.65783321	x	x	x	x	x	22.39
708	Water, river	cm3	68.66340813	58.26604529	5.46325585	0.597800456	0.46923789	0.456973433	0.241326047	3.168769167
709	Water, salt, ocean	cm3	5.123732835	3.675343335	0.815380127	0.172949776	0.135755313	0.13220708	0.06981809	0.122279115
710	Water, salt, sole	cm3	2.557001256	0.451254207	1.194227933	0.308198114	0.241917234	0.235594249	0.124416486	0.001393032
711	Water, turbine use, unspecifie	dm3	41.5610185	32.15896802	7.103507261	0.447156541	0.350991354	0.341817507	0.180512611	0.97806521
712	Water, unspecified natural orig	cm3	27.84327665	9.180948477	14.91804685	1.262397315	0.990906992	0.965007684	0.509617131	0.016352201
713	Water, well, in ground	cm3	121.1741441	118.6803437	1.701552098	0.145374403	0.114110281	0.111127784	0.058686188	0.362949588
714	Wood, hard, standing	mm3	570.1521035	563.7076191	4.909261181	0.512886439	0.402585424	0.392063067	0.207047114	0.020641223
715	Wood, primary forest, standing	mm3	0.039543091	0.005415598	0.027034483	0.002399793	0.001883695	0.001834461	0.000968772	6.29012E-06
716	Wood, soft, standing	mm3	75.95884855	61.23583735	11.47887598	1.066470375	0.837115969	0.815236292	0.430523391	0.094789193
717	Wood, unspecified, standing/r	mm3	0.000399499	9.57365E-05	0.000264503	1.32463E-05	1.03976E-05	1.01258E-05	5.34742E-06	1.41957E-07
718	Xenon-131m	mBq	5.539522672	2.77372591	2.636407993	0.043485312	0.03413339	0.033241246	0.017554584	0.000974301
719	Xenon-133	mBq	191.634264	92.10244404	95.42919767	1.378059553	1.081694987	1.053422757	0.556308817	0.033136132
720	Xenon-133m	µBq	434.0512725	297.699415	118.4219335	6.041781292	4.742439848	4.618486838	2.439006498	0.088209623
721	Xenon-135	mBq	77.39473761	37.46770595	38.24388451	0.565422727	0.443823294	0.432223097	0.228255483	0.013422546
722	Xenon-135m	mBq	47.55434697	22.57410369	23.98944104	0.332747234	0.261186837	0.254360204	0.13432672	0.008181247
723	Xenon-137	mBq	1.28060767	0.526798591	0.734991191	0.006301795	0.004946536	0.004817248	0.002543972	0.000208338
724	Xenon-138	mBq	10.02810444	4.330290023	5.53057408	0.056070271	0.044011836	0.0428615	0.022635006	0.001661723
725	Xylene	µg	325.4126429	291.5070829	12.59819995	2.387023988	1.873672206	1.824700088	0.963617637	14.25834614
726	Xylene	µg	20.49559175	2.775284793	10.21334779	2.538206696	1.992341661	1.940267881	1.024648578	0.011494352
727	Zinc	µg	392.72095	381.5514538	9.109083402	0.691170149	0.542527559	0.528347533	0.279018456	0.019349111
728	Zinc	µg	32.40765267	0.808431757	31.03547273	0.190441323	0.149485139	0.14557805	0.076879251	0.001364418

No	Substance	Unit	Total	V7, VSBK, brick firing, fired brick, ZA rev1	V0, VSBK, transport of fuel, at plant, ZA	V2, VSBK, mining fuel, stockpiled clay, ZA	V4, VSBK, wet green brick transport, wet green brick ready for drying, ZA	V6, VSBK, dry green brick transport, at firing location, ZA	V8, VSBK, fired brick transport, at sales bay, ZA	V9, VSBK, factory overheads, additional water and electricity, ZA
729	Zinc-65	nBq	9.843741111	3.849901835	5.868530998	0.041901108	0.032889884	0.032030242	0.016915057	0.001571987
730	Zinc-65	µBq	24.2858606	9.498236313	14.47847156	0.103375786	0.081143859	0.079023004	0.041731768	0.003878307
731	Zinc, 9.0% in sulfide, Zn 5.3%	mg	1.098082674	0.35817207	0.709320204	0.01010105	0.007928725	0.007721492	0.004077692	0.000761441
732	Zinc, ion	mg	14.00860775	13.61197343	0.355458533	0.013709569	0.010761198	0.010479933	0.005534415	0.000690673
733	Zirconium	ng	6.549926473	2.464023986	3.114838726	0.32879499	0.258084559	0.25133901	0.132731239	0.000113964
734	Zirconium-95	nBq	9.621883223	3.763132884	5.736266254	0.040956743	0.032148613	0.031308346	0.016533826	0.001536557
735	Zirconium-95	nBq	281.2370599	109.9922337	167.6647512	1.197120524	0.939668585	0.915108494	0.483265546	0.044911883
736	Zirconium, 50% in zircon, 0.39	ng	150.4907532	15.55549754	133.2898376	0.557182226	0.437354989	0.425923857	0.224928876	2.8043E-05

Appendix 5.6: Inventory of emitted substances for the Zigzag kiln firing technology for the cradle to gate phase

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
1	1-Butanol	pg	1.259843401	x	0.010904457	0.247023384	0.008667655	0.247023396	0.008667734	0.247023408	0.008667734	0.000000006
2	1-Butanol	ng	31.093924743	x	0.060068393	0.963155878	0.047746721	0.963157100	0.047747158	0.963158322	0.047747158	0.000000611
3	1-Pentanol	pg	1.199139271	x	0.006804641	18.979226203	0.005408823	18.979226203	0.005408872	18.979226203	0.005408872	x
4	1-Pentanol	pg	2.877946505	x	0.016331158	45.550146681	0.012981191	45.550146681	0.012981309	45.550146681	0.012981309	x
5	1-Pentene	pg	0.906165808	x	0.005142135	14.342235711	0.004087342	14.342235711	0.004087380	14.342235711	0.004087380	x
6	1-Pentene	pg	2.174807472	x	0.012341114	34.421268814	0.009809614	34.421268814	0.009809703	34.421268814	0.009809703	x
7	1-Propanol	pg	84.134844606	x	1.955534825	############	1.554401116	############	1.554415324	############	1.554415324	0.000002455
8	1-Propanol	pg	11.379557890	x	0.033869594	63.312073720	0.026922013	63.312073720	0.026922259	63.312073720	0.026922259	x
9	1,4-Butanediol	pg	############	x	0.258312055	3.854635217	0.205325183	3.854639087	0.205327060	3.854642957	0.205327060	0.000001935
10	1,4-Butanediol	pg	40.943506281	x	0.103325569	1.541865240	0.082130667	1.541866788	0.082131418	1.541868336	0.082131418	0.000000774
11	2-Aminopropanol	pg	0.620102644	x	0.001040542	0.318368054	0.000827098	0.318368054	0.000827106	0.318368054	0.000827106	x
12	2-Aminopropanol	pg	1.559439421	x	0.002610561	0.785851623	0.002075063	0.785851623	0.002075082	0.785851623	0.002075082	x
13	2-Butene, 2-methyl-	pg	0.000200999	x	0.000001141	0.003181277	0.000000907	0.003181277	0.000000907	0.003181277	0.000000907	x
14	2-Methyl-1-propanol	pg	2.881715540	x	0.020621658	32.866275160	0.016391592	32.866275160	0.016391742	32.866275160	0.016391742	x
15	2-Methyl-1-propanol	pg	6.916002964	x	0.049491601	78.877426133	0.039339519	78.877426133	0.039339879	78.877426133	0.039339879	x
16	2-Methyl-2-butene	pg	0.000482404	x	0.000002737	0.007635179	0.000002176	0.007635179	0.000002176	0.007635179	0.000002176	x
17	2-Nitrobenzoic acid	pg	1.110931768	x	0.001817460	0.343215974	0.001444649	0.343215974	0.001444662	0.343215974	0.001444662	x
18	2-Propanol	µg	1.846457951	x	0.003530138	0.056151832	0.002806010	0.056151905	0.002806036	0.056151977	0.002806036	0.000000036
19	2-Propanol	pg	5.045423119	x	0.012923901	10.444684410	0.010272855	10.444684410	0.010272949	10.444684410	0.010272949	x
20	2,4-D	ng	2.915362948	x	0.118717988	0.152815153	0.094365680	0.152941446	0.094366542	0.153067739	0.094366542	0.000063147
21	4-Methyl-2-pentanone	pg	4.050951970	x	0.015524512	0.298274678	0.012340009	0.298822125	0.012340122	0.299369568	0.012340122	0.000273723
22	Acenaphthene	pg	2.600072267	x	0.169844485	4.465229715	0.135004733	4.471409014	0.135005967	4.477588285	0.135005967	0.003089649
23	Acenaphthene	ng	1.933777451	x	0.216304669	0.133541730	0.171934662	0.133939575	0.171936233	0.134337419	0.171936233	0.000198923
24	Acenaphthylene	pg	############	x	13.527735706	8.351725494	10.752826902	8.376606839	10.752925189	8.401488074	10.752925189	0.012440672
25	Acetaldehyde	µg	5.125209534	x	0.038831789	1.265956521	0.030866326	1.266692686	0.030866608	1.267428848	0.030866608	0.000368083
26	Acetaldehyde	ng	58.441173492	x	0.116531603	4.057280016	0.092627782	4.057282247	0.092628629	4.057284477	0.092628629	0.000001115
27	Acetic acid	µg	7.799514920	x	0.397052039	3.397218970	0.315605800	3.400775073	0.315608685	3.404331159	0.315608685	0.001778051
28	Acetic acid	ng	############	x	12.373336930	68.675921807	9.835226907	68.718390631	9.835316807	68.760859266	9.835316807	0.021234412
29	Acetone	µg	2.722079058	x	0.037704805	0.734364341	0.029970518	0.734881911	0.029970792	0.735399478	0.029970792	0.000258785
30	Acetone	pg	############	x	0.879348002	############	0.698969662	############	0.698976051	############	0.698976051	0.000652408
31	Acetonitrile	ng	8.667179672	x	0.353862676	0.454829223	0.281275757	0.455205713	0.281278328	0.455582202	0.281278328	0.000188245
32	Acetonitrile	pg	5.249214518	x	0.008394273	1.706698239	0.006672378	1.706698239	0.006672439	1.706698239	0.006672439	x
33	Acetyl chloride	pg	2.260824561	x	0.012829250	35.782781502	0.010197619	35.782781502	0.010197713	35.782781502	0.010197713	x
34	Acidity, unspecified	ng	############	x	6.422554371	17.195046514	5.105112705	17.222470860	5.105159369	17.249895084	5.105159369	0.013712173
35	Aclonifen	ng	9.573854600	x	0.015231028	2.928824567	0.012106727	2.928916430	0.012106838	2.929008293	0.012106838	0.000045931
36	Acrolein	ng	1.854926251	x	0.074545975	0.864569835	0.059254556	0.878096315	0.059255097	0.891622736	0.059255097	0.006763240
37	Acrylate, ion	ng	11.306005734	x	0.021632154	0.344259686	0.017194807	0.344260130	0.017194964	0.344260574	0.017194964	0.000000222
38	Acrylic acid	ng	4.777013777	x	0.009140018	0.145456613	0.007265151	0.145456800	0.007265217	0.145456988	0.007265217	0.000000094
39	Actinides, radioactive, unspecified	nBq	############	x	16.968296646	############	13.487634636	############	13.487757922	############	13.487757922	10.342844190
40	Actinides, radioactive, unspecified	µBq	73.018921604	x	2.868406839	############	2.280018097	############	2.280038938	############	2.280038938	1.532730149
41	Aerosols, radioactive, unspecified	µBq	8.965624976	x	0.427611452	16.098001397	0.339896641	16.568926532	0.339899748	17.039849583	0.339899748	0.235462568
42	Aldehydes, unspecified	ng	78.389643936	x	2.674328500	35.263708839	2.125750537	36.112106332	2.125769967	36.960500069	2.125769967	0.424198747
43	Aldrin	pg	############	x	0.235434938	3.750960097	0.187140789	3.750964922	0.187142500	3.750969747	0.187142500	0.000002413
44	Aluminium	mg	0.197734286	x	0.007672223	22.532116928	0.006098440	22.633070459	0.006098496	43.019594728	0.006098496	0.050476765
45	Aluminium	mg	3.232190276	x	0.153641809	87.867242148	0.122125669	91.184484425	0.122126786	94.501712015	0.122126786	1.658621139
46	Aluminium	µg	############	x	16.267235304	12.211065671	12.930380161	12.214330702	12.930498353	12.217595719	12.930498353	0.001632515
47	Aluminium, 24% in bauxite, 11% i	mg	10.563446286	x	0.045981664	11.518334081	0.036549566	11.560652177	0.036549900	11.602970085	0.036549900	0.021159048
48	Ammonia	mg	0.252592271	x	0.016312295	8.953698546	0.012966197	8.993726851	0.012966315	9.033754979	0.012966315	0.020014152
49	Ammonium carbonate	ng	1.561247526	x	0.050379720	0.470035546	0.040045460	0.470099488	0.040045826	0.470163429	0.040045826	0.000031971
50	Ammonium, ion	µg	41.095384752	x	2.975959927	############	2.365509103	############	2.365530726	############	2.365530726	0.348669948
51	Anhydrite, in ground	ng	############	x	2.214699600	12.936416317	1.760404103	12.959932195	1.760420194	12.983447970	1.760420194	0.011757939
52	Aniline	pg	12.063271381	x	0.245406614	67.268790401	0.195067001	67.268790401	0.195068784	67.268790401	0.195068784	x
53	Aniline	pg	29.397929472	x	0.589723488	############	0.468775062	############	0.468759346	############	0.468759346	x
54	Anthranilic acid	pg	0.809798731	x	0.001327337	0.250357574	0.001055064	0.250357574	0.001055073	0.250357574	0.001055073	x
55	Antimony	µg	0.123287385	x	0.001396357	0.047372563	0.001109926	0.047574817	0.001109936	3.460303063	0.001109936	0.000101127
56	Antimony	µg	4.462401720	x	0.085283750	41.610466126	0.067789719	42.099261968	0.067790338	42.588055647	0.067790338	0.244397921
57	Antimony	pg	9.113158301	x	0.044041525	0.790844045	0.035007403	0.791567039	0.035007723	0.792290030	0.035007723	0.000361497
58	Antimony-122	nBq	############	x	0.879750371	46.162268601	0.699289494	46.175665883	0.699295886	46.189063105	0.699295886	0.006698641
59	Antimony-124	nBq	0.664480179	x	0.002182124	0.114500438	0.001734511	0.114533668	0.001734527	0.114566899	0.001734527	0.000016615
60	Antimony-124	µBq	21.029442019	x	0.466279937	19.771315687	0.370633161	20.401876297	0.370636549	21.032434115	0.370636549	0.315280305
61	Antimony-125	nBq	6.934408996	x	0.022772299	1.194908279	0.018101077	1.195255067	0.018101243	1.195601853	0.018101243	0.000173394
62	Antimony-125	µBq	20.055967210	x	0.424734745	21.421408192	0.337610025	22.317525677	0.337613111	23.213639194	0.337613111	0.448058742
63	AOX, Adsorbable Organic Halogs	ng	############	x	28.612357754	############	22.743180150	############	22.743388037	############	22.743388037	0.958055706
64	Argon-41	mBq	3.267530556	x	0.225647077	5.762561122	0.179360686	5.763672887	0.179362325	5.764784648	0.179362325	0.000555883
65	Arsenic	µg	0.998768553	x	0.029171067	0.597565127	0.023187283	0.603041983	0.023187495	51.038069611	0.023187495	0.002738428
66	Arsenic	ng	49.907263239	x	6.501654529	4.658720509	5.167987256	4.659216909	5.168034495	4.659713307	5.168034495	0.000248200
67	Arsenic, ion	µg	15.837175259	x	0.527339703	############	0.419167898	############	0.419171730	############	0.419171730	0.001891700
68	Arsine	pg	0.055682418	x	0.000106539	0.001695489	0.000084685	0.001695491	0.000084686	0.001695493	0.000084686	0.000000001
69	Atrazine	pg	32.227915984	x	0.061764195	0.984029883	0.049094668	0.984031149	0.049095117	0.984032415	0.049095117	0.000000633
70	Barite	µg	############	x	############	99.524768366	############	99.524795945	############	99.524823524	############	0.000013790
71	Barite, 15% in crude ore, in grou	mg	20.638913520	x	2.784548485	1.840341929	2.213361387	1.840553585	2.213381618	1.840765239	2.213381618	0.000105828
72	Barium	µg	0.339434541	x	0.017823398	1.281218697	0.014167331	1.312512421	0.014167461	############	0.014167461	0.015646862
73	Barium	mg	0.320656124	x	0.033298443	2.852167541	0.026468021	2.853086275	0.026468263	2.854005004	0.026468263	0.000459367
74	Barium	µg	61.074748271	x	8.108085999	5.233018825	6.444895668	5.233020481	6.444954579	5.233022138	6.444954579	0.000000828
75	Barium-140	nBq	############	x	1.481304176	77.727005548	1.177448151	77.749563594	1.177458913	77.772121541	1.177458913	0.011279023
76	Barium-140	µBq	1.173515367	x	0.003853774	0.202215247	0.003063259	0.202273934	0.003063287	0.202332621	0.003063287	0.000029344
77	Basalt, in ground	mg	1.237357181	x	0.024556378	0.225348279	0.019519193	0.225350425	0.019519372	0.225352572	0.019519372	0.000001073
78	Benomyl	pg	18.534671707	x	0.756731576	0.972647465	0.601505220	0.973452586	0.601510719	0.974257703	0.601510719	0.000402560
79	Bentazone	ng	4.886052849	x	0.007773213	1.494736677	0.006178714	1.494783560	0.006178771	1.494830442	0.006178771	0.000023441
80	Benzal chloride	pg	0.000682581	x	0.000002616	0.000050259	0.000002079	0.000050351	0.000002079	0.000050443	0.000002079	0.000000046
81	Benzaldehyde	pg	############	x	33.824380091	############	26.886074070	############	26.886319826	############	26.886319826	2.763618211
82	Benzene	µg	45.156638444	x	3.880939039	41.763360914	3.084852233	43.703715216	3.084880431	############	3.084880431	0.970177151
83	Benzene	µg	24.519306215	x	2.487365545	1.894400589	1.977138800	1.899886075	1.977156873	1.905371537	1.977156873	0.002742743
84	Benzene, 1-methyl-2-nitro-	pg	0.959350838	x	0.001569475	0.296385979	0.001247533	0.296385979	0.001247544	0.296385979	0.001247544	x
85	Benzene, 1,2-dichloro-	pg	21.289792585	x	0.042599816	37.741230783	0.033861428	37.741230783	0.033861737	37.741230783	0.033861737	x
86	Benzene, 1,2-dichloro-	ng	13.387758557	x	0.026184401	0.671397834	0.020813264	0.671398356	0.020813454	0.671398878	0.020813454	0.000000261
87	Benzene, chloro-	ng	############	x	0.538713166	12.092571511	0.428208353	12.092582292	0.428212267	12.092593073	0.428212267	0.000005391
88	Benzene, ethyl-	µg	7.674936862	x	0.725065482	0.471790294	0.576334709	0.473139568	0.576339977	0.474488836	0.576339977	0.000674637
89	Benzene, ethyl-	µg	7.462321990	x	0.834691140	0.515327392	0.663473144	0.516862640	0.663479209	0.518397882	0.663479209	0.000767624
90	Benzene, hexachloro-	ng	4.479053046	x	0.243549664	1.116473665	0.193590963	1.116496985	0.193592732	1.116520305	0.193592732	0.000011660
91	Benzene, pentachloro-	pg	67.643438324	x	0.776456568	10.941379170	0.617184077	10.962694136	0.617189718	10.984009008	0.617189718	0.010657483
92	Benzo(a)pyrene	ng	56.079480632	x	16.127025944	60.625844294	12.818931578	60.750424407	12.819048751	############	12.819048751	0.062290056
93	Beryllium	µg	0.005365169	x	0.000172689	0.009823772	0.000137266	0.009864052	0.000137267	2.398672527	0.000137267	0.000020140
94	Beryllium	µg	2.500417092	x	0.112457664	############	0.089389520	############	0.089390337	############	0.089390337	0.165696749
95	BOD5, Biological Oxygen Deman	mg	50.910489879	x	7.704032827	4.892517394	6.123724859	4.906807685	6.123780834	4.921097912	6.123780834	0.007145146
96	Borate	ng	0.280977194	x	0.001342394	3.478667608	0.001067033	3.478667608	0.001067042	3.478667608	0.001067042	x
97	Borax, in ground	ng	73.924890230	x	1.418069896	17.511712369	1.127184952	17.514491854	1.127195255	17.517271328	1.127195255	0.001389743
98	Boron	mg	0.008848963	x	0.000634029	0.035202057	0.000503972	0.036875657	0.000503977	1.100224004	0.000503977	0.000836800
99	Boron	µg	############	x	3.548896531	############	2.820920730	############	2.820946515	############	2.820946515	3.537471845
100	Boron	µg	1.410705690	x	0.168398300	0.168414519	0.133855200	0.168414748	0.133856423	0.168414978	0.133856423	0.000000115
101	Boron trifluoride	pg	0.000762054	x	0.000001458	0.000023204	0.000001159	0.000023204	0.000001159	0.000023204	0.000001159	0.000000000
102	Bromate	µg	1.492527521	x	0.035363953	0.388586155	0.028109839	0.400884243	0.028110095	0.413182277	0.028110095	0.006149044
103	Bromide	ng	19.057844126	x	0.199668882	############	0.158711330	############	0.158712781	############	0.158712781	x
104	Bromine	µg	0.987229132	x	0.069469848	6.481938922	0.055219681	6.945644218	0.055220185	25.381984362	0.055220185	0.231852648
105	Bromine	µg	############	x	24.484740344	29.414196941	19.462250031	30.655750156	19.462427928	31.897297874	19.462427928	0.620776607
106	Bromine, 0.0023% in water	ng	21.425521252	x	0.198109178	############	0.157471564	############	0.157473003	############	0.157473003	x
107	Butadiene	pg	56.029454675	x	0.235354295	14.136343301	0.187076688	14.136564290	0.187078398	14.136785278	0.187078398	0.000110494

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
108	Butane	µg	############	x	32.482651537	29.879426813	25.819570761	30.114978053	25.819806768	30.350528251	25.819806768	0.117775620
109	Butene	µg	7.654590929	x	0.724309780	0.452860307	0.575734022	0.454203539	0.575739285	0.455546765	0.575739285	0.000671616
110	Butene	ng	7.459331192	x	0.025468555	0.786353607	0.020244257	0.787533065	0.020244442	0.788712517	0.020244442	0.000589729
111	Butyl acetate	ng	40.418559926	x	0.078056200	1.251306708	0.062044737	1.251308297	0.062045304	1.251309885	0.062045304	0.000000794
112	Butyrolactone	pg	28.561144227	x	0.055825540	0.901179887	0.044374194	0.901181011	0.044374600	0.901182134	0.044374600	0.000000562
113	Butyrolactone	pg	68.547995103	x	0.133983732	2.162871101	0.106500002	2.162873798	0.106500976	2.162876494	0.106500976	0.000001348
114	Cadmium	µg	0.495141458	x	0.029553832	0.136357886	0.023491532	0.136704012	0.023491747	3.132489621	0.023491747	0.000173063
115	Cadmium	ng	35.601039020	x	0.043414491	1.295268980	0.034508991	1.296560748	0.034509307	1.297852510	0.034509307	0.000645884
116	Cadmium, 0.30% in sulfide, Cd 0	µg	37.139694595	x	0.012471340	1.485689225	0.009913127	1.485688656	0.009913217	1.485688087	0.009913217	-0.000000285
117	Cadmium, ion	µg	5.579621673	x	0.111740451	68.191606165	0.088819427	68.193205009	0.088820239	68.194803846	0.088820239	0.000799422
118	Calcite, in ground	mg	############	x	12.133751233	############	9.644786793	############	9.644874953	############	9.644874953	0.015287832
119	Calcium	mg	0.011594773	x	0.000476206	0.016412330	0.000378523	0.016453142	0.000378526	2.405262149	0.000378526	0.000020406
120	Calcium	µg	############	x	65.505896163	59.626206818	52.068844174	59.640906233	52.069320117	59.655605583	52.069320117	0.007349707
121	Calcium, ion	g	0.041536642	x	0.002724267	1.707985808	0.002165445	1.708130836	0.002165465	1.708275863	0.002165465	0.000072514
122	Carbetamide	ng	1.752005902	x	0.002919995	1.066526187	0.002321024	1.068950415	0.002321045	1.071374632	0.002321045	0.001212114
123	Carbofuran	ng	10.161412721	x	0.414869062	0.533242372	0.329768064	0.533683770	0.329771078	0.534125166	0.329771078	0.000220699
124	Carbon	µg	############	x	48.818659695	40.075049295	38.804616582	40.112945328	38.804971281	40.150841194	38.804971281	0.018948017
125	Carbon-14	mBq	57.024034867	x	1.745240921	66.347491031	1.387244247	68.162525386	1.387256927	69.977551704	1.387256927	0.907517177
126	Carbon dioxide, biogenic	mg	48.013637498	x	2.286558214	60.524013422	1.817522548	60.624584867	1.817539162	60.725155867	1.817539162	0.050285723
127	Carbon dioxide, fossil	g	18.466425248	x	1.814018862	11.454563236	1.441913949	12.274760877	1.441927129	############	1.441927129	0.410098821
128	Carbon dioxide, in air	mg	56.046961475	x	2.500203993	############	1.987343732	############	1.987361897	############	1.987361897	0.033933104
129	Carbon dioxide, land transformati	µg	############	x	9.839202132	############	7.820912507	############	7.820983996	############	7.820983996	0.014221524
130	Carbon disulfide	µg	19.026647389	x	0.243831944	5.114797046	0.193815339	5.116096208	0.193817111	5.117395364	0.193817111	0.000649581
131	Carbon disulfide	ng	0.099494362	x	0.000732120	2.193115099	0.000581943	2.193115099	0.000581948	2.193115099	0.000581948	x
132	Carbon monoxide, biogenic	µg	19.123251444	x	0.390359143	60.989232606	0.310285800	64.420366264	0.310288636	67.851484730	0.310288636	1.715566829
133	Carbon monoxide, fossil	g	0.045333280	x	0.006410523	0.020203951	0.005095549	0.020337194	0.005095596	9.499709308	0.005095596	0.000066621
134	Carbon, in organic matter, in soil	µg	12.835180490	x	0.524033364	0.673554188	0.416539780	0.674111730	0.416543587	0.674669271	0.416543587	0.000278771
135	Carbonate	µg	5.223926169	x	0.063481553	1.502271630	0.050459749	1.536588771	0.050460210	1.570905759	0.050460210	0.017158570
136	Carboxylic acids, unspecified	mg	1.286094046	x	0.150797957	0.092915150	0.119865169	0.093189608	0.119866265	0.093464064	0.119866265	0.000137229
137	Cerium-141	nBq	############	x	0.359101647	18.842784431	0.285440072	18.848253012	0.285442681	18.853721569	0.285442681	0.002734290
138	Cerium-141	nBq	############	x	1.540801723	80.848961109	1.224741123	80.872425214	1.224752317	80.895889215	1.224752317	0.011732052
139	Cerium-144	nBq	############	x	0.469070438	24.613067974	0.372851254	24.620211215	0.372854662	24.627354424	0.372854662	0.003571620
140	Cerium, 24% in bastnasite, 2.4%	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
141	Cesium	ng	############	x	34.775670200	21.469731392	27.642228543	21.533693719	27.642481211	21.597655762	27.642481211	0.031981163
142	Cesium-134	nBq	5.237176026	x	0.017198660	0.902448211	0.013670744	0.902710120	0.013670869	0.902972029	0.013670869	0.000130955
143	Cesium-134	µBq	10.009599934	x	0.392239453	20.168163409	0.311780406	21.110052113	0.311783256	22.051936647	0.311783256	0.470944352
144	Cesium-136	nBq	83.272176432	x	0.273462226	14.349112234	0.217367639	14.353276655	0.217369626	14.357441057	0.217369626	0.002082210
145	Cesium-137	nBq	92.838104792	x	0.304876322	15.997472893	0.242337844	16.002115703	0.242340060	16.006758493	0.242340060	0.002321405
146	Cesium-137	mBq	8.522275619	x	0.329971578	12.440598392	0.262285377	12.793892185	0.262287775	13.147184413	0.262287775	0.176646896
147	Chloramine	pg	5.491470536	x	0.025986711	67.048855611	0.020656126	67.048855611	0.020656314	67.048855611	0.020656314	x
148	Chloramine	pg	49.678479568	x	0.232959584	############	0.185173198	############	0.185174890	############	0.185174890	x
149	Chlorate	µg	11.707948530	x	0.297010461	3.068839952	0.236085487	3.164082762	0.236087645	3.259325151	0.236087645	0.047621405
150	Chloride	mg	############	x	18.101305110	############	14.388232057	############	14.388363575	############	14.388363575	1.899441865
151	Chloride	mg	33.978866655	x	0.063225886	0.146537161	0.050256527	0.146537247	0.050256986	0.146537333	0.050256986	0.000000043
152	Chlorinated solvents, unspecified	ng	8.666149435	x	0.189989178	1.919129146	0.151017198	1.946564827	0.151018578	1.974000386	0.151018578	0.013717840
153	Chlorine	µg	7.002565118	x	0.216558295	0.836729719	0.172136262	0.839176216	0.172137836	0.841622703	0.172137836	0.001223249
154	Chlorine	µg	0.136127934	x	0.002256709	1.655210932	0.001793797	1.672442899	0.001793813	1.689674791	0.001793813	0.008615984
155	Chloroacetic acid	ng	1.488832551	x	0.003822967	1.691098198	0.003038772	1.691098198	0.003038800	1.691098198	0.003038800	x
156	Chloroacetic acid	ng	############	x	0.177691573	40.862762712	0.141242168	40.862762712	0.141243459	40.862762712	0.141243459	x
157	Chloroacetyl chloride	pg	2.079779621	x	0.003481632	1.048079752	0.002767454	1.048079752	0.002767479	1.048079752	0.002767479	x
158	Chloroform	ng	5.043932689	x	0.027951762	0.911669430	0.022218090	0.921311920	0.022218294	0.930954367	0.022218294	0.004821245
159	Chloroform	pg	############	x	1.217888512	38.424453440	0.968066249	38.424478152	0.968075098	38.424502863	0.968075098	0.000012356
160	Chlorosilane, trimethyl-	pg	############	x	12.295515972	############	9.773369157	############	9.773458492	############	9.773458492	0.000001692
161	Chlorosulfonic acid	pg	7.654418656	x	0.012240553	2.488711571	0.009729680	2.488711571	0.009729769	2.488711571	0.009729769	x
162	Chlorosulfonic acid	pg	19.088199165	x	0.030524865	6.206222906	0.024263380	6.206222906	0.024263601	6.206222906	0.024263601	x
163	Chlorothalonil	ng	22.380535856	x	0.166453762	############	0.132309540	############	0.132310749	############	0.132310749	1.186735083
164	Chromium	µg	4.088008129	x	0.666984266	4.180416711	0.530167540	4.184786413	0.530172386	21.081159765	0.530172386	0.002184851
165	Chromium	ng	############	x	81.603213613	67.485085868	64.864161284	67.501270604	64.864754184	67.517455269	64.864754184	0.008092368
166	Chromium-51	nBq	7.007147558	x	0.023011170	1.207442282	0.018290949	1.207792708	0.018291116	1.208143132	0.018291116	0.000175213
167	Chromium-51	µBq	89.606796077	x	0.491493048	27.403678240	0.390674373	28.102433143	0.390677944	28.801184952	0.390677944	0.349377451
168	Chromium VI	ng	89.450244304	x	15.722363452	############	12.497276437	############	12.497390670	############	12.497390670	0.215213426
169	Chromium VI	µg	89.067401010	x	5.043017420	############	4.008556536	############	4.008593177	############	4.008593177	0.970076250
170	Chromium VI	µg	1.063371482	x	0.034605283	0.359936469	0.027506793	0.359936538	0.027507044	0.359936607	0.027507044	0.000000035
171	Chromium, 25.5% in chromite, 11	mg	0.927914907	x	0.179495624	1.140641799	0.142676159	1.141030312	0.142677463	1.141418823	0.142677463	0.000194256
172	Chromium, ion	µg	1.328759402	x	0.110591239	0.210666102	0.087905949	0.213659820	0.087906753	0.216653525	0.087906753	0.001496859
173	Chrysotile, in ground	ng	############	x	6.626196770	74.418517824	5.266982475	76.745685943	5.267030619	79.072843758	5.267030619	1.163584059
174	Cinnabar, in ground	ng	25.998199361	x	0.628820901	6.811484659	0.499832525	7.026339091	0.499837094	7.241192572	0.499837094	0.107427216
175	Clay, bentonite, in ground	mg	7.910848026	x	0.481495279	1.643742205	0.382727420	1.648310194	0.382730919	1.652878163	0.382730919	0.002283994
176	Clay, unspecified, in ground	oz	0.004752648	47.267114223	0.000065504	38.643363414	0.000052068	38.643363487	0.000052068	38.643363560	0.000052068	0.000000037
177	Coal, brown, in ground	mg	############	x	24.332261551	############	19.341048811	############	19.341225601	############	19.341225601	0.074932942
178	Coal, hard, unspecified, in ground	g	0.625680876	x	0.033901936	92.785123122	0.026947721	93.370233036	0.026947968	93.955340360	0.026947968	0.292554957
179	Cobalt	µg	0.325866369	x	0.035921180	0.237865148	0.028552763	0.238809937	0.028553024	8.771069707	0.028553024	0.000472395
180	Cobalt	mg	0.041239031	x	0.002437530	1.884629388	0.001937526	1.885194020	0.001937543	1.885758651	0.001937543	0.000282316
181	Cobalt	ng	0.893971672	x	0.038219362	1.315817878	0.030379525	1.317689307	0.030379803	1.319560728	0.030379803	0.000935714
182	Cobalt-57	µBq	2.643373001	x	0.008680723	0.455494951	0.006900069	0.455627145	0.006900132	0.455759339	0.006900132	0.000066097
183	Cobalt-58	nBq	9.757742576	x	0.032044005	1.681413281	0.025470902	1.681901263	0.025471135	1.682389243	0.025471135	0.000243991
184	Cobalt-58	µBq	############	x	3.694145208	############	2.936374929	############	2.936401770	############	2.936401770	2.254282684
185	Cobalt-60	nBq	86.200576827	x	0.283078966	14.853721915	0.225011723	14.858032784	0.225013780	14.862343634	0.225013780	0.002155435
186	Cobalt-60	µBq	############	x	2.888360059	############	2.295878366	############	2.295899352	############	2.295899352	1.898377064
187	Cobalt, in ground	ng	############	x	14.537418617	6.925237495	11.555396216	6.949881399	11.555501840	6.974525194	11.555501840	0.012321952
188	COD, Chemical Oxygen Demand	mg	53.983650324	x	7.877489086	5.552590499	6.261600493	5.568146190	6.261657728	5.583701812	6.261657728	0.007777846
189	Colemanite, in ground	µg	24.365426331	x	0.111453011	1.729251392	0.088590948	1.737578392	0.088591758	1.745905355	0.088591758	0.004163500
190	Copper	µg	42.682475672	x	0.938251292	2.454983874	0.745790275	2.460819337	0.745797092	31.852295277	0.745797092	0.002917732
191	Copper	µg	2.911822119	x	0.023042011	0.262655587	0.018315464	0.262767509	0.018315631	0.262879430	0.018315631	0.000055961
192	Copper, 0.99% in sulfide, Cu 0.3	µg	############	x	1.672733557	49.830580384	1.329610127	49.836489814	1.329622281	49.842399219	1.329622281	0.002954715
193	Copper, 1.18% in sulfide, Cu 0.3	µg	############	x	9.213036089	############	7.323190256	############	7.323257195	############	7.323257195	0.016341508
194	Copper, 1.42% in sulfide, Cu 0.8	µg	############	x	2.443889446	73.168742844	1.942580839	73.177412480	1.942598596	73.186082079	1.942598596	0.004334818
195	Copper, 2.19% in sulfide, Cu 1.8	mg	1.283910098	x	0.012160683	0.363452565	0.009666194	0.363495544	0.009666283	0.363538523	0.009666283	0.000021490
196	Copper, ion	mg	0.065285260	x	0.001779405	1.160686782	0.001414400	1.161201646	0.001414413	1.161716509	0.001414413	0.000257432
197	Cumene	µg	1.693627756	x	0.055723837	0.216412227	0.044293353	0.217022507	0.044293758	0.217632785	0.044293758	0.000305140
198	Cumene	µg	4.069756958	x	0.133903441	0.520031078	0.106436181	0.521497442	0.106437154	0.522963800	0.106437154	0.000733182
199	Cyanide	ng	############	x	9.029480440	69.618027350	7.177286894	69.693268923	7.177352499	69.768510163	7.177352499	0.037620787
200	Cyanide	µg	3.440622720	x	0.125916199	0.498508247	0.100087341	0.498688346	0.100088256	0.498868444	0.100088256	0.000090049
201	Cyanoacetic acid	pg	6.268680037	x	0.010024550	2.038161059	0.007968241	2.038161059	0.007968314	2.038161059	0.007968314	x
202	Cypermethrin	ng	1.473529674	x	0.058648389	0.114119163	0.046618000	0.114304274	0.046618426	0.114489384	0.046618426	0.000092555
203	Diatomite, in ground	ng	13.766217650	x	0.004557969	0.104888173	0.003623005	0.105260238	0.003623038	0.105632300	0.003623038	0.000186032
204	Dichromate	ng	27.742501407	x	0.902296867	9.393471702	0.717211087	9.393482897	0.717217642	9.393494092	0.717217642	0.000005598
205	Diethylamine	pg	5.697445832	x	0.109419099	30.052194864	0.086974248	30.052194864	0.086975043	30.052194864	0.086975043	x
206	Diethylamine	pg	13.674046685	x	0.262610432	72.126537807	0.208741846	72.126537807	0.208743754	72.126537807	0.208743754	x
207	Dimethyl malonate	pg	7.860909138	x	0.012570762	2.555848719	0.009992154	2.555848719	0.009992246	2.555848719	0.009992246	x
208	Dimethylamine	pg	54.750618047	x	0.186042138	45.089895423	0.147879804	45.089895423	0.147881156	45.089895423	0.147881156	x
209	Dinitrogen monoxide	mg	0.650290754	x	0.062286953	0.867022055	0.049510194	0.902056325	0.049510647	3.780862102	0.049510647	0.017517135
210	Dioxin, 2,3,7,8 Tetrachlorodibenz	pg	4.950872351	x	0.287831726	1.922176680	0.228789562	1.984657604	0.228791653	############	0.228791653	0.031240462
211	Dipropylamine	pg	3.270997885	x	0.069308790	19.019467656	0.055091660	19.019467656	0.055092164	19.019467656	0.055092164	x
212	Dipropylamine	pg	7.850468667	x	0.166342076	45.646987519	0.132220764	45.646987519	0.132221973	45.646987519	0.132221973	x
213	DOC, Dissolved Organic Carbon	mg	17.073008040	x	2.401066878	1.785994931	1.908542352	1.791041163	1.908559797	1.796087372	1.908559797	0.002523116
214	Dolomite, in ground	µg	############	x	66.081468489	############	52.526350864	############	52.526830989	############	52.526830989	0.001585843

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
215	Energy, gross calorific value, in b	kJ	0.551586608	x	0.023393818	6.318265853	0.018595106	6.319007510	0.018595276	6.319749164	0.018595276	0.000370829
216	Energy, gross calorific value, in b	J	0.889853551	x	0.036330845	0.046697005	0.028878394	0.046735659	0.028878658	0.046774312	0.028878658	0.000019327
217	Energy, kinetic (in wind), converte	J	############	x	9.995776993	############	7.945369580	############	7.945442206	############	7.945442206	0.024394398
218	Energy, potential (in hydropower	kJ	3.083634217	x	0.073585478	4.254122934	0.058491083	4.466717636	0.058491617	4.679311396	0.058491617	0.106297351
219	Energy, solar, converted	J	3.381267859	x	0.144002352	3.798606777	0.114463529	3.799321651	0.114464575	3.800036521	0.114464575	0.000357437
220	Ethane	mg	0.136847874	x	0.014049099	0.063908649	0.011167244	0.064422023	0.011167347	1.486821225	0.011167347	0.000256687
221	Ethane, 1,1-difluoro-, HFC-152a	ng	1.210560773	x	0.053007652	1.392322992	0.042134332	1.392323132	0.042134717	1.392323272	0.042134717	0.000000070
222	Ethane, 1,1,1-trichloro-, HCFC-14	pg	8.037108784	x	0.163790487	6.530390708	0.130192575	6.730052018	0.130193765	6.929712444	0.130193765	0.099830655
223	Ethane, 1,1,1,2-tetrafluoro-, HFC	µg	42.327783489	x	0.007448182	0.121032805	0.005920356	0.121096553	0.005920410	0.121160301	0.005920410	0.000031874
224	Ethane, 1,1,2-trichloro-1,2,2-triflu	pg	############	x	0.433781720	6.903314149	0.344801218	6.903323050	0.344804370	6.903331952	0.344804370	0.000004451
225	Ethane, 1,2-dichloro-	ng	############	x	4.047842743	34.770572588	3.217519420	34.825176431	3.217548830	34.879780032	3.217548830	0.027301922
226	Ethane, 1,2-dichloro-	ng	6.206932972	x	0.388409925	6.011704933	0.308736420	6.109224205	0.308739242	6.206743045	0.308739242	0.048759636
227	Ethane, 1,2-dichloro-1,1,2,2-tetra	ng	26.515377536	x	0.708742435	28.983994981	0.563359965	29.890087336	0.563365115	30.796175680	0.563365115	0.453046178
228	Ethane, hexafluoro-, HFC-116	ng	############	x	0.779287055	############	0.619433954	############	0.619439616	############	0.619439616	0.508225142
229	Ethanol	µg	0.735538593	x	0.052428199	1.044267262	0.041673740	1.045474017	0.041674121	1.046680767	0.041674121	0.000603378
230	Ethanol	ng	72.911831401	x	0.141900571	2.991950744	0.112792880	2.991953555	0.112793911	2.991956367	0.112793911	0.000001406
231	Ethene	mg	0.026397692	x	0.001993021	0.018411321	0.001584198	0.018509357	0.001584212	2.862379053	0.001584212	0.000049018
232	Ethene	µg	1.482167885	x	0.055821043	0.114928144	0.044370620	0.115131901	0.044371025	0.115335657	0.044371025	0.000101878
233	Ethene, chloro-	ng	47.114911771	x	1.177266061	19.899139206	0.935776574	19.902605742	0.935785128	19.906072263	0.935785128	0.001733268
234	Ethene, chloro-	pg	############	x	10.057177326	############	7.994175023	############	7.994248095	############	7.994248095	0.114053698
235	Ethene, tetrachloro-	pg	19.077410517	x	0.398184980	15.229922369	0.316506343	15.658909179	0.316509236	16.087894090	0.316509236	0.214493405
236	Ethyl acetate	µg	8.568119148	x	0.016546787	0.265019291	0.013152588	0.265019627	0.013152709	0.265019964	0.013152709	0.000000168
237	Ethyl acetate	pg	18.660082007	x	0.288977813	77.456918371	0.229700555	77.456918563	0.229702655	77.456918754	0.229702655	0.000000096
238	Ethyl cellulose	ng	17.342638335	x	0.033176484	0.527916824	0.026371079	0.527917505	0.026371320	0.527918186	0.026371320	0.000000340
239	Ethylamine	pg	2.710058540	x	0.011387706	22.342564473	0.009051776	22.342564473	0.009051859	22.342564473	0.009051859	x
240	Ethylamine	pg	6.504183720	x	0.027330697	53.622467945	0.021724423	53.622467945	0.021724621	53.622467945	0.021724621	x
241	Ethylene diamine	pg	88.093264130	x	0.168115695	############	0.133630565	############	0.133631787	############	0.133631787	0.239527158
242	Ethylene diamine	ng	0.213162357	x	0.000404631	1.125587039	0.000321630	1.126748383	0.000321633	1.127909722	0.000321633	0.000580672
243	Ethylene oxide	ng	25.394948227	x	0.717655494	1.821191852	0.570444712	1.824155600	0.570449926	1.827119336	0.570449926	0.001481874
244	Ethylene oxide	ng	5.644586558	x	0.011370764	0.316202314	0.009038309	0.316460625	0.009038392	0.316718935	0.009038392	0.000129156
245	Ethyne	µg	0.436334263	x	0.025130387	2.612036087	0.019975457	2.627723571	0.019975639	############	0.019975639	0.007843742
246	Feldspar, in ground	ng	0.756898283	x	0.011837021	1.148884499	0.009408924	1.149101291	0.009409010	1.149318082	0.009409010	0.000108396
247	Fenpiclonil	ng	1.211011548	x	0.007076695	20.956350044	0.005625071	21.049771141	0.005625123	21.143191824	0.005625123	0.046710548
248	Fluoride	mg	1.262612861	x	0.011457354	1.441390892	0.009107137	1.446979505	0.009107221	1.452568093	0.009107221	0.002794307
249	Fluoride	µg	6.826395157	x	0.834183704	0.766752971	0.663069798	0.766753111	0.663075858	0.766753252	0.663075858	0.000000070
250	Fluorine	µg	1.638911248	x	0.054538540	1.416224676	0.043351193	1.416238056	0.043351589	1.416251437	0.043351589	0.000006690
251	Fluorine, 4.5% in apatite, 1% in c	µg	14.754030873	x	1.591800067	2.219487860	1.265278311	2.224185202	1.265289876	2.228882523	1.265289876	0.002348671
252	Fluorine, 4.5% in apatite, 3% in c	µg	7.278194027	x	0.702227371	1.381190201	0.558181319	1.383917709	0.558186421	1.386645205	0.558186421	0.001363754
253	Fluorspar, 92%, in ground	µg	############	x	44.420137502	############	35.308351664	############	35.308674405	############	35.308674405	0.778564143
254	Fluosilicic acid	ng	############	x	0.874311723	############	0.694966462	############	0.694972814	############	0.694972814	0.593987778
255	Fluosilicic acid	ng	############	x	1.573761119	############	1.250939645	############	1.250951079	############	1.250951079	1.069177956
256	Formaldehyde	µg	13.247100572	x	0.189346777	10.633963662	0.150506571	11.150133867	0.150507947	############	0.150507947	0.258085102
257	Formaldehyde	ng	############	x	7.193863487	38.377334670	5.718205213	38.483360590	5.718257481	38.589386041	5.718257481	0.053012960
258	Formamide	pg	2.193122548	x	0.012445133	34.711487639	0.009892295	34.711487639	0.009892386	34.711487639	0.009892386	x
259	Formamide	pg	5.263619046	x	0.029869146	83.310005212	0.023742167	83.310005212	0.023742384	83.310005212	0.023742384	x
260	Formate	ng	1.521964229	x	0.002742672	1.066478681	0.002180075	1.066478681	0.002180095	1.066478681	0.002180095	x
261	Formic acid	ng	68.702323813	x	2.387288031	3.378508907	1.897589923	3.381027438	1.897607268	3.383545957	1.897607268	0.001259265
262	Formic acid	pg	1.527946537	x	0.008670504	24.183428389	0.006891946	24.183428389	0.006892009	24.183428389	0.006892009	x
263	Furan	ng	16.460628046	x	0.672052703	0.863809012	0.534196302	0.864524089	0.534201185	0.865239163	0.534201185	0.000357539
264	Gadolinium, 0.15% in bastnasite,	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
265	Gallium, 0.014% in bauxite, in gro	pg	9.347085795	x	0.408222119	10.724757209	0.324484591	10.724758289	0.324487557	10.724759370	0.324487557	0.000000540
266	Gas, mine, off-gas, process, coa	cm3	6.098413998	x	0.329154759	############	0.261636110	############	0.261638501	############	0.261638501	1.170663537
267	Gas, natural, in ground	cm3	############	x	41.400781070	############	32.908347866	############	32.908648670	############	32.908648670	0.281934896
268	Glutaraldehyde	ng	############	x	15.915245781	12.287008407	12.650593322	12.287011812	12.650708957	12.287015216	12.650708957	0.000001702
269	Glyphosate	µg	0.884036126	x	0.003230129	1.254398282	0.002567541	1.254399166	0.002567565	1.254400050	0.002567565	0.000000442
270	Gold, Au 1.1E-4%, Ag 4.2E-3%,	ng	16.987732896	x	0.032501518	0.517219475	0.025834567	0.517220142	0.025834803	0.517220809	0.025834803	0.000000333
271	Gold, Au 1.3E-4%, Ag 4.6E-5%,	ng	31.151818641	x	0.059600739	0.948468368	0.047374996	0.948469591	0.047375429	0.948470813	0.047375429	0.000000611
272	Gold, Au 1.4E-4%, in ore, in grou	ng	37.299200668	x	0.071362123	1.135635532	0.056723798	1.135636996	0.056724317	1.135638460	0.056724317	0.000000732
273	Gold, Au 2.1E-4%, Ag 2.1E-4%,	ng	56.970593042	x	0.108998103	1.734563397	0.086639609	1.734565634	0.086640401	1.734567870	0.086640401	0.000001118
274	Gold, Au 4.3E-4%, in ore, in grou	ng	14.119620959	x	0.027014148	0.429895091	0.021472807	0.429895645	0.021473004	0.429896200	0.021473004	0.000000277
275	Gold, Au 4.9E-5%, in ore, in grou	ng	33.818295027	x	0.064702329	1.029653619	0.051430110	1.029654948	0.051430580	1.029656276	0.051430580	0.000000664
276	Gold, Au 6.7E-4%, in ore, in grou	ng	52.356213993	x	0.100169715	1.594071041	0.079622165	1.594073096	0.079622893	1.594075152	0.079622893	0.000001028
277	Gold, Au 7.1E-4%, in ore, in grou	ng	59.037056608	x	0.112951738	1.797480306	0.089782246	1.797482624	0.089783066	1.797484942	0.089783066	0.000001159
278	Gold, Au 9.7E-4%, Ag 9.7E-4%,	ng	3.537624763	x	0.006768306	0.107708805	0.005379941	0.107708944	0.005379990	0.107709083	0.005379990	0.000000069
279	Granite, in ground	pg	13.734750098	x	0.094908855	51.347270169	0.075440452	51.563996835	0.075441141	51.780722542	0.075441141	0.108363333
280	Gravel, in ground	g	17.301870547	x	0.028207281	3.016713294	0.022421196	3.016745265	0.022421401	3.016777236	0.022421401	0.000015985
281	Gypsum, in ground	ng	############	x	19.022172414	############	15.120204276	############	15.120342484	############	15.120342484	0.301046468
282	Heat, waste	Wh	77.358240676	x	7.411215363	30.324101641	5.890972271	31.803655500	5.891026118	############	5.891026118	0.739776929
283	Heat, waste	kJ	5.101667093	x	0.537349460	2.701330931	0.427124380	2.720527226	0.427128285	2.739723437	0.427128285	0.009598148
284	Heat, waste	J	############	x	5.451111063	29.050127459	4.332939004	29.079463628	4.332978610	29.108799668	4.332978610	0.014668085
285	Helium	µg	30.775670746	x	1.312545410	0.932223480	1.043306426	0.934753396	1.043315963	0.937283302	1.043315963	0.001264958
286	Helium, 0.08% in natural gas, in g	pg	x	x	x	0.000054564	x	0.000060020	x	0.000065477	x	0.000002728
287	Heptane	µg	76.515329623	x	7.243018885	4.525333526	5.757277493	4.538760940	5.757330119	4.552188295	5.757330119	0.006713707
288	Hexane	µg	############	x	15.660103814	14.764682358	12.447787955	14.812412203	12.447901736	14.860141837	12.447901736	0.023864922
289	Hydrocarbons, aliphatic, alkanes,	ng	29.555952782	x	0.952970534	2.818372880	0.757490198	2.828076909	0.757497122	2.837780894	0.757497122	0.004852014
290	Hydrocarbons, aliphatic, alkanes,	µg	90.438806790	x	4.384780055	44.353041664	3.485341668	46.305969371	3.485373526	############	3.485373526	0.976463854
291	Hydrocarbons, aliphatic, alkanes,	µg	40.416570461	x	4.520837126	2.791065083	3.593489711	2.799380185	3.593522558	2.807695251	3.593522558	0.004157551
292	Hydrocarbons, aliphatic, unsatura	µg	2.662040133	x	0.169688104	25.464196831	0.134880430	27.382023188	0.134881663	############	0.134881663	0.958913179
293	Hydrocarbons, aliphatic, unsatura	µg	3.730777714	x	0.417308123	0.257657188	0.331706807	0.258424736	0.331709839	0.259192281	0.331709839	0.000383774
294	Hydrocarbons, aromatic	µg	23.173368509	x	1.100964104	5.748945515	0.875126237	5.752283367	0.875134236	5.755621204	0.875134236	0.001668926
295	Hydrocarbons, aromatic	µg	############	x	18.558607024	11.487011581	14.751728834	11.520775707	14.751863674	11.554539682	14.751863674	0.016882063
296	Hydrocarbons, chlorinated	ng	############	x	1.863621439	############	1.481341680	############	1.481355221	############	1.481355221	0.164603226
297	Hydrocarbons, unspecified	µg	18.104465220	x	2.527521964	2.456169087	2.009058039	2.459846627	2.009076403	2.463524152	2.009076403	0.001838770
298	Hydrogen	µg	17.440140162	x	1.254415627	5.073629177	0.997100652	5.159106510	0.997109766	5.244583463	0.997109766	0.042738666
299	Hydrogen-3, Tritium	mBq	############	x	10.094969010	############	8.024214599	############	8.024287945	############	8.024287945	5.788554076
300	Hydrogen-3, Tritium	Bq	19.360901937	x	0.755845118	28.611656864	0.600800599	29.433614127	0.600806091	30.255567751	0.600806091	0.410978632
301	Hydrogen chloride	mg	0.126564575	x	0.007786381	0.417094701	0.006189181	0.427739019	0.006189238	29.255269459	0.006189238	0.005322159
302	Hydrogen fluoride	mg	0.024697041	x	0.001293474	0.136349947	0.001028147	0.146367357	0.001028157	3.512035282	0.001028157	0.005008705
303	Hydrogen peroxide	ng	12.846771418	x	0.024677751	0.393784639	0.019615669	0.393785143	0.019615848	0.393785648	0.019615848	0.000000252
304	Hydrogen peroxide	ng	############	x	0.257595840	33.341031949	0.204755884	33.489916675	0.204757755	33.638800741	0.204757755	0.074442363
305	Hydrogen sulfide	mg	0.018174414	x	0.001093913	0.008893524	0.000869521	0.008907115	0.000869529	1.904768481	0.000869529	0.000006796
306	Hydrogen sulfide	µg	2.016473289	x	0.211798725	3.171234126	0.168353010	3.335275709	0.168354549	3.499316566	0.168354549	0.082020792
307	Hydroxide	ng	############	x	0.729357816	12.223095927	0.579746568	12.223109988	0.579751867	12.223124049	0.579751867	0.000007031
308	Hypochlorite	µg	0.609511861	x	0.040724200	1.072609340	0.032370552	1.072928729	0.032370848	1.073248116	0.032370848	0.000159694
309	Indium, 0.005% in sulfide, In 0.00	ng	############	x	0.228117606	25.293710243	0.181324442	25.293699825	0.181326100	25.293689406	0.181326100	-0.000005209
310	Iodide	µg	31.153597848	x	3.481794409	2.327236843	2.767583090	2.333663092	2.767608388	2.340089313	2.767608388	0.003213125
311	Iodine	µg	0.514843650	x	0.036871223	3.626708158	0.029307926	3.888694471	0.029308194	25.763344251	0.029308194	0.130993156
312	Iodine-129	µBq	44.954709337	x	1.765958650	66.483518981	1.403712203	68.370795247	1.403725033	70.258063158	1.403725033	0.943638133
313	Iodine-131	mBq	1.210846938	x	0.089298384	2.272863936	0.070980842	2.273301618	0.070981490	2.273739298	0.070981490	0.000218841
314	Iodine-131	µBq	4.921478244	x	0.084519363	3.744068909	0.067182129	3.863846159	0.067182743	3.983622879	0.067182743	0.059888625
315	Iodine-133	nBq	############	x	3.813729128	############	3.031428914	############	3.031456623	############	3.031456623	1.300804961
316	Iodine-133	nBq	############	x	2.419313490	############	1.923046084	############	1.923063662	############	1.923063662	0.018421262
317	Iodine-135	nBq	############	x	4.430130861	############	3.521389783	############	3.521421971	############	3.521421971	2.792093140
318	Iodine, 0.03% in water	ng	5.356200065	x	0.066224259	46.334743267	0.052639851	46.334743267	0.052640332	46.334743267	0.052640332	x
319	Iron	mg	0.033319361	x	0.001347206	0.048122784	0.001070857	0.048261737	0.001070867	8.428047852	0.001070867	0.000069476
320	Iron	mg	0.375670349	x	0.036905622	2.380789268	0.029335269	2.381081793	0.029335537	2.381374317	0.029335537	0.000146263
321	Iron-59	nBq	############	x	0.665121001	34.900234823	0.528686481	34.910363621	0.528691314	34.920492374	0.528691314	0.005064399

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
322	Iron, 46% in ore, 25% in crude or	mg	############	x	26.359461721	############	20.952414749	############	20.952606267	############	20.952606267	0.000560328
323	Iron, ion	mg	4.970975526	x	0.229013743	############	0.182036757	############	0.182038421	############	0.182038421	0.013752449
324	Isocyanic acid	ng	22.280562128	x	0.966830559	############	0.768507153	############	0.768514177	############	0.768514177	0.000001393
325	Isoprene	pg	############	x	31.185938912	40.084134290	24.788849382	40.117314433	24.789075968	40.150494430	24.789075968	0.016590072
326	Isopropylamine	pg	0.911264370	x	0.002334219	1.886447846	0.001855407	1.886447846	0.001855424	1.886447846	0.001855424	x
327	Isopropylamine	pg	2.187047018	x	0.005602198	4.527578729	0.004453034	4.527578729	0.004453075	4.527578729	0.004453075	x
328	Kaolinite, 24% in crude ore, in gr	mg	0.192952546	x	0.000414488	1.153499810	0.000329465	1.158666823	0.000329468	1.163833813	0.000329468	0.002583506
329	Kieserite, 25% in crude ore, in gr	µg	3.483443996	x	0.002018608	2.786656733	0.001604536	2.799115295	0.001604551	2.811573801	0.001604551	0.006229281
330	Krypton-85	mBq	10.537147338	x	0.706369870	18.067870991	0.561474079	18.071362237	0.561479211	18.074853468	0.561479211	0.001745623
331	Krypton-85m	mBq	6.640857169	x	0.032651641	1.406659690	0.025953896	1.407039646	0.025954133	1.407419600	0.025954133	0.000189978
332	Krypton-87	mBq	1.555360995	x	0.013333866	0.467029344	0.010598725	0.467143426	0.010598822	0.467257508	0.010598822	0.000057041
333	Krypton-88	mBq	1.995818134	x	0.012989182	0.499594071	0.010324745	0.499722277	0.010324840	0.499850482	0.010324840	0.000064103
334	Krypton-89	µBq	############	x	3.227768833	############	2.565665112	############	2.565688564	############	2.565688564	0.021679709
335	Lactic acid	pg	2.562321555	x	0.054292381	14.898716496	0.043155528	14.898716496	0.043155922	14.898716496	0.043155922	x
336	Lactic acid	pg	6.149601301	x	0.130302623	35.757171076	0.103573989	35.757171076	0.103574936	35.757171076	0.103574936	x
337	Lanthanum-140	nBq	38.551434662	x	0.126601244	6.643021553	0.100631864	6.644949500	0.100632784	6.646877439	0.100632784	0.000963974
338	Lanthanum-140	µBq	1.249890850	x	0.004104587	0.215375950	0.003262624	0.215438457	0.003262654	0.215500963	0.003262654	0.000031253
339	Lanthanum, 7.2% in bastnasite, 0	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
340	Lead	µg	7.815475275	x	0.206602913	2.114946322	0.164223001	2.124627112	0.164224503	############	0.164224503	0.004840395
341	Lead	µg	12.246698975	x	0.463264579	54.386261215	0.368236336	54.456083020	0.368239702	54.525904517	0.368239702	0.034910903
342	Lead	µg	1.362733113	x	0.000473451	0.012554918	0.000376333	0.012580642	0.000376336	0.012606365	0.000376336	0.000012862
343	Lead-210	mBq	0.174181083	x	0.010310571	0.563993060	0.008195591	0.573356778	0.008195666	88.739641959	0.008195666	0.004681859
344	Lead-210	µBq	############	x	22.288192534	############	17.716274289	############	17.716436227	############	17.716436227	0.055902564
345	Lead, 5.0% in sulfide, Pb 3.0%,	mg	2.653615979	x	0.002014327	0.017851984	0.001601134	0.017851989	0.001601148	0.017851993	0.001601148	0.000000002
346	Linuron	ng	73.785584762	x	0.117394099	22.565020492	0.093313356	22.565728222	0.093314209	22.566435948	0.093314209	0.000353865
347	Lithium, 0.15% in brine, in ground	ng	0.063447659	x	0.000360040	1.004208927	0.000286186	1.004208927	0.000286189	1.004208927	0.000286189	x
348	Lithium, ion	µg	1.038727935	x	0.003980914	0.078064044	0.003164320	0.078204404	0.003164349	0.078344764	0.003164349	0.000070180
349	m-Xylene	ng	32.421247638	x	1.876160788	50.613465242	1.491308866	50.630401224	1.491322498	50.647337131	1.491322498	0.008467991
350	m-Xylene	pg	34.699811996	x	0.143970839	91.929384496	0.114438480	91.933340102	0.114439526	91.937295692	0.114439526	0.001977803
351	Magnesite, 60% in crude ore, in g	mg	6.586946276	x	0.355514609	1.658057739	0.282588833	1.658080614	0.282591416	1.658103489	0.282591416	0.000011437
352	Magnesium	mg	0.004666502	x	0.000219103	0.021931478	0.000174159	0.022050313	0.000174160	7.207432213	0.000174160	0.000059418
353	Magnesium	mg	17.207812801	x	0.957578309	############	0.761152792	############	0.761159750	############	0.761159750	0.173460156
354	Magnesium	µg	99.034989993	x	13.042352878	10.377212896	10.367009375	10.378860378	10.367104137	10.380507853	10.367104137	0.000823741
355	Magnesium, 0.13% in water	ng	67.056430474	x	0.967972331	############	0.769414716	############	0.769421749	############	0.769421749	0.000003526
356	Mancozeb	ng	29.067704790	x	0.216189140	############	0.171842831	############	0.171844401	############	0.171844401	1.541324340
357	Manganese	µg	1.401828346	x	0.058929971	1.036832641	0.046841821	1.041537515	0.046842249	60.765447259	0.046842249	0.002352437
358	Manganese	mg	1.387098586	x	0.062845402	75.383515307	0.049954090	75.384566955	0.049954547	75.385618598	0.049954547	0.000525824
359	Manganese	µg	5.585077190	x	0.690660904	1.538300300	0.548987451	1.538688252	0.548992469	1.539076203	0.548992469	0.000193976
360	Manganese-54	nBq	3.588435429	x	0.011784267	0.618344145	0.009366991	0.618523601	0.009367077	0.618703057	0.009367077	0.000089728
361	Manganese-54	µBq	24.573600613	x	0.227212896	11.299143407	0.180605313	11.638622320	0.180606963	11.978099729	0.180606963	0.169739456
362	Manganese, 35.7% in sedimenta	µg	############	x	############	############	94.460889282	############	94.461752715	############	94.461752715	0.001116781
363	Mercury	µg	0.664519215	x	0.036382319	0.370425791	0.028919310	0.386807353	0.028919574	6.773237364	0.028919574	0.008190781
364	Mercury	µg	0.437486490	x	0.027367350	26.207764831	0.021753557	26.208122715	0.021753756	26.208480598	0.021753756	0.000178942
365	Mercury	pg	############	x	0.556254271	############	0.442151297	############	0.442155339	############	0.442155339	0.425519003
366	Metaldehyde	pg	############	x	0.592434275	############	0.470909793	############	0.470914097	############	0.470914097	0.532070018
367	Metamorphous rock, graphite con	µg	15.570261167	x	0.050659196	16.984356705	0.040267609	17.046968354	0.040267977	17.109579725	0.040267977	0.031305824
368	Methane, biogenic	µg	71.182888867	x	3.326436018	############	2.644092957	############	2.644117125	############	2.644117125	7.978676908
369	Methane, bromo-, Halon 1001	pg	0.000156139	x	0.000000598	0.000011497	0.000000476	0.000011518	0.000000476	0.000011539	0.000000476	0.000000011
370	Methane, bromochlorodifluoro-, H	ng	9.625935997	x	1.000002212	10.591271251	0.794874391	10.615877210	0.794881657	10.640483061	0.794881657	0.012302980
371	Methane, bromotrifluoro-, Halon 1	ng	############	x	18.752220285	12.144050912	14.905626717	12.179220044	14.905762964	12.214389019	14.905762964	0.017584566
372	Methane, chlorodifluoro-, HCFC-2	ng	46.252318231	x	3.786172482	48.336368051	3.009524891	48.423438687	3.009552400	48.510508937	3.009552400	0.043535318
373	Methane, dichloro-, HCC-30	pg	############	x	4.268751470	############	3.393113721	############	3.393144737	############	3.393144737	1.579373946
374	Methane, dichloro-, HCC-30	µg	3.092214312	x	0.410514557	0.265035926	0.326306787	0.265035977	0.326309769	0.265036029	0.326309769	0.000000026
375	Methane, dichlorodifluoro-, CFC-1	pg	############	x	6.662240541	88.847939420	5.295632682	89.006848011	5.295681087	89.165755898	5.295681087	0.079454295
376	Methane, dichlorofluoro-, HCFC-2	pg	1.494606069	x	0.003560346	0.069544874	0.002830021	0.069544934	0.002830047	0.069544994	0.002830047	0.000000030
377	Methane, fossil	mg	25.257840092	x	1.193475646	############	0.948661130	############	0.948669801	############	0.948669801	0.794562103
378	Methane, monochloro-, R-40	pg	############	x	4.530051249	############	3.600813765	############	3.600846679	############	3.600846679	2.644029621
379	Methane, tetrachloro-, CFC-10	ng	9.940812223	x	0.347719618	3.053555369	0.276392808	3.255828003	0.276395335	3.458099742	0.276395335	0.101136317
380	Methane, tetrafluoro-, CFC-14	µg	2.256454455	x	0.006735556	2.471063704	0.005353909	2.480211750	0.005353958	2.489359756	0.005353958	0.004574023
381	Methane, trichlorofluoro-, CFC-11	pg	2.426413084	x	0.005780031	0.112902386	0.004594388	0.112902484	0.004594430	0.112902581	0.004594430	0.000000049
382	Methane, trifluoro-, HFC-23	pg	############	x	1.132837224	22.127914233	0.900461307	22.127933309	0.900469538	22.127952385	0.900469538	0.000009538
383	Methanesulfonic acid	pg	6.334683375	x	0.010130100	2.059620966	0.008052139	2.059620966	0.008052213	2.059620966	0.008052213	x
384	Methanol	µg	4.857647548	x	0.206992172	2.511278973	0.164532413	2.517488344	0.164533917	2.523697687	0.164533917	0.003104685
385	Methanol	ng	############	x	14.786215071	############	11.753157709	############	11.753265141	############	11.753265141	0.190246384
386	Methyl acetate	pg	0.257250146	x	0.000420855	0.079475975	0.000334526	0.079475975	0.000334529	0.079475975	0.000334529	x
387	Methyl acetate	pg	0.617389110	x	0.001010034	0.190738855	0.000802848	0.190738855	0.000802856	0.190738855	0.000802856	x
388	Methyl acrylate	ng	5.419961726	x	0.010370191	0.165033892	0.008242981	0.165034104	0.008243056	0.165034317	0.008243056	0.000000106
389	Methyl acrylate	ng	############	x	0.202584716	3.223985447	0.161029047	3.223989604	0.161030519	3.223993761	0.161030519	0.000002079
390	Methyl amine	pg	13.274788341	x	0.058768359	1.055071447	0.046713360	1.055071852	0.046713787	1.055072257	0.046713787	0.000000202
391	Methyl amine	pg	31.859089062	x	0.141039787	2.532193081	0.112108667	2.532194053	0.112109692	2.532195025	0.112109692	0.000000486
392	Methyl borate	pg	0.491905146	x	0.002599266	7.042914397	0.002066085	7.042914397	0.002066104	7.042914397	0.002066104	0.000000000
393	Methyl ethyl ketone	µg	8.568098890	x	0.016546640	0.264983882	0.013152471	0.264984219	0.013152592	0.264984556	0.013152592	0.000000168
394	Methyl formate	pg	21.601380423	x	0.043480327	9.816957276	0.034561322	9.816958109	0.034561638	9.816958942	0.034561638	0.000000417
395	Methyl formate	pg	8.624187527	x	0.017359192	3.919345826	0.013798346	3.919346159	0.013798473	3.919346491	0.013798473	0.000000166
396	Methyl lactate	pg	2.812980549	x	0.059604055	16.356330445	0.047377632	16.356330445	0.047378065	16.356330445	0.047378065	x
397	Metolachlor	ng	############	x	0.849316526	############	0.675098463	############	0.675104634	############	0.675104634	0.002561242
398	Metribuzin	ng	1.023492503	x	0.007612158	24.231781878	0.006050696	24.340323917	0.006050751	24.448865475	0.006050751	0.054271019
399	Molybdenum	µg	0.144694542	x	0.013101224	0.117102962	0.010413805	0.117807969	0.010413900	5.237301963	0.010413900	0.000352503
400	Molybdenum	µg	10.522150218	x	0.422461274	############	0.335802905	############	0.335805975	############	0.335805975	0.010451269
401	Molybdenum	pg	############	x	8.324360595	############	6.616806426	############	6.616866908	############	6.616866908	0.496042026
402	Molybdenum-99	nBq	############	x	1.415173648	74.257003965	1.124882804	74.278554943	1.124893086	74.300105824	1.124893086	0.010775489
403	Molybdenum, 0.010% in sulfide, M	µg	23.859804443	x	0.225990522	6.754294731	0.179633682	6.755093447	0.179635324	6.755892159	0.179635324	0.000399358
404	Molybdenum, 0.014% in sulfide, M	µg	3.339661971	x	0.032100679	0.961077180	0.025515952	0.961191057	0.025516185	0.961304932	0.025516185	0.000056938
405	Molybdenum, 0.022% in sulfide, M	µg	4.137630190	x	1.300446272	7.423928076	1.033689153	7.424735434	1.033698601	7.425542788	1.033698601	0.000403679
406	Molybdenum, 0.025% in sulfide, M	µg	12.237551816	x	0.117626795	3.521683270	0.093498320	3.522100548	0.093499175	3.522517825	0.093499175	0.000208639
407	Molybdenum, 0.11% in sulfide, M	µg	8.237026361	x	2.624373838	14.979559236	2.086042944	14.981188661	2.086062011	14.982818079	2.086062011	0.000814713
408	Monoethanolamine	ng	############	x	0.891607653	26.134636847	0.708714523	26.310225733	0.708721001	26.485813841	0.708721001	0.087794443
409	Napropamide	pg	############	x	1.048150769	############	0.833146362	############	0.833153978	############	0.833153978	0.941352646
410	Neodymium, 4% in bastnasite, 0.	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
411	Nickel	µg	5.776718847	x	0.429494944	2.279241306	0.341393777	2.288439926	0.341396897	58.604317401	0.341396897	0.004599310
412	Nickel	ng	############	x	0.273387849	7.795820765	0.217308520	7.812419753	0.217310506	7.829018668	0.217310506	0.008299494
413	Nickel, 1.13% in sulfide, Ni 0.76%	µg	3.098237614	x	0.061172464	13.023042485	0.048624318	13.079256225	0.048624762	13.135469716	0.048624762	0.028106870
414	Nickel, 1.98% in silicates, 1.04%	mg	4.954463066	x	0.623589428	3.428476740	0.495674171	3.429110286	0.495678702	3.429743829	0.495678702	0.000316773
415	Nickel, ion	mg	0.162850549	x	0.011584156	8.731906997	0.009207929	8.735792833	0.009208013	8.739678652	0.009208013	0.001942918
416	Niobium-95	nBq	0.425978536	x	0.001398895	0.073402835	0.001111943	0.073424138	0.001111954	0.073445441	0.001111954	0.000010652
417	Niobium-95	µBq	2.002294333	x	0.035423554	2.608526968	0.028157214	2.759852184	0.028157471	2.911176731	0.028157471	0.075662608
418	Nitrate	µg	0.296809197	x	0.009623372	1.266454902	0.007649355	1.270980737	0.007649425	1.275506552	0.007649425	0.002262918
419	Nitrate	mg	1.327585259	x	0.077237351	98.693830899	0.061393857	98.694927680	0.061394418	98.696024456	0.061394418	0.000548390
420	Nitrite	ng	############	x	12.850830342	############	10.214773353	############	10.214866723	############	10.214866723	3.697776417
421	Nitrobenzene	pg	17.092140360	x	0.329632625	90.112132782	0.262015952	90.112132782	0.262018347	90.112132782	0.262018347	x
422	Nitrobenzene	pg	68.496592498	x	1.320999657	############	1.050026476	############	1.050036074	############	1.050036074	x
423	Nitrogen	µg	18.846893137	x	2.107768848	24.634730676	1.675407775	24.701053174	1.675423089	24.767375378	1.675423089	0.033161249
424	Nitrogen oxides	mg	############	x	21.963604926	98.937674566	17.458268482	############	17.458428062	############	17.458428062	1.881303078
425	Nitrogen, organic bound	µg	27.723396479	x	2.553406854	4.679695824	2.029633229	4.685622097	2.029651782	4.691548345	2.029651782	0.002963137
426	NMVOC, non-methane volatile or	mg	19.192029037	x	3.176068509	10.760457801	2.524569339	10.805430951	2.524593015	12.272289733	2.524593015	0.022486575
427	Noble gases, radioactive, unspec	Bq	############	x	16.970225321	############	13.489167687	############	13.489290987	############	13.489290987	9.071232757
428	o-Xylene	pg	21.320799820	x	0.081707956	1.569866726	0.064947418	1.572748022	0.064948012	1.575629304	0.064948012	0.001440648

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
429	Occupation, arable, non-irrigated	mm2a	2.482900871	x	0.004385901	2.501034645	0.003486233	2.508961049	0.003486265	2.516887418	0.003486265	0.003963202
430	Occupation, construction site	mm2a	0.679967760	x	0.067769560	0.542060990	0.053868169	0.583759840	0.053868661	0.625458506	0.053868661	0.020849425
431	Occupation, dump site	mm2a	5.230126808	x	0.227082709	############	0.180501831	############	0.180503481	############	0.180503481	0.621832239
432	Occupation, dump site, benthos	mm2a	1.300415402	x	0.206898195	0.159731110	0.164457713	0.159731154	0.164459217	0.159731198	0.164459217	0.000000022
433	Occupation, forest, intensive	mm2a	7.241468102	x	0.030437004	13.732974060	0.024193541	13.793657760	0.024193763	13.854341192	0.024193763	0.030341850
434	Occupation, forest, intensive, nor	cm2a	0.576169391	x	0.023743382	26.469017893	0.018872965	26.469345038	0.018873137	26.469672182	0.018873137	0.000163573
435	Occupation, forest, intensive, sho	mm2a	0.223215552	x	0.009113420	0.011713725	0.007244009	0.011723421	0.007244075	0.011733117	0.007244075	0.000004848
436	Occupation, industrial area	mm2a	14.239665777	x	1.778335914	############	1.413550550	############	1.413563471	############	1.413563471	0.000223101
437	Occupation, industrial area, benth	mm2a	0.011565516	x	0.001594398	0.001339048	0.001267343	0.001339049	0.001267355	0.001339049	0.001267355	0.000000000
438	Occupation, industrial area, built	mm2a	2.955267481	x	0.147229086	0.973014814	0.117028371	0.973016664	0.117029441	0.973018514	0.117029441	0.000000925
439	Occupation, industrial area, vege	mm2a	2.774918539	x	0.059405755	1.444373667	0.047220009	1.444380525	0.047220440	1.444387382	0.047220440	0.000003429
440	Occupation, mineral extraction sit	m2a	0.000007769	0.178600000	0.000000210	0.146202518	0.000000167	0.146203736	0.000000167	0.146204953	0.000000167	0.000000609
441	Occupation, permanent crop, frui	mm2a	0.326417654	x	0.013092500	0.015078024	0.010406870	0.015085326	0.010406965	0.015092628	0.010406965	0.000003651
442	Occupation, shrub land, sclerophy	mm2a	0.394724683	x	0.004872800	0.492464001	0.003873255	0.534143652	0.003873291	0.575823120	0.003873291	0.020839826
443	Occupation, traffic area, rail emb	mm2a	0.982195369	x	0.033481670	18.582319803	0.026613663	18.582319928	0.026613906	18.582320054	0.026613906	0.000000063
444	Occupation, traffic area, rail netw	mm2a	1.086081458	x	0.037023001	20.547757657	0.029428570	20.547757795	0.029428839	20.547757934	0.029428839	0.000000069
445	Occupation, traffic area, road em	mm2a	30.169747348	x	0.029503908	26.172755207	0.023451849	26.174078160	0.023452064	26.175401106	0.023452064	0.000661476
446	Occupation, traffic area, road net	mm2a	############	x	0.743941218	1.516884350	0.591338515	1.516884834	0.591343920	1.516885318	0.591343920	0.000000242
447	Occupation, urban, discontinuous	mm2a	0.002398759	x	0.000053287	0.000436947	0.000042357	0.000436947	0.000042357	0.000436947	0.000042357	0.000000000
448	Occupation, water bodies, artifici	mm2a	4.580397065	x	0.213351268	26.945045193	0.169587084	29.290607071	0.169588634	31.636158563	0.169588634	1.172780939
449	Occupation, water courses, artifi	mm2a	7.847338216	x	0.193010077	2.000524918	0.153418428	2.001994512	0.153419830	2.003464100	0.153419830	0.000734797
450	Oil, crude, in ground	g	5.672042689	x	0.545445189	0.344092064	0.433559453	0.345102382	0.433563416	0.346112695	0.433563416	0.000505159
451	Oils, biogenic	µg	1.287634536	x	0.043912500	27.298672851	0.034904845	27.299241306	0.034905164	27.299809759	0.034905164	0.000284228
452	Oils, unspecified	mg	15.559900397	x	2.372026720	1.426797211	1.885459125	1.431109036	1.885476359	1.435420841	1.885476359	0.002155912
453	Oils, unspecified	mg	15.593879081	x	2.506126270	1.496504207	1.992051187	1.501051799	1.992069396	1.505599370	1.992069396	0.002273796
454	Olivine, in ground	ng	############	x	0.780443451	5.384505176	0.620353141	5.392374297	0.620358812	5.400243383	0.620358812	0.003934560
455	Orbencarb	ng	5.526961212	x	0.041106410	############	0.032674360	############	0.032674659	############	0.032674659	0.293068886
456	Ozone	µg	14.541196199	x	0.604601601	58.784124321	0.480581267	62.998554096	0.480585659	67.212965212	0.480585659	2.107214888
457	PAH, polycyclic aromatic hydroca	µg	1.777857649	x	1.636893904	1.448992669	1.301122168	1.463092865	1.301134061	1.477192999	1.301134061	0.007050098
458	PAH, polycyclic aromatic hydroca	µg	1.744190447	x	0.208535507	0.156503175	0.165759167	0.156875931	0.165760682	0.157248685	0.165760682	0.000186378
459	Paraffins	pg	x	x	x	0.000001258	x	0.000001384	x	0.000001510	x	0.000000063
460	Paraffins	pg	x	x	x	0.000003651	x	0.000004017	x	0.000004382	x	0.000000183
461	Particulates, < 2.5 um	mg	4.161085360	x	2.037009877	2.588387639	1.619163405	2.642124255	1.619178205	12.175099505	1.619178205	0.026868308
462	Particulates, > 10 um	mg	4.923718823	x	0.324859145	############	0.258221644	############	0.258224004	############	0.258224004	0.123367552
463	Particulates, > 2.5 um, and < 10u	mg	3.206267357	x	0.185766089	1.077608030	0.147660380	1.085294433	0.147661730	20.051458545	0.147661730	0.003843201
464	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh	ng	8.146137268	x	0.684951231	0.530813523	0.544448989	0.532046438	0.544453965	0.533279348	0.544453965	0.000616458
465	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh	ng	19.576630325	x	1.646060775	1.275641587	1.308408663	1.278604643	1.308420622	1.281567685	1.308420622	0.001481528
466	Peat, in ground	µg	############	x	0.364303635	59.033607124	0.289574990	59.222393917	0.289577637	59.411179874	0.289577637	0.094393397
467	Pentane	µg	############	x	40.080298388	48.559743880	31.858732320	49.934671849	31.859023529	51.309593731	31.859023529	0.687463985
468	Phenol	µg	0.346785005	x	0.004007932	0.110123399	0.003185795	0.110429629	0.003185825	94.903124572	0.003185825	0.000153115
469	Phenol	µg	28.799452697	x	3.332066969	2.128747239	2.648568846	2.135155754	2.648593055	2.141564241	2.648593055	0.003204258
470	Phenol, 2,4-dichloro-	pg	1.934204586	x	0.035790067	0.383329709	0.028448544	0.383329709	0.028448805	0.383329709	0.028448805	x
471	Phenol, pentachloro-	ng	6.466699314	x	0.482570777	12.291552344	0.383582304	12.293915469	0.383585811	12.296278583	0.383585811	0.001181562
472	Phosphate	mg	4.847251948	x	0.275004008	############	0.218593160	############	0.218595158	############	0.218595158	0.017406265
473	Phosphine	pg	4.129184240	x	0.007900504	0.125730659	0.006279895	0.125730821	0.006279952	0.125730983	0.006279952	0.000000081
474	Phosphorus	µg	0.171116385	x	0.014189964	0.498741445	0.011279214	0.500781177	0.011279317	############	0.011279317	0.001019866
475	Phosphorus	µg	2.565391934	x	0.197284824	0.407033185	0.156816308	0.408317754	0.156817741	0.409602316	0.156817741	0.000642284
476	Phosphorus	µg	6.441236927	x	0.830914556	1.066576353	0.660471241	1.066740622	0.660477278	1.066904889	0.660477278	0.000082134
477	Phosphorus, 18% in apatite, 12%	µg	31.839883105	x	2.802092188	6.399195368	2.227306396	6.410142848	2.227326755	6.421090279	2.227326755	0.005473740
478	Phosphorus, 18% in apatite, 4%	µg	59.016123475	x	6.367200265	8.877951440	5.061113241	8.896740808	5.061159503	8.915530092	5.061159503	0.009394684
479	Pirimicarb	pg	############	x	0.735295183	############	0.584466019	############	0.584471361	############	0.584471361	0.002217393
480	Platinum	pg	0.704180837	x	0.025379326	0.679926427	0.020173331	0.680052408	0.020173516	0.680178388	0.020173516	0.000062990
481	Plutonium-238	nBq	0.006132550	x	0.000240905	0.009069428	0.000191489	0.009326883	0.000191491	0.009584337	0.000191491	0.000128728
482	Plutonium-alpha	nBq	0.014058091	x	0.000552245	0.020790511	0.000438964	0.021380694	0.000438968	0.021970874	0.000438968	0.000295091
483	Polonium-210	mBq	0.299697171	x	0.018216393	1.008642249	0.014479712	1.025171298	0.014479844	############	0.014479844	0.008264524
484	Polonium-210	µBq	############	x	31.843556564	############	25.311571657	############	25.311803021	############	25.311803021	0.072665451
485	Polychlorinated biphenyls	ng	7.981356286	x	0.419476060	1.874488505	0.333430040	1.874511536	0.333433088	1.874534568	0.333433088	0.000011516
486	Potassium	mg	0.011311839	x	0.000548662	0.020180695	0.000436116	0.020223501	0.000436120	2.409034502	0.000436120	0.000021403
487	Potassium	µg	44.607857658	x	5.787412779	6.684348649	4.600256035	6.685262315	4.600298085	6.686175977	4.600298085	0.000456833
488	Potassium-40	mBq	0.033276217	x	0.002357497	0.214776574	0.001873910	0.224289859	0.001873927	25.827748056	0.001873927	0.004756643
489	Potassium-40	µBq	97.495934848	x	7.369918816	############	5.858146776	############	5.858200323	############	5.858200323	0.033962982
490	Potassium, ion	mg	10.639314061	x	0.613432720	############	0.487600881	############	0.487605338	############	0.487605338	0.201913297
491	Praseodymium, 0.42% in bastnas	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
492	Propanal	pg	############	x	34.918281005	############	27.755585970	############	27.755839673	############	27.755839673	2.763619456
493	Propanal	µg	4.166291120	x	0.023642273	65.942292653	0.018792595	65.942292653	0.018792767	65.942292653	0.018792767	x
494	Propane	µg	############	x	33.358283110	43.190625473	26.515586335	43.616123655	26.515828704	############	26.515828704	0.212749091
495	Propene	µg	18.467071159	x	1.520225430	5.261672099	1.208385591	5.421131037	1.208396636	############	1.208396636	0.079729469
496	Propene	µg	5.313134555	x	0.053356459	0.213050023	0.042411589	0.213597142	0.042411976	0.214144260	0.042411976	0.000273560
497	Propionic acid	ng	99.857490510	x	10.808830615	############	8.591643653	############	8.591722186	############	8.591722186	0.064306827
498	Propionic acid	pg	8.250652248	x	0.091525550	2.709675881	0.072751155	2.709675881	0.072751820	2.709675881	0.072751820	x
499	Propylamine	pg	0.694519520	x	0.003941124	10.992421561	0.003132691	10.992421561	0.003132720	10.992421561	0.003132720	x
500	Propylamine	pg	1.666840416	x	0.009458609	26.381510230	0.007518389	26.381510230	0.007518458	26.381510230	0.007518458	x
501	Propylene oxide	µg	2.018742224	x	0.001761601	0.008506407	0.001400249	0.008508523	0.001400261	0.008510638	0.001400261	0.000001058
502	Propylene oxide	µg	4.857444500	x	0.004238525	0.020462870	0.003369087	0.020467960	0.003369118	0.020473051	0.003369118	0.000002545
503	Protactinium-234	µBq	7.452761490	x	0.239811496	9.154904165	0.190619595	9.411345832	0.190621338	9.667786363	0.190621338	0.128220833
504	Protactinium-234	µBq	############	x	4.421958881	############	3.514894099	############	3.514926228	############	3.514926228	2.362882570
505	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh	pg	############	x	16.683085696	37.794963544	13.260928258	37.823341586	13.261049471	37.851719502	13.261049471	0.014189021
506	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh	pg	############	x	59.807457945	############	47.539311583	############	47.539746122	############	47.539746122	0.050865555
507	Radioactive species, alpha emitte	nBq	############	x	54.375581258	87.917405369	43.221661457	88.191291112	43.222056531	88.465175643	43.222056531	0.136942872
508	Radioactive species, Nuclides, un	mBq	43.976169473	x	1.720179961	64.709334438	1.367323975	66.542938228	1.367336474	68.376533900	1.367336474	0.916801895
509	Radioactive species, other beta e	mBq	22.080097052	x	0.007321019	0.168499051	0.005819277	0.169095865	0.005819331	0.169692676	0.005819331	0.000298407
510	Radium-224	mBq	15.544834796	x	1.738783510	1.073486571	1.382111427	1.076684687	1.382124061	1.079882789	1.382124061	0.001599058
511	Radium-226	mBq	0.283574236	x	0.010416138	0.438424522	0.008279503	0.449035787	0.008279578	23.209820298	0.008279578	0.005305633
512	Radium-226	mBq	############	x	5.555517064	############	4.415928477	############	4.415968842	############	4.415968842	1.472322916
513	Radium-228	mBq	0.026011785	x	0.002069767	0.360089676	0.001645201	0.362957540	0.001645216	############	0.001645216	0.001433932
514	Radium-228	mBq	31.091469657	x	3.477573918	2.147105681	2.764228338	2.153502157	2.764253605	2.159898604	2.764253605	0.003198238
515	Radon-220	mBq	1.379339436	x	0.095847463	2.537811726	0.076186525	2.538837515	0.076187221	4.435711075	0.076187221	0.000512895
516	Radon-222	Bq	############	x	31.706358748	############	25.202516867	############	25.202747235	############	25.202747235	16.937305668
517	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd	pg	############	x	15.669848517	13.925355959	12.455533752	13.953539947	12.455647604	13.981723809	12.455647604	0.014091994
518	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd	pg	############	x	49.079724740	43.615782681	39.012130042	43.704058536	39.012486638	43.792334000	39.012486638	0.044137927
519	Rhenium, in crude ore, in ground	pg	############	x	21.999128727	14.461809662	17.486505379	14.501968694	17.486665217	14.542127548	17.486665217	0.020079516
520	Rubidium	µg	3.108966957	x	0.347756702	0.216523823	0.276422285	0.217346097	0.276424812	0.218168367	0.276424812	0.000411137
521	Ruthenium-103	nBq	0.093590275	x	0.000307346	0.016127084	0.000244301	0.016131764	0.000244303	0.016136445	0.000244303	0.000002340
522	Ruthenium-103	nBq	90.931276951	x	0.298614380	15.668896321	0.237360399	15.673443771	0.237362568	15.677991201	0.237362568	0.002273725
523	Samarium, 0.3% in bastnasite, 0.	pg	x	x	x	0.000000000	x	0.000000000	x	0.000000000	x	0.000000000
524	Sand, unspecified, in ground	µg	9.875562035	x	0.230644764	5.078169416	0.183333211	5.078758671	0.183334887	5.079347923	0.183334887	0.000294627
525	Scandium	µg	0.091011417	x	0.002963935	0.086317570	0.002355951	0.086357002	0.002355973	2.475164628	0.002355973	0.000019716
526	Scandium	µg	4.462244313	x	0.179791684	############	0.142911489	############	0.142912795	############	0.142912795	1.177599675
527	Selenium	µg	0.302413974	x	0.021240247	0.839370216	0.016883291	0.900139558	0.016883446	17.985621643	0.016883446	0.030384671
528	Selenium	µg	6.992877383	x	0.266174147	############	0.211574545	############	0.211576479	############	0.211576479	0.274598365
529	Shale, in ground	ng	############	x	6.269819496	36.532369473	4.983707933	36.598527025	4.983753487	36.664684284	4.983753487	0.033078776
530	Silicon	mg	0.016367868	x	0.000746657	0.087730039	0.000593497	0.088229421	0.000593503	30.043123634	0.000593503	0.000249691
531	Silicon	g	0.038813061	x	0.002024567	1.031860852	0.001609273	1.044536949	0.001609288	1.057212989	0.001609288	0.006338048
532	Silicon	µg	16.103029720	x	1.796252169	6.809217081	1.427791691	6.816407502	1.427804742	6.823597892	1.427804742	0.003595211
533	Silicon tetrafluoride	pg	############	x	48.121194785	61.924593132	38.250220812	62.066648977	38.250570444	62.208704194	38.250570444	0.071027923
534	Silver	ng	3.951882263	x	0.129728515	3.554960633	0.103117647	3.554966520	0.103118589	3.554972407	0.103118589	0.000002944
535	Silver-110	nBq	0.927551289	x	0.003046038	0.159831748	0.002421212	0.159878135	0.002421235	0.159924521	0.002421235	0.000023193

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
536	Silver-110	µBq	############	x	2.692340212	############	2.140067554	############	2.140087116	############	2.140087116	1.404825426
537	Silver, 0.007% in sulfide, Ag 0.00	ng	############	x	0.761592764	12.580893661	0.605369246	12.580908491	0.605374779	12.580923320	0.605374779	0.000007415
538	Silver, 3.2ppm in sulfide, Ag 1.2p	ng	############	x	0.543870417	8.991305982	0.432307710	8.991316561	0.432311662	8.991327140	0.432311662	0.000005290
539	Silver, Ag 2.1E-4%, Au 2.1E-4%,	ng	24.746093400	x	0.050167514	0.828903905	0.039876784	0.828904882	0.039877148	0.828905859	0.039877148	0.000000488
540	Silver, Ag 4.2E-3%, Au 1.1E-4%,	ng	56.517223994	x	0.114576816	1.893120926	0.091073975	1.893123157	0.091074808	1.893125388	0.091074808	0.000001115
541	Silver, Ag 4.6E-5%, Au 1.3E-4%,	ng	55.396350180	x	0.112304481	1.855575745	0.089267759	1.855577932	0.089268575	1.855580118	0.089268575	0.000001093
542	Silver, Ag 9.7E-4%, Au 9.7E-4%,	ng	36.553522598	x	0.074104605	1.224409756	0.058903723	1.224411200	0.058904261	1.224412643	0.058904261	0.000000722
543	Silver, ion	µg	0.597051821	x	0.032701129	2.005034849	0.025993232	2.005101274	0.025993470	2.005167699	0.025993470	0.000033212
544	Sodium	mg	0.006836792	x	0.000590410	0.006502846	0.000469301	0.006525421	0.000469305	1.204723790	0.000469305	0.000011288
545	Sodium	µg	############	x	32.446656967	21.336528907	25.790959663	21.336533002	25.791195408	21.336537097	25.791195408	0.000002048
546	Sodium-24	µBq	3.260573119	x	0.010707581	0.561848287	0.008511163	0.562011347	0.008511241	0.562174407	0.008511241	0.000081530
547	Sodium chlorate	ng	5.286189213	x	0.518689881	1.877273594	0.412292392	1.904496220	0.412296161	1.931718726	0.412296161	0.013611313
548	Sodium chloride, in ground	mg	69.711162582	x	0.457933986	3.892202118	0.363999193	3.979948794	0.364002520	4.067695082	0.364002520	0.043873338
549	Sodium dichromate	ng	7.624478646	x	0.243330114	2.651702558	0.193416448	2.652296130	0.193418216	2.652889699	0.193418216	0.000296786
550	Sodium formate	ng	0.222041295	x	0.004857605	2.314082123	0.003861177	2.324334403	0.003861213	2.334586639	0.003861213	0.005126140
551	Sodium formate	ng	0.533440574	x	0.011670098	5.559441183	0.009276242	5.584071662	0.009276326	5.608702032	0.009276326	0.012315240
552	Sodium hydroxide	ng	47.912337456	x	0.091821400	1.462884064	0.072986318	1.462885945	0.072986985	1.462887827	0.072986985	0.000000941
553	Sodium nitrate, in ground	pg	31.801477185	x	0.078131501	1.644011605	0.062104592	1.644129071	0.062105160	1.644246536	0.062105160	0.000058733
554	Sodium sulphate, various forms, i	µg	############	x	12.616278239	13.809673795	10.028334306	13.849249739	10.028425971	13.888825507	10.028425971	0.019787972
555	Sodium, ion	g	0.131318400	x	0.011372923	1.026765386	0.009040025	1.027234648	0.009040108	1.027703908	0.009040108	0.000234631
556	Solids, inorganic	mg	1.424029384	x	0.098525941	6.505488682	0.078315574	6.528891936	0.078316290	6.552295087	0.078316290	0.011701627
557	Solved solids	mg	0.251470780	x	0.037245363	7.988943812	0.029605320	7.995763026	0.029605591	8.002582209	0.029605591	0.003409607
558	Stibnite, in ground	ng	1.430606933	x	0.000473671	0.010900144	0.000376508	0.010938809	0.000376512	0.010977474	0.000376512	0.000019333
559	Strontium	µg	0.295419254	x	0.017186985	1.320835145	0.013661464	1.330651236	0.013661589	############	0.013661589	0.004908045
560	Strontium	mg	1.008868662	x	0.088659747	33.356451067	0.070473206	33.395546866	0.070473851	33.434642493	0.070473851	0.019547900
561	Strontium	µg	1.235868269	x	0.163709033	0.105513226	0.130127830	0.105515836	0.130129019	0.105518447	0.130129019	0.000001305
562	Strontium-89	µBq	7.633337370	x	0.047993277	3.090428736	0.038148542	3.208640751	0.038148891	3.326852244	0.038148891	0.059106008
563	Strontium-90	mBq	33.470681638	x	2.468209000	63.228432475	1.961911787	63.279475470	1.961929720	63.330518238	1.961929720	0.025521497
564	Styrene	ng	23.383850368	x	0.680657417	4.208085319	0.541035954	4.208918862	0.541040899	4.209752402	0.541040899	0.000416772
565	Sulfate	µg	70.258606585	x	2.411845541	31.430951457	1.917110016	31.598539586	1.917127539	31.766126973	1.917127539	0.083794064
566	Sulfate	g	0.119273169	x	0.006355500	7.611961569	0.005051813	7.612975029	0.005051859	7.613988484	0.005051859	0.000506730
567	Sulfide	ng	############	x	41.547979266	############	33.025351684	############	33.025653557	############	33.025653557	0.274075787
568	Sulfite	µg	1.658413177	x	0.110559401	2.918364006	0.087880642	2.919299357	0.087881445	2.920234704	0.087881445	0.000467676
569	Sulfur	µg	41.316696666	x	6.363773256	4.043126711	5.058389205	4.053973833	5.058435442	4.064820908	5.058435442	0.005423561
570	Sulfur	µg	74.139748200	x	9.750449074	7.403450805	7.750365130	7.406640641	7.750435974	7.409830463	7.750435974	0.001594918
571	Sulfur dioxide	mg	19.852812402	x	2.752918038	80.591488563	2.188219210	87.642927494	2.188239211	############	2.188239211	3.525719465
572	Sulfur hexafluoride	ng	############	x	9.002692696	############	7.155994050	############	7.156059460	############	7.156059460	33.984064949
573	Sulfur trioxide	pg	############	x	2.655097470	############	2.110464317	############	2.110483608	############	2.110483608	x
574	Sulfur, in ground	µg	7.579565673	x	0.094363547	1.042464156	0.075007001	1.043979831	0.075007686	1.045495500	0.075007686	0.000757838
575	Sulfuric acid	ng	10.028945574	x	0.019340824	0.309441839	0.015373492	0.309442233	0.015373632	0.309442627	0.015373632	0.000000197
576	Sulfuric acid	pg	6.193776307	x	0.011850755	0.188595982	0.009419841	0.188596225	0.009419927	0.188596468	0.009419927	0.000000122
577	Suspended solids, unspecified	mg	3.452568579	x	0.504392606	0.473634896	0.400927879	0.474780029	0.400931544	0.475925156	0.400931544	0.000572566
578	Sylvite, 25 % in sylvinite, in groun	µg	44.146101202	x	0.437812248	30.290393817	0.348004975	30.406348315	0.348008156	30.522302301	0.348008156	0.057977249
579	t-Butyl methyl ether	ng	16.886345030	x	0.048493589	13.483207087	0.038546227	13.484015134	0.038546579	13.484823177	0.038546579	0.000404023
580	t-Butyl methyl ether	ng	############	x	75.689781322	45.472962943	60.163735787	45.611474518	60.164285722	45.749985480	60.164285722	0.069255788
581	t-Butylamine	pg	4.937903393	x	0.008898389	3.460085531	0.007073086	3.460085531	0.007073151	3.460085531	0.007073151	x
582	t-Butylamine	pg	11.851145003	x	0.021356460	8.304346325	0.016975665	8.304346325	0.016975820	8.304346325	0.016975820	x
583	Talc, in ground	µg	2.635257976	x	0.044103974	############	0.035057042	############	0.035057362	############	0.035057362	0.272830268
584	Tantalum, 81.9% in tantalite, 1.68	ng	############	x	0.594403929	9.753612138	0.472475416	9.753623827	0.472479735	9.753635517	0.472479735	0.000005845
585	Tebutam	ng	1.407011369	x	0.002483631	1.410616051	0.001974170	1.415077188	0.001974188	1.419538306	0.001974188	0.002230569
586	Technetium-99m	µBq	9.904537056	x	0.032793421	1.713176336	0.026066593	1.713672839	0.026066832	1.714169340	0.026066832	0.000248252
587	Teflubenzuron	ng	0.068232834	x	0.000507477	1.615452122	0.000403380	1.622688258	0.000403383	1.629924361	0.000403383	0.003618068
588	Tellurium-123m	µBq	1.446133151	x	0.050699897	2.384497050	0.040299961	2.483338179	0.040300329	2.582178869	0.040300329	0.049420564
589	Tellurium-132	nBq	24.952018690	x	0.081941350	4.299627224	0.065132937	4.300875068	0.065133532	4.302122907	0.065133532	0.000623922
590	Tellurium, 0.5ppm in sulfide, Te 0	ng	40.205039447	x	0.081581927	1.348718389	0.064847241	1.348719976	0.064847834	1.348721563	0.064847834	0.000000793
591	Terpenes	ng	7.222649726	x	0.294885564	0.379024352	0.234396464	0.379338094	0.234398607	0.379651835	0.234398607	0.000156871
592	Thallium	µg	0.003737088	x	0.000081075	0.009285336	0.000064444	0.009334827	0.000064445	3.004823801	0.000064445	0.000024746
593	Thallium	µg	0.522198002	x	0.013136420	10.079281275	0.010441781	10.261576944	0.010441876	10.443871805	0.010441876	0.091147834
594	Thiram	pg	32.882713901	x	1.342531894	1.725592380	1.067141862	1.727020760	1.067151616	1.728449134	1.067151616	0.000714190
595	Thorium	µg	0.001200458	x	0.000074760	0.009833628	0.000059424	0.009893090	0.000059425	2.739973346	0.000059425	0.000029731
596	Thorium-228	mBq	0.007358004	x	0.000535736	0.043733514	0.000425842	0.044355193	0.000425846	10.472139628	0.000425846	0.000310839
597	Thorium-228	mBq	62.181481295	x	6.955356760	4.294288797	5.528622743	4.307082045	5.528673278	4.319875236	5.528673278	0.006396624
598	Thorium-230	µBq	28.320464377	x	0.973762449	33.942833805	0.774017122	34.889731383	0.774024197	35.836624770	0.774024197	0.473448789
599	Thorium-230	mBq	18.703508277	x	0.603333140	23.028101943	0.479573001	23.672886466	0.479577385	24.317668134	0.479577385	0.322392261
600	Thorium-232	mBq	0.010383750	x	0.000741372	0.042518984	0.000589296	0.043334414	0.000589302	6.679617049	0.000589302	0.000407715
601	Thorium-232	µBq	14.240000598	x	0.964692629	25.788848305	0.766807770	25.800074714	0.766814779	25.811301073	0.766814779	0.005613205
602	Thorium-234	µBq	7.454319373	x	0.239857199	9.156890900	0.190655923	9.413403677	0.190657666	9.669915318	0.190657666	0.128256388
603	Thorium-234	µBq	############	x	4.422447476	############	3.515282471	############	3.515314603	############	3.515314603	2.363262604
604	Tin	µg	0.171525784	x	0.007014653	0.108877010	0.005575756	0.109091493	0.005575807	1.307481767	0.005575807	0.000107241
605	Tin	pg	############	x	3.109496545	############	2.471653707	############	2.471676299	############	2.471676299	1.950818148
606	Tin, 79% in cassiterite, 0.1% in c	µg	14.712017670	x	0.049313916	1.947523079	0.039198282	1.947740989	0.039198640	1.947958898	0.039198640	0.000108955
607	Tin, ion	µg	4.936781675	x	0.077989141	17.346989295	0.061991434	17.826394648	0.061992000	18.305797878	0.061992000	0.239702676
608	TiO2, 54% in ilmenite, 2.6% in cr	mg	1.461988954	x	0.026133013	0.164298114	0.020772417	0.164384556	0.020772607	0.164470998	0.020772607	0.000043221
609	TiO2, 95% in rutile, 0.40% in crud	mg	20.596473079	x	0.009603693	0.859151696	0.007633713	0.859368545	0.007633783	0.859585394	0.007633783	0.000108425
610	Titanium	µg	2.167562773	x	0.066534538	3.410682429	0.052886483	3.422543384	0.052886967	############	0.052886967	0.005930478
611	Titanium	ng	47.057153843	x	2.837234324	76.505478238	2.255239918	76.528596677	2.255260533	76.551715013	2.255260533	0.011559220
612	Titanium, ion	mg	0.343947544	x	0.005007757	2.651791318	0.003980529	2.804097848	0.003980566	2.956403704	0.003980566	0.076153265
613	TOC, Total Organic Carbon	mg	17.133118346	x	2.404898961	1.798546883	1.911588369	1.803639136	1.911605843	1.808731367	1.911605843	0.002546127
614	Toluene	µg	52.115048156	x	4.701948625	19.025397098	3.737450285	19.999650642	3.737484448	############	3.737484448	0.487126772
615	Toluene	µg	38.858033420	x	4.412031341	2.701513186	3.507002970	2.709606846	3.507035026	2.717700470	3.507035026	0.004046830
616	Toluene, 2-chloro-	pg	6.328510599	x	0.099220905	27.141387983	0.078867982	27.141387983	0.078868703	27.141387983	0.078868703	x
617	Toluene, 2-chloro-	pg	12.022663990	x	0.205683788	56.484737616	0.163492414	56.484737616	0.163493909	56.484737616	0.163493909	x
618	Transformation, from arable	mm2	0.005240597	x	0.000066431	0.005501757	0.000052804	0.005517871	0.000052804	0.005533985	0.000052804	0.000008057
619	Transformation, from arable, non	mm2	4.587573321	x	0.008097979	4.598826041	0.006436862	4.613369989	0.006436920	4.627913872	0.006436920	0.007271974
620	Transformation, from arable, non	mm2	0.001281780	x	0.000005576	0.001397747	0.000004432	0.001402882	0.000004433	0.001408017	0.000004433	0.000002568
621	Transformation, from dump site,	mm2	0.067021790	x	0.000261452	0.009278954	0.000207821	0.009279188	0.000207823	0.009279422	0.000207823	0.000000117
622	Transformation, from dump site,	mm2	0.011488356	x	0.000692885	0.088843798	0.000550756	0.097163890	0.000550761	0.105483944	0.000550761	0.004160046
623	Transformation, from dump site,	mm2	0.000143556	x	0.000017509	0.000205641	0.000013918	0.000207883	0.000013918	0.000210125	0.000013918	0.000001121
624	Transformation, from dump site,	mm2	0.000272852	x	0.000001604	0.000022257	0.000001275	0.000022308	0.000001275	0.000022359	0.000001275	0.000000026
625	Transformation, from forest	mm2	5.280450844	x	0.703825270	0.464266850	0.559451446	0.464267191	0.559456559	0.464267533	0.559456559	0.000000171
626	Transformation, from forest, exte	mm2	0.487209992	x	0.017623999	17.916499288	0.014008834	17.917181428	0.014008962	17.917863564	0.014008962	0.000341070
627	Transformation, from forest, inter	mm2	0.007972020	x	0.000325481	0.000418349	0.000258716	0.000418695	0.000258718	0.000419042	0.000258718	0.000000173
628	Transformation, from industrial ar	mm2	0.006010057	x	0.000391131	0.004911585	0.000310900	0.004989303	0.000310902	0.005067021	0.000310902	0.000038859
629	Transformation, from industrial ar	mm2	0.000005503	x	0.000000557	0.000006174	0.000000443	0.000006174	0.000000443	0.000006174	0.000000443	0.000000000
630	Transformation, from industrial ar	mm2	0.000020770	x	0.000002272	0.000002924	0.000001806	0.000002931	0.000001806	0.000002938	0.000001806	0.000000003
631	Transformation, from industrial ar	mm2	0.000035431	x	0.000003876	0.000004988	0.000003081	0.000005000	0.000003081	0.000005011	0.000003081	0.000000006
632	Transformation, from mineral extr	cm2	0.000799840	47.000000000	0.000015992	38.423684311	0.000012712	38.423684655	0.000012712	38.423684999	0.000012712	0.000000172
633	Transformation, from pasture and	cm2	0.001441549	47.000000000	0.000023309	38.424445639	0.000018527	38.424528983	0.000018528	38.424612326	0.000018528	0.000041672
634	Transformation, from pasture and	mm2	0.003743485	x	0.000006608	0.003753076	0.000005252	0.003764945	0.000005253	0.003776814	0.000005253	0.000005935
635	Transformation, from sea and oc	mm2	1.301688608	x	0.206968939	0.159880252	0.164513945	0.159880307	0.164515449	0.159880362	0.164515449	0.000000028
636	Transformation, from shrub land,	mm2	0.092101633	x	0.001348615	0.108899432	0.001071978	0.117231227	0.001071987	0.125562985	0.001071987	0.004165897
637	Transformation, from tropical rain	mm2	0.007972020	x	0.000325481	0.000418349	0.000258716	0.000418695	0.000258718	0.000419042	0.000258718	0.000000173
638	Transformation, from unknown	mm2	1.327627588	x	0.026216208	7.220799547	0.020838547	7.254832460	0.020838737	7.288865222	0.020838737	0.017016456
639	Transformation, to arable	mm2	0.031026113	x	0.002108922	0.043498749	0.001676324	0.043519316	0.001676340	0.043539884	0.001676340	0.000010284
640	Transformation, to arable, non-irr	mm2	4.591321598	x	0.008104596	4.602579029	0.006442121	4.617134846	0.006442180	4.631690597	0.006442180	0.007277908
641	Transformation, to arable, non-irr	mm2	0.001877311	x	0.000012833	0.001689774	0.000010201	0.001695315	0.000010201	0.001700855	0.000010201	0.000002770
642	Transformation, to dump site	mm2	0.034441331	x	0.001673831	1.378836973	0.001330483	1.387429903	0.001330495	1.396022796	0.001330495	0.004296465

No	Substance	Unit	Z0, Zigzag, transport of fuel, at plant, ZA	Z1, Zigzag, clay extraction, extracted clay, ZA	Z2, Zigzag, mining fuel, stockpiled clay, ZA	Z3, Zigzag, clay preparation, wet green brick, ZA rev1	Z4, Zigzag, wet green brick transport, wet green brick ready for drying, ZA	Z5, Zigzag, drying of wet green brick, dry green brick, ZA re1	Z6, Zigzag, dry green brick transport, at firing location, ZA	Z7, Zigzag, brick firing, fired brick, ZA rev1	Z8, Zigzag, fired brick transport, at sales bay, ZA	Z9, Zigzag, factory overheads, additional water and electricity, ZA
643	Transformation, to dump site, ber	mm2	1.300415402	x	0.206898195	0.159731110	0.164457713	0.159731154	0.164459217	0.159731198	0.164459217	0.000000022
644	Transformation, to dump site, ine	mm2	0.067021790	x	0.000261452	0.009278954	0.000207821	0.009279188	0.000207823	0.009279422	0.000207823	0.000000117
645	Transformation, to dump site, res	mm2	0.011488687	x	0.000692887	0.088844138	0.000550757	0.097164229	0.000550762	0.105484284	0.000550762	0.004160046
646	Transformation, to dump site, sar	mm2	0.000143556	x	0.000017509	0.000205641	0.000013918	0.000207883	0.000013918	0.000210125	0.000013918	0.000001121
647	Transformation, to dump site, sla	mm2	0.000272852	x	0.000001604	0.000022257	0.000001275	0.000022308	0.000001275	0.000022359	0.000001275	0.000000026
648	Transformation, to forest	mm2	0.117739809	x	0.001241528	0.109188506	0.000986857	0.117519014	0.000986866	0.125849485	0.000986866	0.004165254
649	Transformation, to forest, intensiv	mm2	0.048265131	x	0.000202742	0.091484715	0.000161154	0.091888971	0.000161156	0.092293225	0.000161156	0.000202128
650	Transformation, to forest, intensiv	mm2	0.007972020	x	0.000325481	0.000418349	0.000258716	0.000418695	0.000258718	0.000419042	0.000258718	0.000000173
651	Transformation, to forest, intensiv	mm2	0.428328925	x	0.017061389	17.649432146	0.013561632	17.649696632	0.013561756	17.649961117	0.013561756	0.000132243
652	Transformation, to forest, intensiv	mm2	0.007972020	x	0.000325481	0.000418349	0.000258716	0.000418695	0.000258718	0.000419042	0.000258718	0.000000173
653	Transformation, to heterogeneous	mm2	0.262232903	x	0.032710731	0.021646088	0.026000865	0.021646092	0.026001103	0.021646096	0.026001103	0.000000002
654	Transformation, to industrial area	mm2	0.068123225	x	0.003023306	3.811138036	0.002403144	3.811143499	0.002403166	3.811148962	0.002403166	0.000002731
655	Transformation, to industrial area	mm2	0.001273210	x	0.000070744	0.000149143	0.000056232	0.000149154	0.000056233	0.000149165	0.000056233	0.000000006
656	Transformation, to industrial area	mm2	0.065190719	x	0.003317082	0.022195707	0.002636657	0.022350062	0.002636682	0.022504418	0.002636682	0.000077178
657	Transformation, to industrial area	mm2	0.060817526	x	0.001659194	0.026052107	0.001318848	0.026052183	0.001318860	0.026052259	0.001318860	0.000000038
658	Transformation, to mineral extrac	cm2	0.055903954	47.000000000	0.006757319	38.444510827	0.005371208	38.444611300	0.005371257	38.444711772	0.005371257	0.000050236
659	Transformation, to pasture and m	cm2	0.000010928	23.500000000	0.000001099	19.211625019	0.000000874	19.211625020	0.000000874	19.211625021	0.000000874	0.000000000
660	Transformation, to permanent cro	mm2	0.004595025	x	0.000184305	0.000212255	0.000146499	0.000212358	0.000146500	0.000212461	0.000146500	0.000000051
661	Transformation, to sea and ocean	mm2	0.000005503	x	0.000000557	0.000006174	0.000000443	0.000006174	0.000000443	0.000006174	0.000000443	0.000000000
662	Transformation, to shrub land, sc	mm2	0.078926555	x	0.000973451	0.098350650	0.000773770	0.106673268	0.000773777	0.114995849	0.000773777	0.004161309
663	Transformation, to traffic area, ra	mm2	0.002285493	x	0.000077909	0.043239629	0.000061928	0.043239629	0.000061929	0.043239629	0.000061929	0.000000000
664	Transformation, to traffic area, ra	mm2	0.002512154	x	0.000085636	0.047527857	0.000068070	0.047527858	0.000068070	0.047527858	0.000068070	0.000000000
665	Transformation, to traffic area, ro	mm2	0.078091503	x	0.000185426	0.174538065	0.000147390	0.174547338	0.000147392	0.174556612	0.000147392	0.000004637
666	Transformation, to traffic area, ro	mm2	0.321417910	x	0.008847659	0.019701364	0.007032762	0.019701369	0.007032826	0.019701375	0.007032826	0.000000003
667	Transformation, to unknown	mm2	0.023545262	x	0.000490398	0.005752781	0.000389804	0.005830625	0.000389808	0.005908468	0.000389808	0.000038922
668	Transformation, to urban, discont	mm2	0.000047782	x	0.000001061	0.000088381	0.000000844	0.000088381	0.000000844	0.000088381	0.000000844	0.000000000
669	Transformation, to water bodies,	cm2	0.001306796	23.500000000	0.000018775	19.213546398	0.000014924	19.213699213	0.000014924	19.213852027	0.000014924	0.000076407
670	Transformation, to water courses	mm2	0.074744296	x	0.001870390	0.023547711	0.001486722	0.023565902	0.001486736	0.023584092	0.001486736	0.000009095
671	Tributyltin compounds	ng	############	x	35.089051373	49.638445841	27.891326662	49.713743755	27.891581606	49.789041336	27.891581606	0.037648957
672	Triethylene glycol	ng	############	x	10.172470359	############	8.085818300	############	8.085892210	############	8.085892210	0.148418864
673	Trimethylamine	pg	0.455594874	x	0.000749215	0.141021562	0.000595530	0.141021562	0.000595536	0.141021562	0.000595536	x
674	Trimethylamine	pg	1.093427698	x	0.001798115	0.338451750	0.001429272	0.338451750	0.001429285	0.338451750	0.001429285	x
675	Tungsten	ng	10.166279070	x	0.327941316	9.012185732	0.260671577	9.012185732	0.260673960	9.012185732	0.260673960	x
676	Tungsten	µg	6.511088146	x	0.086396181	18.047539091	0.068673960	18.541361835	0.068674588	19.035182392	0.068674588	0.246911372
677	Ulexite, in ground	ng	############	x	18.494680393	############	14.700915305	############	14.701049680	############	14.701049680	0.000026781
678	Uranium	µg	0.000963301	x	0.000068700	0.012962496	0.000054607	0.013041671	0.000054608	3.425646839	0.000054608	0.000039588
679	Uranium-234	µBq	87.307658898	x	2.875987288	############	2.286043589	############	2.286064485	############	2.286064485	1.489979811
680	Uranium-234	µBq	############	x	5.306350714	############	4.217872965	############	4.217911519	############	4.217911519	2.835459084
681	Uranium-235	µBq	4.194710822	x	0.135311943	5.164604776	0.107555761	5.309213185	0.107556744	5.453820954	0.107556744	0.072304204
682	Uranium-235	µBq	############	x	8.755478657	############	6.959490375	############	6.959553989	############	6.959553989	4.678507340
683	Uranium-238	mBq	0.113392007	x	0.004721070	0.213931138	0.003752650	0.218532523	0.003752684	19.181611631	0.003752684	0.002300693
684	Uranium-238	µBq	############	x	24.690964844	############	19.626172242	############	19.626351638	############	19.626351638	7.164008566
685	Uranium alpha	µBq	############	x	13.035574243	############	10.361621224	############	10.361715936	############	10.361715936	6.950893054
686	Uranium alpha	mBq	7.897453546	x	0.254759952	9.723307256	0.202501714	9.995532514	0.202503565	10.267756567	0.202503565	0.136112629
687	Uranium, in ground	µg	30.681495436	x	0.976703619	37.236488987	0.776354978	38.278528885	0.776362074	39.320564170	0.776362074	0.521019949
688	Urea	pg	5.365442953	x	0.028117780	75.953214852	0.022350054	75.953214852	0.022350258	75.953214852	0.022350258	x
689	Vanadium	µg	6.315416426	x	0.612836855	4.957963700	0.487127245	4.967674657	0.487131697	73.227905446	0.487131697	0.004855479
690	Vanadium	ng	1.346924391	x	0.081210631	2.189829096	0.064552108	2.190490819	0.064552698	2.191152540	0.064552698	0.000330862
691	Vanadium, ion	µg	34.272513194	x	1.531042499	############	1.216983783	############	1.216994907	############	1.216994907	7.252044446
692	Vermiculite, in ground	µg	0.257407728	x	0.004179706	2.884588654	0.003322334	2.884588666	0.003322364	2.884588678	0.003322364	0.000000006
693	VOC, volatile organic compounds	µg	############	x	12.182551393	7.937043420	9.683576705	7.971397463	9.683665219	8.005751354	9.683665219	0.017177022
694	Volume occupied, final repository	mm3	0.062227100	x	0.002012437	0.075051472	0.001599631	0.077030056	0.001599646	0.079008630	0.001599646	0.000989292
695	Volume occupied, final repository	mm3	0.014248114	x	0.000508493	0.019308214	0.000404187	0.019855746	0.000404191	0.020403276	0.000404191	0.000273766
696	Volume occupied, reservoir	cm3y	58.729073451	x	1.178610064	############	0.936844885	############	0.936853449	############	0.936853449	5.033228816
697	Volume occupied, underground d	mm3	0.173232756	x	0.008462181	0.105118046	0.006726356	0.105458474	0.006726417	0.105798902	0.006726417	0.000170214
698	Water	mg	0.260032808	x	0.009988288	34.500053132	0.007939417	34.654645866	0.007939490	34.809237917	0.007939490	0.077296367
699	Water, cooling, unspecified natur	cm3	65.563560838	x	4.398509250	69.102341734	3.496254629	70.295406752	3.496286588	71.488466488	3.496286588	0.596532509
700	Water, fresh	cm3	x	x	x	x	x	x	x	x	x	1.757482000
701	Water, lake	cm3	0.267863796	x	0.004401009	3.235026825	0.003498241	3.254837797	0.003498273	3.274648682	0.003498273	0.009905486
702	Water, process, drinking	g	x	x	x	76.228120000	x	76.228120000	x	76.228120000	x	x
703	Water, rain	cm3	x	x	x	x	x	x	x	x	x	############
704	Water, river	cm3	16.680535723	x	0.839490945	37.774615028	0.667288378	39.580891487	0.667294477	41.387159949	0.667294477	0.903138229
705	Water, salt, ocean	cm3	2.489536955	x	0.242873302	2.603701599	0.193053341	2.673403706	0.193055106	2.743105504	0.193055106	0.034851053
706	Water, salt, sole	cm3	3.646243609	x	0.432802489	0.358455384	0.344022854	0.359249447	0.344025999	0.360043506	0.344025999	0.000397031
707	Water, turbine use, unspecified n	dm3	21.688588229	x	0.627941757	23.043727440	0.499133718	23.601248695	0.499138280	24.158767482	0.499138280	0.278760628
708	Water, unspecified natural origin/	cm3	45.548116444	x	1.772784051	7.327039322	1.409137527	7.336360479	1.409150407	7.345681595	1.409150407	0.004660578
709	Water, well, in ground	cm3	5.195217161	x	0.204149217	############	0.162272626	############	0.162274109	############	0.162274109	0.103445101
710	Wood, hard, standing	mm3	14.989066628	x	0.720246229	############	0.572504017	############	0.572509250	############	0.572509250	0.005883003
711	Wood, primary forest, standing	mm3	0.082542291	x	0.003370028	0.004331587	0.002678743	0.004335173	0.002678767	0.004338758	0.002678767	0.000001793
712	Wood, soft, standing	mm3	35.047562388	x	1.497643922	48.911231132	1.190436168	48.965263306	1.190447049	49.019295241	1.190447049	0.027016087
713	Wood, unspecified, standing/m3	mm3	0.000807587	x	0.000018602	0.000076486	0.000014786	0.000076567	0.000014786	0.000076648	0.000014786	0.000000040
714	Xenon-131m	mBq	8.049540032	x	0.061066406	2.224922241	0.048540015	2.225477616	0.048540459	2.226032989	0.048540459	0.000277688
715	Xenon-133	mBq	############	x	1.935208488	73.877012133	1.538244267	73.895900544	1.538258327	73.914788872	1.538258327	0.009444206
716	Xenon-133m	µBq	############	x	8.484471091	############	6.744073877	############	6.744135523	############	6.744135523	0.025140829
717	Xenon-135	mBq	############	x	0.794022914	30.053678238	0.631147084	30.061329419	0.631152853	30.068980567	0.631152853	0.003825591
718	Xenon-135m	mBq	73.245101343	x	0.467276811	18.106921093	0.371425549	18.111584605	0.371428944	18.116248097	0.371428944	0.002331756
719	Xenon-137	mBq	2.244091648	x	0.008849609	0.422500981	0.007034312	0.422619739	0.007034376	0.422738496	0.007034376	0.000059379
720	Xenon-138	mBq	16.886073265	x	0.078739459	3.473107262	0.062587841	3.474054485	0.062588413	3.475001704	0.062588413	0.000473612
721	Xylene	µg	38.465107666	x	3.352096845	97.937568997	2.664490046	############	2.664514401	############	2.664514401	4.063804212
722	Xylene	µg	31.183623365	x	3.564402661	2.196224398	2.833246129	2.202776461	2.833272026	2.209328496	2.833272026	0.003276032
723	Zinc	µg	27.812058462	x	0.970609969	4.316223824	0.771511302	4.327253294	0.771518354	############	0.771518354	0.005514735
724	Zinc	µg	94.758203948	x	0.267436674	0.645401194	0.212578093	0.646178946	0.212580037	0.646956694	0.212580037	0.000388876
725	Zinc-65	nBq	17.917930934	x	0.058841710	3.087542720	0.046771665	3.088438791	0.046772092	3.089334858	0.046772092	0.000448036
726	Zinc-65	µBq	44.205995259	x	0.145170576	7.617391724	0.115392118	7.619602455	0.115393173	7.621813176	0.115393173	0.001105365
727	Zinc, 9.0% in sulfide, Zn 5.3%, P	mg	2.165712413	x	0.014184900	0.285495285	0.011275189	0.285929325	0.011275292	0.286363363	0.011275292	0.000217020
728	Zinc, ion	mg	1.085293994	x	0.019252342	10.930383015	0.015303160	10.930776715	0.015303300	10.931170414	0.015303300	0.000196850
729	Zirconium	ng	9.510295705	x	0.461726675	1.978637015	0.367013898	1.978701977	0.367017252	1.978766938	0.367017252	0.000032481
730	Zirconium-95	nBq	17.514097241	x	0.057515538	3.017955792	0.045717527	3.018831667	0.045717945	3.019707539	0.045717945	0.000437938
731	Zirconium-95	nBq	############	x	1.681115883	88.211527198	1.336273008	88.237128077	1.336285223	88.262728843	1.336285223	0.012800440
732	Zirconium, 50% in zircon, 0.39%	ng	############	x	0.782450781	12.493195607	0.621948713	12.493211592	0.621954398	12.493227577	0.621954398	0.000007993

Appendix 6: Summary of unit processes for transporting materials for 1m² clay brick walling from the gate to the building site

Building in components Unit Processes (per m² double clay brick wall)			
TRANSPORT			
Transport, lorry >32t, EURO3/RER U	7.15	tkm	per m2 walling
MORTAR			
Tap water, at user/RER U	9.6	kg	4,8 LITRES according to 1:0.3:1.6 ratio
Portland cement, strength class Z 42.5, at plant/CH U	8.8	kg	1,4 LITRES according to 1:0.3:1.6 ratio
Sand, at mine/CH U	41.4	kg	7.68 LITRES according to 1:0.3:1.6 ratio
PLASTER			
Portland cement, strength class Z 42.5, at plant/CH U	7	kg	
Sand, at mine/CH U	36.05	kg	
Tap water, at user/RER U	5.83	kg	
PAINT			
Alkyd paint, white, 60% in H2O, at plant/RER U	2.1	kg	Density 2100 kg/m3 (1litre/m2)
WALL TIES			
Steel, low-alloyed, at plant/RER U	0,023*2,5	kg	Butterfly wall ties (2.5 per m2)
INSULATION			
Polystyrene foam slab, 45% recycled, at plant/CH U	0.05	kg	desity 1 kg/m3 and there is 0.05m3

Appendix 7.1: Inventory of emitted substances for the transport to site unit process

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
1	1-Butanol	pg	59.85434829
2	1-Butanol	µg	1.638963504
3	1-Pentanol	pg	48.32799765
4	1-Pentanol	pg	115.9877662
5	1-Pentene	pg	36.52050694
6	1-Pentene	pg	87.64970233
7	1-Propanol	ng	3.727067643
8	1-Propanol	pg	506.3745235
9	1,4-Butanediol	ng	5.367384089
10	1,4-Butanediol	ng	2.146969168
11	2-Aminopropanol	pg	28.87920548
12	2-Aminopropanol	pg	72.6309105
13	2-Butene, 2-methyl-	pg	0.008100701
14	2-Methyl-1-propanol	pg	120.6618858
15	2-Methyl-1-propanol	pg	289.5838253
16	2-Methyl-2-butene	pg	0.019441973
17	2-Nitrobenzoic acid	pg	51.83529063
18	2-Propanol	µg	97.33607983
19	2-Propanol	pg	239.206176
20	2,4-D	ng	125.868694
21	4-Methyl-2-pentanone	pg	193.0779458
22	Acenaphthene	pg	119.2149802
23	Acenaphthene	ng	87.57793885
24	Acenaphthylene	ng	5.477141175
25	Acetaldehyde	µg	267.9535458
26	Acetaldehyde	µg	3.055709178
27	Acetic acid	µg	415.5898066
28	Acetic acid	µg	25.15524444
29	Acetone	µg	140.4978043
30	Acetone	ng	24.68125449
31	Acetonitrile	ng	373.9725709
32	Acetonitrile	pg	244.8253592
33	Acetyl chloride	pg	91.11634757
34	Acidity, unspecified	µg	12.77332504
35	Aclonifen	ng	446.574374
36	Acrolein	ng	101.3196839
37	Acrylate, ion	ng	595.9926127
38	Acrylic acid	ng	251.8188108
39	Actinides, radioactive, unspecified	µBq	36.44949995
40	Actinides, radioactive, unspecified	mBq	3.142926861
41	Aerosols, radioactive, unspecified	µBq	393.985499
42	Aldehydes, unspecified	µg	4.056132623
43	Aldrin	ng	6.475781634
44	Aluminium	mg	9.848387485
45	Aluminium	mg	158.0663669
46	Aluminium	mg	5.521886629
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	mg	552.796663
48	Ammonia	mg	11.36984313
49	Ammonium carbonate	ng	70.84845518
50	Ammonium, ion	mg	1.767592295
51	Anhydrite, in ground	µg	13.04981144
52	Aniline	pg	517.5457529
53	Aniline	ng	1.262909632
54	Anthranilic acid	pg	37.78542499

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
55	Antimony	µg	6.181721097
56	Antimony	µg	228.7301315
57	Antimony	pg	474.8174992
58	Antimony-122	µBq	10.56302283
59	Antimony-124	nBq	26.20041811
60	Antimony-124	µBq	869.9618554
61	Antimony-125	nBq	273.423378
62	Antimony-125	µBq	829.2991126
63	AOX, Adsorbable Organic Halogen as Cl	µg	14.18489065
64	Argon-41	mBq	149.0579284
65	Arsenic	µg	49.15972283
66	Arsenic	µg	2.23961432
67	Arsenic, ion	µg	771.216471
68	Arsine	pg	2.935281519
69	Atrazine	ng	1.698861717
70	Barite	mg	35.83165617
71	Barite, 15% in crude ore, in ground	mg	923.0595641
72	Barium	µg	15.54917978
73	Barium	mg	14.64216311
74	Barium	mg	2.734097703
75	Barium-140	µBq	17.78578389
76	Barium-140	µBq	46.27164852
77	Basalt, in ground	mg	65.63477949
78	Benomyl	pg	799.7363723
79	Bentazone	ng	227.9109182
80	Benzal chloride	pg	0.032533438
81	Benzaldehyde	ng	47.70517597
82	Benzene	mg	2.092544931
83	Benzene	mg	1.156077448
84	Benzene, 1-methyl-2-nitro-	pg	44.76263095
85	Benzene, 1,2-dichloro-	pg	980.3462968
86	Benzene, 1,2-dichloro-	ng	704.8240825
87	Benzene, chloro-	µg	14.50820945
88	Benzene, ethyl-	µg	349.1577422
89	Benzene, ethyl-	µg	337.9578874
90	Benzene, hexachloro-	ng	238.4894933
91	Benzene, pentachloro-	ng	3.503946424
92	Benzo(a)pyrene	µg	2.875023804
93	Beryllium	ng	254.226474
94	Beryllium	µg	122.6091586
95	BOD5, Biological Oxygen Demand	g	2.271087356
96	Borate	ng	11.72073669
97	Borax, in ground	µg	3.576275366
98	Boron	µg	410.8662884
99	Boron	mg	10.93145479
100	Boron	µg	62.90922272
101	Boron trifluoride	pg	0.04017081
102	Bromate	µg	71.41827253
103	Bromide	ng	806.7859444
104	Bromine	µg	45.91455726
105	Bromine	mg	10.14919735
106	Bromine, 0.0023% in water	ng	904.9230743
107	Butadiene	ng	2.935247694
108	Butane	mg	15.43432092
109	Butene	µg	348.2432278

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
110	Butene	ng	392.1931476
111	Butyl acetate	µg	2.130487
112	Butyrolactone	ng	1.505325239
113	Butyrolactone	ng	3.612846402
114	Cadmium	µg	23.51997147
115	Cadmium	µg	1.452721334
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	mg	2.363734708
117	Cadmium, ion	µg	283.4810552
118	Calcite, in ground	g	26.99348727
119	Calcium	µg	506.9905798
120	Calcium	mg	22.3916823
121	Calcium, ion	g	1.994118111
122	Carbetamide	ng	81.51551075
123	Carbofuran	ng	438.4459286
124	Carbon	mg	16.69473889
125	Carbon-14	Bq	2.40481085
126	Carbon dioxide, biogenic	g	2.213767797
127	Carbon dioxide, fossil	g	822.3625291
128	Carbon dioxide, in air	g	2.591846858
129	Carbon dioxide, land transformation	mg	8.702888015
130	Carbon disulfide	µg	957.8828302
131	Carbon disulfide	ng	3.777773622
132	Carbon monoxide, biogenic	µg	952.9102552
133	Carbon monoxide, fossil	g	2.078018668
134	Carbon, in organic matter, in soil	µg	553.8140003
135	Carbonate	µg	274.854395
136	Carboxylic acids, unspecified	mg	58.08600204
137	Cerium-141	µBq	4.31167636
138	Cerium-141	µBq	18.50016144
139	Cerium-144	µBq	5.632054201
140	Cesium	µg	14.08005445
141	Cesium-134	nBq	206.5015722
142	Cesium-134	µBq	433.263766
143	Cesium-136	µBq	3.283417489
144	Cesium-137	µBq	3.660601536
145	Cesium-137	mBq	366.344505
146	Chloramine	pg	229.4551413
147	Chloramine	ng	2.079055714
148	Chlorate	µg	559.5448283
149	Chloride	g	7.755724989
150	Chloride	g	1.15434113
151	Chlorinated solvents, unspecified	ng	452.6731461
152	Chlorine	µg	343.869864
153	Chlorine	µg	6.34286395
154	Chloroacetic acid	ng	56.93582804
155	Chloroacetic acid	µg	5.035209806
156	Chloroacetyl chloride	pg	96.86575656
157	Chloroform	ng	254.5640507
158	Chloroform	ng	33.39879027
159	Chlorosilane, trimethyl-	ng	36.94871424
160	Chlorosulfonic acid	pg	357.0049945
161	Chlorosulfonic acid	pg	890.2808609
162	Chlorothalonil	ng	839.727127
163	Chromium	µg	213.8135549

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
164	Chromium	µg	34.30643758
165	Chromium-51	nBq	276.2914556
166	Chromium-51	mBq	3.555333086
167	Chromium VI	µg	4.73170894
168	Chromium VI	mg	4.725410175
169	Chromium VI	µg	46.23567597
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	mg	51.33954591
171	Chromium, ion	µg	61.83033992
172	Chrysotile, in ground	µg	14.06548426
173	Cinnabar, in ground	µg	1.247028191
174	Clay, bentonite, in ground	mg	400.1448055
175	Clay, unspecified, in ground	g	7.892040416
176	Coal, brown, in ground	g	15.50031679
177	Coal, hard, unspecified, in ground	g	31.51098681
178	Cobalt	µg	15.69466589
179	Cobalt	mg	2.068960726
180	Cobalt	ng	37.64827843
181	Cobalt-57	µBq	104.2280569
182	Cobalt-58	nBq	384.7472709
183	Cobalt-58	mBq	16.27413576
184	Cobalt-60	µBq	3.398884161
185	Cobalt-60	mBq	14.2580316
186	Cobalt, in ground	µg	5.821494564
187	COD, Chemical Oxygen Demand	g	2.425353047
188	Colemanite, in ground	mg	1.266452689
189	Copper	mg	1.574948223
190	Copper	µg	119.3738867
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	8.941977341
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	mg	48.76603701
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	12.9358881
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	mg	65.36524166
195	Copper, ion	mg	3.281179516
196	Cumene	µg	96.67835139
197	Cumene	µg	232.316405
198	Cyanide	µg	10.33576415
199	Cyanide	µg	174.9787017
200	Cyanoacetic acid	pg	292.3736186
201	Cypermethrin	ng	63.70493796
202	Diatomite, in ground	ng	467.4495324
203	Dichromate	µg	1.206601835
204	Diethylamine	pg	245.6913892
205	Diethylamine	pg	589.6667128
206	Dimethyl malonate	pg	366.6357891
207	Dimethylamine	ng	2.53425108
208	Dinitrogen monoxide	mg	23.53178026
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	pg	256.8817802
210	Dipropylamine	pg	139.7776741
211	Dipropylamine	pg	335.4696857
212	DOC, Dissolved Organic Carbon	mg	770.4867237
213	Dolomite, in ground	mg	55.10994101

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
214	Energy, gross calorific value, in biomass	kJ	25.90583859
215	Energy, gross calorific value, in biomass, primary forest	J	38.39551421
216	Energy, kinetic (in wind), converted	kJ	6.17637777
217	Energy, potential (in hydropower reservoir), converted	kJ	132.83362
218	Energy, solar, converted	J	145.8142821
219	Ethane	mg	6.244501445
220	Ethane, 1,1-difluoro-, HFC-152a	ng	52.34157323
221	Ethane, 1,1,1-trichloro-, HCFC-140	pg	352.0831764
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	mg	1.435395268
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	11.95122409
224	Ethane, 1,2-dichloro-	µg	6.892936309
225	Ethane, 1,2-dichloro-	ng	274.4146341
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	1.109101197
227	Ethane, hexafluoro-, HFC-116	µg	13.9419226
228	Ethanol	µg	34.29758038
229	Ethanol	µg	3.834597056
230	Ethene	mg	1.273737159
231	Ethene	µg	83.84127918
232	Ethene, chloro-	µg	2.398563824
233	Ethene, chloro-	ng	21.07240391
234	Ethene, tetrachloro-	pg	841.7701346
235	Ethyl acetate	µg	451.6310444
236	Ethyl acetate	pg	838.9191571
237	Ethyl cellulose	ng	914.2131454
238	Ethylamine	pg	121.9187813
239	Ethylamine	pg	292.6071363
240	Ethylene diamine	ng	3.06840228
241	Ethylene diamine	ng	7.423474383
242	Ethylene oxide	µg	1.414164803
243	Ethylene oxide	ng	295.1915434
244	Ethyne	µg	22.35189358
245	Feldspar, in ground	ng	36.63020864
246	Fenpiclonil	ng	48.45003744
247	Fluoride	mg	65.37612342
248	Fluoride	µg	304.6680025
249	Fluorine	µg	70.42269813
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	µg	681.1927844
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	µg	335.84592
252	Fluorspar, 92%, in ground	mg	19.08443604
253	Fluosilicic acid	µg	15.33023428
254	Fluosilicic acid	µg	27.59442174
255	Formaldehyde	µg	652.5874417
256	Formaldehyde	µg	14.25266105
257	Formamide	pg	88.38770185
258	Formamide	pg	212.135332
259	Formate	ng	71.23361757
260	Formic acid	µg	3.067050136
261	Formic acid	pg	61.5796477
262	Furan	ng	710.2452741
263	Gallium, 0.014% in bauxite, in ground	pg	404.047325
264	Gas, mine, off-gas, process, coal mining/m3	cm3	307.5998717
265	Gas, natural, in ground	dm3	28.03981052
266	Glutaraldehyde	µg	4.423661242
267	Glyphosate	µg	31.03392669

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	ng	895.5034895
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	1.642159225
270	Gold, Au 1.4E-4%, in ore, in ground	µg	1.966216713
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	3.00318855
272	Gold, Au 4.3E-4%, in ore, in ground	ng	744.3117871
273	Gold, Au 4.9E-5%, in ore, in ground	µg	1.782721768
274	Gold, Au 6.7E-4%, in ore, in ground	µg	2.759942875
275	Gold, Au 7.1E-4%, in ore, in ground	µg	3.112121584
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	ng	186.4848794
277	Granite, in ground	pg	752.7248317
278	Gravel, in ground	kg	1.08221379
279	Gypsum, in ground	µg	30.31981232
280	Heat, waste	MJ	12.34067828
281	Heat, waste	kJ	233.7264878
282	Heat, waste	kJ	6.127201386
283	Helium	mg	1.433726536
284	Heptane	mg	3.480818376
285	Hexane	mg	7.583752364
286	Hydrocarbons, aliphatic, alkanes, cyclic	µg	1.581019026
287	Hydrocarbons, aliphatic, alkanes, unspecified	mg	4.544904017
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	1.830407079
289	Hydrocarbons, aliphatic, unsaturated	µg	124.0990634
290	Hydrocarbons, aliphatic, unsaturated	µg	168.9614528
291	Hydrocarbons, aromatic	mg	1.240964756
292	Hydrocarbons, aromatic	mg	7.495351763
293	Hydrocarbons, chlorinated	µg	9.336546278
294	Hydrocarbons, unspecified	µg	829.980385
295	Hydrogen	µg	809.9108204
296	Hydrogen-3, Tritium	Bq	10.48573084
297	Hydrogen-3, Tritium	Bq	832.927845
298	Hydrogen chloride	mg	6.245601829
299	Hydrogen fluoride	mg	1.208260588
300	Hydrogen peroxide	ng	677.1915162
301	Hydrogen peroxide	µg	5.74204929
302	Hydrogen sulfide	µg	906.3582382
303	Hydrogen sulfide	µg	94.15809037
304	Hydroxide	µg	18.74846201
305	Hypochlorite	µg	28.07451562
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	39.41478418
307	Iodide	mg	1.41099732
308	Iodine	µg	23.90484608
309	Iodine-129	mBq	1.934969187
310	Iodine-131	mBq	55.77076783
311	Iodine-131	µBq	201.1558123
312	Iodine-133	µBq	24.96369554
313	Iodine-133	µBq	29.04831271
314	Iodine-135	µBq	8.019440753
315	Iodine, 0.03% in water	ng	227.3833154
316	Iron	mg	1.475237297
317	Iron	mg	17.07583147
318	Iron-59	µBq	7.986002165
319	Iron, 46% in ore, 25% in crude ore, in ground	g	27.86701463
320	Iron, ion	mg	242.1738391

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
321	Isocyanic acid	µg	1.002999438
322	Isoprene	ng	32.95822995
323	Isopropylamine	pg	43.20353022
324	Isopropylamine	pg	103.6891
325	Kaolinite, 24% in crude ore, in ground	mg	6.745552152
326	Kieserite, 25% in crude ore, in ground	µg	118.6804354
327	Krypton-85	mBq	478.6789794
328	Krypton-85m	mBq	262.8687884
329	Krypton-87	mBq	62.10171594
330	Krypton-88	mBq	79.30040831
331	Krypton-89	mBq	32.37294498
332	Lactic acid	pg	109.4942857
333	Lactic acid	pg	262.7874924
334	Lanthanum-140	µBq	1.520081019
335	Lanthanum-140	µBq	49.28312975
336	Lead	µg	351.5478237
337	Lead	µg	578.660361
338	Lead	µg	54.62486971
339	Lead-210	mBq	7.929586923
340	Lead-210	mBq	10.91947459
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	90.43775241
342	Linuron	µg	3.441906434
343	Lithium, 0.15% in brine, in ground	ng	2.557085576
344	Lithium, ion	µg	49.50748958
345	m-Xylene	µg	1.450840765
346	m-Xylene	ng	1.612336428
347	Magnesite, 60% in crude ore, in ground	mg	351.4973634
348	Magnesium	µg	217.0702056
349	Magnesium	mg	833.2930971
350	Magnesium	mg	4.431927411
351	Magnesium, 0.13% in water	µg	3.367254696
352	Mancozeb	µg	1.09063252
353	Manganese	µg	67.96173598
354	Manganese	mg	68.02049352
355	Manganese	µg	250.1125782
356	Manganese-54	nBq	141.4918182
357	Manganese-54	µBq	984.6797868
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	mg	21.45027204
359	Mercury	µg	34.56839556
360	Mercury	µg	21.46446979
361	Mercury	ng	5.026196105
362	Metaldehyde	ng	15.56387606
363	Metamorphous rock, graphite containing, in ground	µg	814.1458171
364	Methane, biogenic	mg	3.191579089
365	Methane, bromo-, Halon 1001	pg	0.007441961
366	Methane, bromochlorodifluoro-, Halon 1211	ng	442.8190124
367	Methane, bromotrifluoro-, Halon 1301	µg	11.35643208
368	Methane, chlorodifluoro-, HCFC-22	µg	2.183458072
369	Methane, dichloro-, HCC-30	ng	14.65197898
370	Methane, dichloro-, HCC-30	µg	138.4275194
371	Methane, dichlorodifluoro-, CFC-12	ng	32.74737945
372	Methane, dichlorofluoro-, HCFC-21	pg	78.6277576
373	Methane, fossil	g	1.177171322

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
374	Methane, monochloro-, R-40	ng	9.932478117
375	Methane, tetrachloro-, CFC-10	ng	494.5745075
376	Methane, tetrafluoro-, CFC-14	µg	118.0565272
377	Methane, trichlorofluoro-, CFC-11	pg	127.6479628
378	Methane, trifluoro-, HFC-23	ng	25.01792281
379	Methanesulfonic acid	pg	295.4520394
380	Methanol	µg	261.8111588
381	Methanol	µg	20.03339839
382	Methyl acetate	pg	12.00310961
383	Methyl acetate	pg	28.80693883
384	Methyl acrylate	ng	285.7116145
385	Methyl acrylate	µg	5.581460099
386	Methyl amine	pg	678.5702984
387	Methyl amine	ng	1.628547579
388	Methyl borate	pg	20.14900324
389	Methyl ethyl ketone	µg	451.6300716
390	Methyl formate	ng	1.131519678
391	Methyl formate	pg	451.750661
392	Methyl lactate	pg	120.205454
393	Metolachlor	µg	24.9019958
394	Metribuzin	ng	38.40186955
395	Molybdenum	µg	6.419854834
396	Molybdenum	µg	512.6116243
397	Molybdenum	ng	11.60546368
398	Molybdenum-99	µBq	16.99176516
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	1.214728265
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	µg	169.9139051
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	µg	240.7601223
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	µg	622.6169693
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	µg	479.9189108
404	Monoethanolamine	µg	12.43006715
405	Napropamide	ng	27.5360311
406	Nickel	µg	270.5923831
407	Nickel	µg	17.88135439
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	µg	158.5168199
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	mg	279.6118539
410	Nickel, ion	mg	8.178918071
411	Niobium-95	nBq	16.79631101
412	Niobium-95	µBq	82.4406978
413	Nitrate	µg	12.63386772
414	Nitrate	mg	62.70069875
415	Nitrite	µg	31.18187232
416	Nitrobenzene	pg	736.9649247
417	Nitrobenzene	ng	2.953380037
418	Nitrogen	µg	845.4112682
419	Nitrogen oxides	g	6.177126762
420	Nitrogen, organic bound	mg	1.281382513

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	1.028685144
422	Noble gases, radioactive, unspecified	kBq	18.59261851
423	o-Xylene	ng	1.016199714
424	Occupation, arable, non-irrigated	mm2a	115.1382364
425	Occupation, construction site	mm2a	32.62758342
426	Occupation, dump site	mm2a	271.6713202
427	Occupation, dump site, benthos	mm2a	57.50759635
428	Occupation, forest, intensive	mm2a	272.7986898
429	Occupation, forest, intensive, normal	cm2a	29.00090466
430	Occupation, forest, intensive, short-cycle	mm2a	9.631333049
431	Occupation, industrial area	mm2a	619.3182986
432	Occupation, industrial area, benthos	mm2a	0.516463053
433	Occupation, industrial area, built up	mm2a	139.6544676
434	Occupation, industrial area, vegetation	mm2a	153.091521
435	Occupation, mineral extraction site	mm2a	445.0930025
436	Occupation, permanent crop, fruit, intensive	mm2a	14.02346424
437	Occupation, shrub land, sclerophyllous	mm2a	23.8255957
438	Occupation, traffic area, rail embankment	mm2a	46.20281734
439	Occupation, traffic area, rail network	mm2a	51.08965692
440	Occupation, traffic area, road embankment	cm2a	10.32905731
441	Occupation, traffic area, road network	cm2a	52.11523359
442	Occupation, urban, discontinuously built	mm2a	0.108765989
443	Occupation, water bodies, artificial	mm2a	222.3743138
444	Occupation, water courses, artificial	mm2a	345.9522252
445	Oil, crude, in ground	g	259.4281612
446	Oils, biogenic	µg	62.45030528
447	Oils, unspecified	mg	690.565979
448	Oils, unspecified	mg	688.7741023
449	Olivine, in ground	µg	5.805528702
450	Orbencarb	ng	207.3739114
451	Ozone	µg	634.4621459
452	PAH, polycyclic aromatic hydrocarbons	µg	96.33096846
453	PAH, polycyclic aromatic hydrocarbons	µg	78.98822705
454	Particulates, < 2.5 um	mg	231.3622893
455	Particulates, > 10 um	mg	234.1726866
456	Particulates, > 2.5 um, and < 10um	mg	145.5187135
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	389.6105101
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	936.3040022
459	Peat, in ground	mg	6.954136119
460	Pentane	mg	19.48422378
461	Phenol	µg	19.76344435
462	Phenol	mg	1.30518195
463	Phenol, 2,4-dichloro-	pg	87.34096093
464	Phenol, pentachloro-	ng	298.4459334
465	Phosphate	mg	236.6058089
466	Phosphine	pg	217.6686764
467	Phosphorus	µg	7.827064215
468	Phosphorus	µg	124.8744165
469	Phosphorus	µg	288.4392517
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	mg	1.438456742

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	2.724771137
472	Pirimicarb	ng	21.55888522
473	Platinum	pg	29.93259693
474	Plutonium-238	nBq	0.263961118
475	Plutonium-alpha	nBq	0.605097307
476	Polonium-210	mBq	13.70073813
477	Polonium-210	mBq	15.15207489
478	Polychlorinated biphenyls	ng	420.7234251
479	Potassium	µg	500.7375343
480	Potassium	mg	1.997424566
481	Potassium-40	mBq	1.563718491
482	Potassium-40	mBq	4.534767604
483	Potassium, ion	mg	514.4930183
484	Propanal	ng	49.76830522
485	Propanal	pg	167.9105154
486	Propane	mg	15.73472061
487	Propene	µg	864.0069072
488	Propene	µg	286.4827479
489	Propionic acid	µg	4.566717358
490	Propionic acid	pg	377.7332591
491	Propylamine	pg	27.99069133
492	Propylamine	pg	67.17748182
493	Propylene oxide	µg	106.3568125
494	Propylene oxide	µg	255.912971
495	Protactinium-234	µBq	315.69956
496	Protactinium-234	mBq	5.805457624
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	6.816699363
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	24.43729329
499	Radioactive species, alpha emitters	µBq	24.57946011
500	Radioactive species, Nuclides, unspecified	Bq	1.891047199
501	Radioactive species, other beta emitters	mBq	749.7597671
502	Radium-224	mBq	704.002723
503	Radium-226	mBq	12.15521953
504	Radium-226	Bq	4.74829951
505	Radium-228	mBq	1.287293588
506	Radium-228	Bq	1.408091241
507	Radon-220	mBq	64.15613595
508	Radon-222	kBq	41.61622995
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	4.939163519
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	15.47001466
511	Rhenium, in crude ore, in ground	ng	9.002241836
512	Rubidium	µg	140.8005445
513	Ruthenium-103	nBq	3.690259578
514	Ruthenium-103	µBq	3.585415415
515	Sand, unspecified, in ground	µg	526.6310371
516	Scandium	µg	3.8642503
517	Scandium	µg	214.1432873
518	Selenium	µg	14.15472537
519	Selenium	µg	345.1423871
520	Shale, in ground	µg	36.94515602

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
521	Silicon	µg	793.4700662
522	Silicon	g	1.980278283
523	Silicon	µg	712.501578
524	Silicon tetrafluoride	ng	20.32740966
525	Silver	ng	167.5535573
526	Silver-110	nBq	36.573298
527	Silver-110	mBq	13.79384424
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	19.80050934
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	14.1220498
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	1.30384471
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	2.977830979
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	2.918773358
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	1.925965293
534	Silver, ion	µg	28.55656751
535	Sodium	µg	307.8593383
536	Sodium	mg	12.95707337
537	Sodium-24	µBq	128.5642247
538	Sodium chlorate	ng	231.5180221
539	Sodium chloride, in ground	g	2.552048793
540	Sodium dichromate	ng	332.7394418
541	Sodium formate	ng	12.14989842
542	Sodium formate	ng	29.18938553
543	Sodium hydroxide	µg	2.525650375
544	Sodium nitrate, in ground	ng	1.872606687
545	Sodium sulphate, various forms, in ground	mg	4.809716398
546	Sodium, ion	g	5.740968644
547	Solids, inorganic	mg	66.58314022
548	Solved solids	mg	13.24492831
549	Stibnite, in ground	ng	48.57808869
550	Strontium	µg	13.79190969
551	Strontium	mg	46.97951404
552	Strontium	µg	55.31159329
553	Strontium-89	µBq	303.7524629
554	Strontium-90	Bq	1.541826216
555	Styrene	µg	1.262479836
556	Sulfate	mg	2.994431428
557	Sulfate	g	5.776477895
558	Sulfide	µg	18.98411878
559	Sulfite	µg	76.45114871
560	Sulfur	mg	1.831100856
561	Sulfur	mg	3.314162773
562	Sulfur dioxide	mg	907.8358314
563	Sulfur hexafluoride	µg	7.183543361
564	Sulfur trioxide	ng	6.157696036
565	Sulfur, in ground	µg	415.8697079
566	Sulfuric acid	ng	528.6383128
567	Sulfuric acid	pg	326.5030121
568	Suspended solids, unspecified	mg	154.8919184
569	Sylvite, 25 % in sylvinite, in ground	mg	2.165219623
570	t-Butyl methyl ether	ng	613.9652044
571	t-Butyl methyl ether	µg	20.80225861
572	t-Butylamine	pg	231.1123334

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
573	t-Butylamine	pg	554.6778843
574	Talc, in ground	µg	118.3740543
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	15.62184408
576	Tebutam	ng	65.24761137
577	Technetium-99m	µBq	390.5605218
578	Teflubenzuron	ng	2.560124645
579	Tellurium-123m	µBq	61.85120917
580	Tellurium-132	nBq	983.8567701
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	2.118342784
582	Terpenes	ng	311.6438091
583	Thallium	ng	220.7206259
584	Thallium	µg	26.44475504
585	Thiram	ng	1.418827522
586	Thorium	ng	62.10592608
587	Thorium-228	µBq	348.6699058
588	Thorium-228	Bq	2.816109846
589	Thorium-230	mBq	1.202682221
590	Thorium-230	mBq	792.0980537
591	Thorium-232	µBq	487.0665741
592	Thorium-232	µBq	663.5864244
593	Thorium-234	µBq	315.7652078
594	Thorium-234	mBq	5.806159509
595	Tin	µg	9.018820662
596	Tin	ng	26.17455906
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	µg	791.3505931
598	Tin, ion	µg	251.6432775
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	mg	67.11147412
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	1.292596482
601	Titanium	µg	96.9952625
602	Titanium	µg	2.118957579
603	Titanium, ion	mg	17.50138429
604	TOC, Total Organic Carbon	mg	773.1224493
605	Toluene	mg	2.383021567
606	Toluene	mg	1.757720488
607	Toluene, 2-chloro-	pg	277.3694525
608	Toluene, 2-chloro-	pg	523.4476146
609	Transformation, from arable	mm2	0.263543319
610	Transformation, from arable, non-irrigated	mm2	212.7436924
611	Transformation, from arable, non-irrigated, fallow	mm2	0.067076712
612	Transformation, from dump site, inert material landfill	mm2	4.13551675
613	Transformation, from dump site, residual material landfill	mm2	0.60772624
614	Transformation, from dump site, sanitary landfill	mm2	0.006510042
615	Transformation, from dump site, slag compartment	mm2	0.014393698
616	Transformation, from forest	mm2	236.4855591
617	Transformation, from forest, extensive	mm2	23.90449981
618	Transformation, from forest, intensive, clear-cutting	mm2	0.343977714
619	Transformation, from industrial area	mm2	0.263488169
620	Transformation, from industrial area, benthos	mm2	0.000253909
621	Transformation, from industrial area, built up	mm2	0.000959905
622	Transformation, from industrial area, vegetation	mm2	0.001637486
623	Transformation, from mineral extraction site	mm2	4.455613634
624	Transformation, from pasture and meadow	mm2	8.414208703

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
625	Transformation, from pasture and meadow, intensive	mm2	0.173597366
626	Transformation, from sea and ocean	mm2	57.5713384
627	Transformation, from shrub land, sclerophyllous	mm2	5.344614786
628	Transformation, from tropical rain forest	mm2	0.343977714
629	Transformation, from unknown	mm2	68.58274253
630	Transformation, to arable	mm2	1.487344641
631	Transformation, to arable, non-irrigated	mm2	212.9175439
632	Transformation, to arable, non-irrigated, fallow	mm2	0.101332565
633	Transformation, to dump site	mm2	1.731275669
634	Transformation, to dump site, benthos	mm2	57.50759635
635	Transformation, to dump site, inert material landfill	mm2	4.13551675
636	Transformation, to dump site, residual material landfill	mm2	0.607743507
637	Transformation, to dump site, sanitary landfill	mm2	0.006510042
638	Transformation, to dump site, slag compartment	mm2	0.014393698
639	Transformation, to forest	mm2	7.131746833
640	Transformation, to forest, intensive	mm2	1.818108395
641	Transformation, to forest, intensive, clear-cutting	mm2	0.343977714
642	Transformation, to forest, intensive, normal	mm2	21.59361649
643	Transformation, to forest, intensive, short-cycle	mm2	0.343977714
644	Transformation, to heterogeneous, agricultural	mm2	11.90459886
645	Transformation, to industrial area	mm2	2.788666883
646	Transformation, to industrial area, benthos	mm2	0.063742242
647	Transformation, to industrial area, built up	mm2	3.083272541
648	Transformation, to industrial area, vegetation	mm2	3.304506236
649	Transformation, to mineral extraction site	mm2	259.303532
650	Transformation, to pasture and meadow	mm2	0.05049535
651	Transformation, to permanent crop, fruit, intensive	mm2	0.197410199
652	Transformation, to sea and ocean	mm2	0.000253909
653	Transformation, to shrub land, sclerophyllous	mm2	4.764146746
654	Transformation, to traffic area, rail embankment	mm2	0.107510404
655	Transformation, to traffic area, rail network	mm2	0.118172602
656	Transformation, to traffic area, road embankment	mm2	2.721285167
657	Transformation, to traffic area, road network	mm2	13.49538911
658	Transformation, to unknown	mm2	1.204569718
659	Transformation, to urban, discontinuously built	mm2	0.002166548
660	Transformation, to water bodies, artificial	mm2	7.702243115
661	Transformation, to water courses, artificial	mm2	3.294872779
662	Tributyltin compounds	µg	14.72072777
663	Triethylene glycol	µg	4.645198218
664	Trimethylamine	pg	21.25894472
665	Trimethylamine	pg	51.02146739
666	Tungsten	ng	430.5443521
667	Tungsten	µg	331.8716419
668	Ulexite, in ground	µg	19.21894453
669	Uranium	ng	49.85927327
670	Uranium-234	mBq	3.70087388
671	Uranium-234	mBq	6.966549276
672	Uranium-235	µBq	177.6470076
673	Uranium-235	mBq	11.49480629
674	Uranium-238	mBq	4.924107881
675	Uranium-238	mBq	23.06066486
676	Uranium alpha	mBq	17.10902228
677	Uranium alpha	mBq	334.459424
678	Uranium, in ground	mg	1.306108271

No	Substance	Unit	Transport, lorry >32t, EURO3/RER U
679	Urea	pg	219.9145998
680	Vanadium	µg	290.2560749
681	Vanadium	ng	60.65126201
682	Vanadium, ion	mg	1.758530162
683	Vermiculite, in ground	µg	11.98305474
684	VOC, volatile organic compounds, unspecified origin	mg	4.9420458
685	Volume occupied, final repository for low-active radioactive waste	mm3	2.635488146
686	Volume occupied, final repository for radioactive waste	mm3	0.608255487
687	Volume occupied, reservoir	l*day	890.3752125
688	Volume occupied, underground deposit	mm3	8.689046918
689	Water	mg	13.2317312
690	Water, cooling, unspecified natural origin/m3	cu.in	192.0622488
691	Water, lake	cm3	12.43023284
692	Water, river	cm3	730.9101918
693	Water, salt, ocean	cm3	109.9545073
694	Water, salt, sole	cm3	164.5096719
695	Water, turbine use, unspecified natural origin	dm3	955.2786928
696	Water, unspecified natural origin/m3	cu.in	154.2596484
697	Water, well, in ground	cm3	214.8673062
698	Wood, hard, standing	mm3	689.6083477
699	Wood, primary forest, standing	mm3	3.561545264
700	Wood, soft, standing	cm3	1.653867454
701	Wood, unspecified, standing/m3	mm3	0.044355003
702	Xenon-131m	mBq	320.6511225
703	Xenon-133	Bq	11.58061395
704	Xenon-133m	mBq	14.94313849
705	Xenon-135	Bq	4.642746077
706	Xenon-135m	Bq	2.909382454
707	Xenon-137	mBq	88.62366313
708	Xenon-138	mBq	668.0077498
709	Xylene	mg	1.760073914
710	Xylene	mg	1.410450055
711	Zinc	mg	1.18375751
712	Zinc	mg	3.804178865
713	Zinc-65	nBq	706.5030639
714	Zinc-65	mBq	1.743040042
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	mg	126.5293492
716	Zinc, ion	mg	54.722907
717	Zirconium	ng	491.62656
718	Zirconium-95	nBq	690.5799228
719	Zirconium-95	µBq	20.18489133
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	21.45209886

Appendix 7.2: Inventory of emitted substances for 1m² of a 220mm double brick wall with face brick externally

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
1	1-Butanol	ng	331.897738	0.019658164	0.016044979	331.8620353
2	1-Butanol	µg	18.778302	0.107974515	0.086421295	18.58390621
3	1-Pentanol	ng	166.037976	0.125399952	0.100077221	165.8124989
4	1-Pentanol	ng	398.496706	0.300959993	0.240185418	397.9555607
5	1-Pentene	ng	125.471404	0.094762324	0.075626425	125.3010156
6	1-Pentene	ng	301.137728	0.227429046	0.181502996	300.7287959
7	1-Propanol	µg	16.4595408	0.015983124	0.012839401	16.43071825
8	1-Propanol	µg	3.96606834	0.000469154	0.00037462	3.965224563
9	1,4-Butanediol	µg	1.03004616	0.000462723	0.000372499	1.029210942
10	1,4-Butanediol	ng	412.021455	0.185090421	0.149000778	411.6873641
11	2-Aminopropanol	ng	279.486898	0.006253879	0.005008263	279.4756356
12	2-Aminopropanol	µg	703.263395	0.015634014	0.012520315	703.2352408
13	2-Butene, 2-methyl-	pg	27.8311908	0.021020135	0.016774748	27.79339591
14	2-Methyl-1-propanol	µg	569.628941	0.231795553	0.185293811	569.2118521
15	2-Methyl-1-propanol	µg	1.36708744	0.000556299	0.000444697	1.366086444
16	2-Methyl-2-butene	pg	66.7958548	0.050449076	0.040259997	66.70514574
17	2-Nitrobenzoic acid	µg	504.77183	0.009813608	0.007863672	504.7541531
18	2-Propanol	mg	1.06195067	0.006113746	0.004892336	1.050944586
19	2-Propanol	µg	1.98257866	0.000158733	0.000128642	1.982291285
20	2,4-D	µg	723.427466	157.4780759	130.0141251	435.9352645
21	4-Methyl-2-pentanone	ng	1.30053126	0.191165378	0.160630058	0.948735825
22	Acenaphthene	ng	4.33296476	0.495409375	0.397565869	3.439989514
23	Acenaphthene	ng	381.785811	99.08437709	79.434555	203.2668787
24	Acenaphthylene	ng	23.8767763	6.196756054	4.96785239	12.71216789
25	Acetaldehyde	mg	1.94076728	0.66982581	0.535615976	0.735325492
26	Acetaldehyde	µg	206.46912	0.228015656	0.182526534	206.0585774
27	Acetic acid	mg	27.9363993	0.582834244	0.473466365	26.88009872
28	Acetic acid	mg	4.29178792	0.022331073	0.018568198	4.250888652
29	Acetone	mg	2.03433156	0.091841658	0.073962495	1.868527406
30	Acetone	µg	236.043953	0.005377745	0.00432499	236.0342507
31	Acetonitrile	µg	2.14294165	0.46937568	0.387519251	1.28604672
32	Acetonitrile	µg	2.3922928	4.66959E-05	3.74088E-05	2.392208691
33	Acetyl chloride	ng	313.046234	0.236424823	0.188682205	312.6211272
34	Acidity, unspecified	µg	383.156922	11.79745348	9.723859794	361.635609
35	Aclonifen	mg	4.36981344	8.40121E-05	6.73063E-05	4.369662124
36	Acrolein	µg	7.07852056	1.665006977	1.417976988	3.995536594
37	Acrylate, ion	µg	6.50033621	0.037574169	0.030068049	6.432693991
38	Acrylic acid	µg	2.74654222	0.015875839	0.012704353	2.717962029
39	Actinides, radioactive, unspecified	mBq	936.702864	277.9050724	223.7337648	435.0640264
40	Actinides, radioactive, unspecified	mBq	108.33656	27.04518188	21.73715719	59.5542207
41	Aerosols, radioactive, unspecified	mBq	13.797943	2.828058468	2.272135981	8.697748557
42	Aldehydes, unspecified	µg	244.594667	12.22590343	9.839630889	222.5291327
43	Aldrin	ng	70.6393954	0.411468249	0.329281122	69.89864607
44	Aluminium	mg	386.110002	141.1775968	112.5718545	132.3605508
45	Aluminium	g	5.62595908	0.590333763	0.468143851	4.567481464
46	Aluminium	mg	32.7609915	5.473838394	4.401534588	22.88561848
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	g	5.11702312	1.336402222	1.071605406	2.709015495
48	Ammonia	g	1.33988284	0.260174285	0.208269484	0.87143907
49	Ammonium carbonate	µg	22.1972138	0.27564968	0.221800201	21.69976389
50	Ammonium, ion	mg	89.0896953	2.862968977	2.301259458	83.92546684
51	Anhydrite, in ground	mg	1.9523068	0.009988524	0.00808418	1.934234092
52	Aniline	µg	1.74244913	0.000748479	0.000605353	1.741095299
53	Aniline	µg	4.38485117	0.001800372	0.001456071	4.381594723
54	Anthranilic acid	ng	367.831058	0.007156774	0.005734819	367.818166
55	Antimony	µg	173.552448	35.35410282	28.28144363	109.916902
56	Antimony	mg	13.2565231	0.500568595	0.402999802	12.3529547
57	Antimony	ng	8.98738191	0.75642353	0.604455272	7.626503106
58	Antimony-122	µBq	329.119877	159.6691892	128.4416781	41.00901009
59	Antimony-124	µBq	816.345234	396.0418897	318.5854777	101.7178668
60	Antimony-124	mBq	28.602068	10.00469307	8.045243847	10.55213112
61	Antimony-125	µBq	8.51924654	4.133029897	3.324707155	1.061509484
62	Antimony-125	mBq	27.0525114	9.595914527	7.716771127	9.739825742
63	AOX, Adsorbable Organic Halogen as Cl	µg	278.188046	11.57629512	9.308374041	257.3033767
64	Argon-41	Bq	5.68056894	0.643862253	0.516500816	4.52020587

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
65	Arsenic	mg	1.48146056	0.303736556	0.243485174	0.934238832
66	Arsenic	µg	13.059772	2.175636127	1.749445463	9.134690396
67	Arsenic, ion	mg	18.5246232	2.849978633	2.285400601	13.38924398
68	Arsine	pg	32.0142039	0.185053855	0.148085997	31.68106404
69	Atrazine	ng	18.5317118	0.107944912	0.086383875	18.33738304
70	Barite	mg	334.012582	27.68299967	22.39480129	283.9347812
71	Barite, 15% in crude ore, in ground	g	6.29132573	0.876135398	0.704852296	4.710338032
72	Barium	mg	751.309962	88.99136987	71.52011577	590.798476
73	Barium	mg	136.449093	29.11497053	23.30049406	84.03362843
74	Barium	mg	15.0576101	2.643461211	2.125743568	10.28840527
75	Barium-140	µBq	554.164257	268.847445	216.2672534	69.04955845
76	Barium-140	mBq	1.44171798	0.699435829	0.562642749	0.179639406
77	Basalt, in ground	g	1.48234097	0.446181731	0.374283505	0.661875732
78	Benomyl	ng	4.58266574	1.003754907	0.828705803	2.75020503
79	Bentazone	mg	2.23015079	4.28759E-05	3.435E-05	2.230073566
80	Benzal chloride	pg	0.21913877	0.032211172	0.027066001	0.159861597
81	Benzaldehyde	µg	3.5326143	0.839959029	0.716701004	1.975954268
82	Benzene	mg	35.4133884	3.201264081	2.570429086	29.64169523
83	Benzene	mg	19.8825442	1.136076769	0.913947519	17.8325199
84	Benzene, 1-methyl-2-nitro-	ng	435.898391	0.00847459	0.006790714	435.8831262
85	Benzene, 1,2-dichloro-	µg	9.06475518	0.000380127	0.000303906	9.064071144
86	Benzene, 1,2-dichloro-	µg	55.4030204	0.050992669	0.040819338	55.31120837
87	Benzene, chloro-	mg	724.409715	1.035205314	0.828694767	722.5458154
88	Benzene, ethyl-	mg	1.70585861	0.461959858	0.369718291	0.874180464
89	Benzene, ethyl-	mg	1.47332308	0.382364406	0.306536305	0.784422371
90	Benzene, hexachloro-	µg	626.58994	121.9084583	100.1651136	404.5163676
91	Benzene, pentachloro-	ng	58.9549055	12.19046487	9.964283591	36.80015701
92	Benzo(a)pyrene	µg	39.3411269	5.184502513	4.201138145	29.95548622
93	Beryllium	µg	51.6498517	25.34169459	20.17134048	6.1368166
94	Beryllium	mg	3.53299072	0.530602923	0.424756917	2.577630885
95	BOD5, Biological Oxygen Demand	g	25.7062681	1.791491278	1.447283598	22.46749327
96	Borate	µg	58.6200174	0.023408223	0.018683052	58.57792608
97	Borax, in ground	µg	78.8033713	25.26730601	20.83759363	32.69847166
98	Boron	mg	16.2767948	1.425019947	1.142501389	13.70927345
99	Boron	mg	239.399846	29.09037324	23.406164	186.903309
100	Boron	µg	474.563348	91.19071583	73.3186673	310.0539651
101	Boron trifluoride	pg	0.43813582	0.002526858	0.002026826	0.433582137
102	Bromate	mg	52.6919771	0.044498281	0.036149841	52.611329
103	Bromide	mg	3.6839692	0.001386209	0.001111103	3.681471889
104	Bromine	mg	1.70648819	0.159985598	0.128459914	1.418042679
105	Bromine	mg	50.6137256	12.77483153	10.3061853	27.53270881
106	Bromine, 0.0023% in water	mg	4.24729167	0.001595619	0.001277707	4.24441834
107	Butadiene	ng	138.947324	0.344267632	0.275732075	138.3273245
108	Butane	mg	95.9351866	20.87041811	16.702411	58.36235752
109	Butene	mg	1.53324588	0.456930099	0.365578124	0.710737658
110	Butene	µg	6.28726259	0.111218298	0.088151671	6.087892616
111	Butyl acetate	µg	23.3135021	0.140306947	0.112298769	23.06089641
112	Butyrolactone	ng	16.4482258	0.104671199	0.083795033	16.25975956
113	Butyrolactone	ng	39.4762366	0.251215451	0.201111741	39.02390936
114	Cadmium	µg	481.272993	114.2375938	91.35963938	275.6757593
115	Cadmium	µg	221.382377	0.187481395	0.150223434	221.0446726
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	mg	897.59937	114.5637924	95.54333133	687.4922458
117	Cadmium, ion	mg	6.14260526	0.870380646	0.698947478	4.573277136
118	Calcite, in ground	oz	614.717346	335.8038686	267.1264422	11.78703559
119	Calcium	mg	18.0602052	3.905625385	3.139675477	11.0149043
120	Calcium	mg	141.978015	23.61650523	18.98759849	99.37391115
121	Calcium, ion	g	51.8359683	6.642678828	5.280013987	39.9132755
122	Carbetamide	mg	789.319606	0.018499694	0.014810486	789.2862962
123	Carbofuran	µg	2.51238594	0.550296658	0.454328074	1.50776121
124	Carbon	mg	107.80846	16.10542971	12.95106346	78.75196718
125	Carbon-14	Bq	81.0988598	24.22199729	19.47370963	37.40315284
126	Carbon dioxide, biogenic	g	303.689947	134.0604802	106.7465288	62.88293764
127	Carbon dioxide, fossil	kg	17.8948684	7.174338423	5.713475586	5.00705443
128	Carbon dioxide, in air	oz	511.509632	18.60047693	14.86665563	478.0424994
129	Carbon dioxide, land transformation	mg	149.864461	17.10632467	13.87150329	118.886633

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
130	Carbon disulfide	mg	21.8499973	3.307300615	2.665624346	15.87707238
131	Carbon disulfide	µg	868.659564	14.39523391	11.49259671	842.7717335
132	Carbon monoxide, biogenic	mg	36.505196	13.33870416	9.242513901	13.92397792
133	Carbon monoxide, fossil	g	16.0723016	4.900090943	3.923192539	7.249018087
134	Carbon, in organic matter, in soil	mg	3.17346813	0.69509596	0.573875207	1.904496965
135	Carbonate	mg	30.6254034	0.689500075	0.557921378	29.3779819
136	Carboxylic acids, unspecified	mg	255.828599	62.97673644	50.52319167	142.3286705
137	Cerium-141	µBq	134.342132	65.17470223	52.42807437	16.73935569
138	Cerium-141	µBq	576.422815	279.6458768	224.9537677	71.82317003
139	Cerium-144	µBq	175.481974	85.13335087	68.48328413	21.86533876
140	Cesium	µg	61.3800637	15.92996415	12.77082877	32.67927079
141	Cesium-134	µBq	6.43411687	3.121449153	2.510967641	0.801700072
142	Cesium-134	mBq	14.7113327	3.603152919	2.896050248	8.212129508
143	Cesium-136	µBq	102.303785	49.63168381	39.92490216	12.74719919
144	Cesium-137	µBq	114.056002	55.33314556	44.51129305	14.21156293
145	Cesium-137	Bq	12.6099187	3.186413369	2.561086707	6.862418628
146	Chloramine	µg	1.16501681	0.000451698	0.00036052	1.164204589
147	Chloramine	µg	10.7048395	0.004036482	0.003221716	10.69758129
148	Chlorate	mg	402.766969	0.369430914	0.299828019	402.0977105
149	Chloride	g	60.1711013	13.97941715	11.17031115	35.021373
150	Chloride	mg	525.858449	79.69380343	64.01665388	382.1479915
151	Chlorinated solvents, unspecified	µg	130.005069	1.195959283	0.975842236	127.8332674
152	Chlorine	mg	8.21376823	0.376581558	0.307784661	7.529402013
153	Chlorine	mg	2.18890619	1.291091598	0.849577009	0.048237585
154	Chloroacetic acid	µg	191.258046	0.023019623	0.018378256	191.216648
155	Chloroacetic acid	mg	48.2808726	0.001006412	0.000806033	48.27906014
156	Chloroacetyl chloride	µg	937.922021	0.020850709	0.016698043	937.8844726
157	Chloroform	µg	10.685445	0.492971348	0.395444796	9.797028881
158	Chloroform	µg	1.01886773	0.00224391	0.001794726	1.014829098
159	Chlorosilane, trimethyl-	µg	781.648381	220.7074462	185.1313834	375.8095517
160	Chlorosulfonic acid	µg	3.48844771	6.8092E-05	5.45496E-05	3.488325073
161	Chlorosulfonic acid	µg	8.69931321	0.000169804	0.000136033	8.699007377
162	Chlorothalonil	µg	10.1647288	3.27759831	2.615451222	4.2716793
163	Chromium	mg	9.3317079	1.065604021	0.868883538	7.397220343
164	Chromium	mg	1.92990381	0.028455892	0.022878912	1.878569008
165	Chromium-51	µBq	8.60861205	4.176383358	3.359581705	1.072646992
166	Chromium-51	mBq	111.366006	52.06704421	41.88270463	17.41625699
167	Chromium VI	µg	243.054229	37.21042755	30.17567702	175.6681245
168	Chromium VI	mg	35.2132829	4.991390335	4.043003343	26.1788892
169	Chromium VI	mg	978.315802	216.0992353	173.7064484	588.5101188
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	g	2.46040436	0.359042055	0.291686122	1.809676185
171	Chromium, ion	mg	3.62654021	0.072301009	0.058171265	3.496067939
172	Chrysotile, in ground	mg	19.2958709	0.008459978	0.006872158	19.28053877
173	Cinnabar, in ground	mg	657.660147	0.800618356	0.649599179	656.2099293
174	Clay, bentonite, in ground	g	1.29775601	0.247369076	0.20187528	0.848511657
175	Clay, unspecified, in ground	oz	230.966762	126.4351706	100.5895599	3.942031463
176	Coal, brown, in ground	oz	584.007975	53.43285903	42.83243001	487.7426858
177	Coal, hard, unspecified, in ground	oz	45.4129457	16.73554709	13.33004147	15.34735712
178	Cobalt	µg	362.736361	74.26901106	59.56398635	228.9033632
179	Cobalt	mg	64.1520623	7.676217042	6.165002424	50.3108428
180	Cobalt	µg	1.81947389	0.157482126	0.126413223	1.535578545
181	Cobalt-57	mBq	3.2475072	1.575496867	1.267367001	0.404643329
182	Cobalt-58	µBq	11.9878452	5.815786437	4.678356377	1.493702411
183	Cobalt-58	mBq	515.247716	226.829293	182.4508281	105.9675946
184	Cobalt-60	µBq	105.90147	51.37706201	41.32892573	13.1954821
185	Cobalt-60	mBq	450.158587	201.5323821	162.1058554	86.52034994
186	Cobalt, in ground	µg	10.743113	1.708086024	1.399175428	7.635851524
187	COD, Chemical Oxygen Demand	g	57.8611982	1.960920907	1.584256357	54.31602096
188	Colemanite, in ground	mg	14.9385465	0.494569734	0.390585447	14.05339135
189	Copper	mg	7.71509868	1.240743853	0.994775946	5.479578885
190	Copper	mg	-649.361534	140.3327892	112.7803691	-902.4746923
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	231.581814	34.74672102	27.92846015	168.9066329

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	g	1.2728941	0.192440379	0.154668416	0.925785304
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	337.652969	51.04756032	41.02800753	245.5774014
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	g	1.68737856	0.253143175	0.203456269	1.230779114
195	Copper, ion	mg	75.3362643	12.50208544	10.14540243	52.68877639
196	Cumene	mg	6.00681131	0.065374659	0.054014529	5.887422119
197	Cumene	mg	14.4342707	0.157092574	0.129794693	14.1473834
198	Cyanide	µg	187.022023	20.58161624	16.70870007	149.7317069
199	Cyanide	mg	2.26033789	0.457521514	0.366143738	1.436672639
200	Cyanoacetic acid	µg	2.85690706	5.57648E-05	4.46741E-05	2.856806616
201	Cypermethrin	µg	17.5039088	0.07820133	0.064550732	17.36115678
202	Diatomite, in ground	ng	313.905297	57.76817344	46.3035237	209.8335997
203	Dichromate	µg	25.5208047	5.633571035	4.528419082	15.35881457
204	Diethylamine	µg	928.908528	0.335689313	0.271467084	928.3013714
205	Diethylamine	µg	2.22938933	0.000805668	0.000651532	2.227932131
206	Dimethyl malonate	µg	3.5825543	6.99289E-05	5.60211E-05	3.582428354
207	Dimethylamine	µg	23.3077452	0.000764415	0.000614891	23.30636587
208	Dinitrogen monoxide	g	1.16655105	0.01765542	0.01427073	1.134624902
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	14.9544674	7.815327276	6.221201756	0.917938346
210	Dipropylamine	ng	426.716759	0.210824006	0.170519443	426.3354151
211	Dipropylamine	µg	1.02413946	0.000505981	0.000409249	1.023224231
212	DOC, Dissolved Organic Carbon	g	73.950985	0.639234884	0.516151234	72.79559889
213	Dolomite, in ground	mg	330.549121	81.3770269	67.86004511	181.3120493
214	Energy, gross calorific value, in biomass	MJ	6.87034645	0.177788225	0.142001544	6.550556677
215	Energy, gross calorific value, in biomass, primary forest	J	220.014185	48.19048774	39.78634279	132.0373546
216	Energy, kinetic (in wind), converted	kJ	239.073062	21.70706364	17.39829494	199.9677032
217	Energy, potential (in hydropower reservoir), converted	MJ	4.83725421	1.737458178	1.393523042	1.706272988
218	Energy, solar, converted	kJ	5.17284129	1.207501155	0.97047211	2.994868025
219	Ethane	mg	245.314091	11.445074	9.126389355	224.7426277
220	Ethane, 1,1-difluoro-, HFC-152a	µg	1.86334951	0.423548618	0.340390794	1.099410102
221	Ethane, 1,1,1-trichloro-, HCFC-140	ng	9.04604302	2.684344583	2.161094901	4.200603531
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	469.95572	68.21968216	54.43138214	347.3046557
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	130.348905	0.753461002	0.602943525	128.9925001
224	Ethane, 1,2-dichloro-	µg	441.883818	15.65490928	12.55256146	413.6763468
225	Ethane, 1,2-dichloro-	µg	33.3091078	1.31955673	1.060967608	30.92858344
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	37.0760361	11.81964044	9.50400301	15.75239266
227	Ethane, hexafluoro-, HFC-116	µg	100.627752	17.11513191	13.82601321	69.68660694
228	Ethanol	mg	1.0709943	0.129449562	0.103671621	0.837873116
229	Ethanol	mg	639.978385	0.264517878	0.211773519	639.5020931
230	Ethene	mg	17.3472685	1.807043239	1.434033793	14.10619149
231	Ethene	mg	5.99688683	0.073085865	0.060906402	5.862894567
232	Ethene, chloro-	µg	131.158585	10.02545767	8.033756987	113.0993707
233	Ethene, chloro-	µg	1.12601516	0.137992486	0.110685243	0.877337435
234	Ethene, tetrachloro-	ng	21.4365938	6.129952133	4.93468845	10.3719532
235	Ethyl acetate	mg	4.93063102	0.029741568	0.023804542	4.877084915
236	Ethyl acetate	µg	1.63912629	0.000874227	0.000706796	1.637545269
237	Ethyl cellulose	µg	9.97092387	0.057588564	0.046084041	9.867251261
238	Ethylamine	µg	719.293232	0.190790333	0.153357541	718.9490843
239	Ethylamine	µg	1.72631439	0.0004579	0.000368061	1.725488433
240	Ethylene diamine	ng	145.428284	3.152025182	2.515543369	139.7607153
241	Ethylene diamine	ng	349.091133	7.583821995	6.052420165	335.4548905
242	Ethylene oxide	µg	122.86841	24.62899099	19.5978112	78.64160826
243	Ethylene oxide	µg	141.66272	0.032362686	0.026267825	141.6040892
244	Ethyne	mg	1.34979896	0.044494054	0.036036808	1.269268096
245	Feldspar, in ground	µg	2.36389982	0.838154634	0.579448065	0.946297118

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
246	Fenpiclonil	µg	151.082499	0.13190066	0.105263009	150.8453355
247	Fluoride	g	942.195408	75.12614066	60.43155188	806.637715
248	Fluoride	mg	2.16796606	0.410628538	0.330160157	1.427177366
249	Fluorine	mg	2.33948646	0.653582613	0.525496185	1.160407666
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	9.57589476	0.697558586	0.561795541	8.316540634
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	mg	305.175508	0.317465121	0.255726135	304.6023169
252	Fluorspar, 92%, in ground	mg	322.581264	35.00624989	28.15424391	259.4207703
253	Fluosilicic acid	µg	107.053795	19.93011295	16.10053374	71.02314831
254	Fluosilicic acid	µg	192.697277	35.87420334	28.98096074	127.8421124
255	Formaldehyde	mg	16.5280851	2.347289328	1.881342522	12.29945321
256	Formaldehyde	mg	19.2930392	0.009590914	0.00792425	19.27552407
257	Formamide	ng	303.666814	0.229346437	0.183033197	303.2544341
258	Formamide	µg	728.808349	0.550447337	0.439292352	727.8186095
259	Formate	mg	673.328233	0.020910377	0.016847016	673.2904755
260	Formic acid	µg	20.5910355	3.174961938	2.620362807	14.79571071
261	Formic acid	ng	211.565098	0.159785248	0.127518898	211.2777942
262	Furan	µg	4.06987197	0.891434542	0.735973452	2.442463975
263	Gallium, 0.014% in bauxite, in ground	ng	14.3791261	3.276816165	2.633473521	8.468836364
264	Gas, mine, off-gas, process, coal mining/m3	dm3	17.5877003	7.492326994	5.964688724	4.130684627
265	Gas, natural, in ground	gal*	399.757207	14.91809011	11.94388956	372.8952277
266	Glutaraldehyde	µg	41.235968	3.417654279	2.764790281	35.05352349
267	Glyphosate	µg	128.789958	16.49429388	13.18470617	99.11095785
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	µg	9.7669856	0.056442885	0.04516735	9.665375365
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	17.9105631	0.103504019	0.082827121	17.724232
270	Gold, Au 1.4E-4%, in ore, in ground	µg	21.4449762	0.123929097	0.099171898	21.22187524
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	32.7546598	0.189288624	0.151474639	32.41389656
272	Gold, Au 4.3E-4%, in ore, in ground	µg	8.11798733	0.046913385	0.037541553	8.033532391
273	Gold, Au 4.9E-5%, in ore, in ground	µg	19.4435244	0.112363564	0.089916842	19.24124402
274	Gold, Au 6.7E-4%, in ore, in ground	µg	30.1016938	0.173957037	0.139205809	29.78853091
275	Gold, Au 7.1E-4%, in ore, in ground	µg	33.9429218	0.196154593	0.156969001	33.58979824
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	2.03392586	0.011753994	0.009405911	2.012765958
277	Granite, in ground	ng	17.6489516	6.136091165	5.033086405	6.47977404
278	Gravel, in ground	lb	180.075736	95.38834527	83.02955184	1.657838981
279	Gypsum, in ground	µg	370.366749	55.89362757	45.50980684	268.963315
280	Heat, waste	MJ	157.08071	41.60493965	33.24946086	82.22630942
281	Heat, waste	MJ	847.726499	106.0189978	85.1746674	656.5328333
282	Heat, waste	kJ	111.56846	23.09174521	18.54608469	69.93062995
283	Helium	mg	6.2334985	2.537191674	2.022742054	1.673564774
284	Heptane	mg	15.2831014	4.568872005	3.655442437	7.058786983
285	Hexane	mg	253.296865	10.38454774	8.3107591	234.6015581
286	Hydrocarbons, aliphatic, alkanes, cyclic	mg	1.86198319	0.002009109	0.00167578	1.858298302
287	Hydrocarbons, aliphatic, alkanes, unspecified	g	649.688399	3.197146509	2.596145601	643.8951073
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	7.9794156	2.07089534	1.66020774	4.248312521
289	Hydrocarbons, aliphatic, unsaturated	mg	5.12751699	0.473731727	0.38066699	4.273118277
290	Hydrocarbons, aliphatic, unsaturated	mg	743.599617	191.1598738	153.2501901	399.1895533
291	Hydrocarbons, aromatic	mg	16.1377465	0.724953711	0.590950498	14.82184232
292	Hydrocarbons, aromatic	mg	33.0139449	8.46967863	6.790231363	17.75403486
293	Hydrocarbons, chlorinated	µg	148.288157	43.16817987	36.28397014	68.83600694
294	Hydrocarbons, unspecified	mg	15.6415199	0.795178557	0.644761051	14.20158026
295	Hydrogen	mg	122.133182	1.318348463	1.061278676	119.7535552
296	Hydrogen-3, Tritium	Bq	363.263587	85.87937611	69.01775774	208.3664527
297	Hydrogen-3, Tritium	kBq	28.6906787	7.197718869	5.785116222	15.70784356
298	Hydrogen chloride	mg	369.372486	74.40237263	59.83569321	235.1344198
299	Hydrogen fluoride	mg	29.4280744	2.837124878	2.281963233	24.30898627

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
300	Hydrogen peroxide	µg	7.38843587	0.043502285	0.034814715	7.310118867
301	Hydrogen peroxide	µg	73.3039169	7.371653833	4.929760781	61.00250233
302	Hydrogen sulfide	mg	32.3721361	1.301742933	1.051648645	30.01874456
303	Hydrogen sulfide	mg	2.6682507	0.776929542	0.52762015	1.363701005
304	Hydroxide	µg	206.785214	1.583952392	1.268916078	203.9323457
305	Hypochlorite	mg	1.0213514	0.11148116	0.08943448	0.820435764
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	15.6710832	2.071864347	1.722941825	11.87627701
307	Iodide	mg	6.73176673	1.60269611	1.284859796	3.844210824
308	Iodine	mg	911.4958	81.79819719	65.57739496	764.1202079
309	Iodine-129	mBq	66.698112	16.65059239	13.3826626	36.66485699
310	Iodine-131	Bq	2.14908443	0.204137337	0.163642327	1.781304763
311	Iodine-131	mBq	6.52098626	2.493591392	2.005439201	2.021955671
312	Iodine-133	mBq	774.05711	355.1889217	285.7115964	133.1565917
313	Iodine-133	mBq	905.078867	439.0902703	353.2146148	112.7739822
314	Iodine-135	µBq	241.722582	73.15997409	58.82822192	109.7343858
315	Iodine, 0.03% in water	mg	988.490555	0.37773747	0.30323706	987.8095809
316	Iron	mg	51.9365898	11.77904897	9.47231988	30.68522094
317	Iron	mg	268.697004	25.46988455	20.50066769	222.7264522
318	Iron-59	µBq	248.825614	120.7153021	97.1062486	31.00406328
319	Iron, 46% in ore, 25% in crude ore, in ground	g	65.8746657	12.40874311	10.21831142	43.24761113
320	Iron, ion	g	7.6938676	1.085091875	0.871067932	5.737707793
321	Isocyanic acid	µg	35.3322882	6.159697123	4.939590202	24.23300084
322	Isoprene	ng	188.857472	41.36611152	34.15209876	113.3392613
323	Isopropylamine	ng	358.077253	0.028669335	0.023234506	358.0253491
324	Isopropylamine	µg	859.387601	0.068807801	0.05576395	859.2630296
325	Kaolinite, 24% in crude ore, in ground	mg	23.1177358	7.687726242	6.130926058	9.299083501
326	Kieserite, 25% in crude ore, in ground	µg	130.471753	32.05828727	25.61250599	72.80095927
327	Krypton-85	Bq	18.1535227	2.205518662	1.76967909	14.17832493
328	Krypton-85m	Bq	8.24267409	3.892294119	3.130981078	1.219398888
329	Krypton-87	Bq	1.9746121	0.877124422	0.705524652	0.39196303
330	Krypton-88	Bq	2.50184862	1.150509262	0.925453871	0.42588549
331	Krypton-89	Bq	1.01125026	0.485333239	0.390409971	0.13550705
332	Lactic acid	ng	334.272449	0.165147048	0.133574837	333.9737267
333	Lactic acid	µg	802.253053	0.396355625	0.320581802	801.5361159
334	Lanthanum-140	µBq	47.3622611	22.97733404	18.4835118	5.901415237
335	Lanthanum-140	mBq	1.5355486	0.744956962	0.599261027	0.191330607
336	Lead	mg	5.23426898	1.295197464	1.037660511	2.901411009
337	Lead	mg	14.0163945	2.221451372	1.782223853	10.01271928
338	Lead	µg	361.267131	2.83508479	2.266237073	356.1658087
339	Lead-210	mBq	390.296247	42.75917378	34.33879213	313.1982808
340	Lead-210	Bq	3.60544976	0.017766018	0.014277508	3.573406234
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	63.940338	9.705781937	7.814647644	46.41990837
342	Linuron	mg	33.6658579	0.000647335	0.000518612	33.66469197
343	Lithium, 0.15% in brine, in ground	µg	8.78525374	0.006634915	0.005294854	8.773323977
344	Lithium, ion	µg	347.345553	49.0235777	41.1924768	257.129498
345	m-Xylene	µg	56.024403	7.888906882	6.334592465	41.80090362
346	m-Xylene	µg	683.518691	1.972743853	1.632663295	679.9132837
347	Magnesite, 60% in crude ore, in ground	g	6.76630403	3.430456154	2.733313523	0.602534348
348	Magnesium	mg	13.751788	1.346034118	1.082660801	11.32309308
349	Magnesium	g	23.0587546	3.069111467	2.457903284	17.5317398
350	Magnesium	mg	26.5171894	4.507384841	3.62420981	18.38559478
351	Magnesium, 0.13% in water	µg	62.4848954	7.896010925	6.337896289	48.2509882
352	Mancozeb	µg	13.2018696	4.256924893	3.396932253	5.548012479
353	Manganese	mg	1.51345964	0.326699202	0.262923122	0.923837321
354	Manganese	g	1.88418459	0.258689363	0.207227429	1.418267799
355	Manganese	mg	2.40640104	0.382834288	0.307598919	1.715967834
356	Manganese-54	µBq	4.40856315	2.138770716	1.720477828	0.549314603
357	Manganese-54	mBq	31.1731444	13.6825118	11.00555364	6.485078937

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	mg	400.803692	105.6858423	88.20627804	206.9115717
359	Mercury	mg	803.400019	288.5152748	229.9621836	284.9225603
360	Mercury	mg	572.880459	81.89666108	65.60899828	425.3747992
361	Mercury	µg	28.8348079	0.002836994	0.002274477	28.82969643
362	Metaldehyde	µg	148.626765	0.004322535	0.003458352	148.6189837
363	Metamorphous rock, graphite containing, in ground	mg	5.74155294	1.067759203	0.862578239	3.811215498
364	Methane, biogenic	mg	140.389531	21.60730483	17.04542135	101.7368053
365	Methane, bromo-, Halon 1001	pg	0.05012756	0.007368243	0.006191296	0.036568025
366	Methane, bromochlorodifluoro-, Halon 1211	µg	61.8476097	1.435192227	1.152285564	59.26013193
367	Methane, bromotrifluoro-, Halon 1301	µg	48.7583441	16.35956197	13.07018034	19.32860175
368	Methane, chlorodifluoro-, HCFC-22	µg	227.833869	6.216706558	4.997147002	216.6200155
369	Methane, dichloro-, HCC-30	µg	5.4323711	0.060316072	0.048493718	5.323561306
370	Methane, dichloro-, HCC-30	mg	773.590306	133.8381408	107.6261676	532.1259973
371	Methane, dichlorodifluoro-, CFC-12	µg	734.124723	13.19466993	10.45793344	710.4721194
372	Methane, dichlorofluoro-, HCFC-21	ng	883.110316	15.49818306	11.73945841	855.8726741
373	Methane, fossil	g	26.1379288	5.836923055	4.650398248	15.65060746
374	Methane, monochloro-, R-40	ng	251.757917	74.11585176	59.76006487	117.8820003
375	Methane, tetrachloro-, CFC-10	µg	191.721614	0.383538758	0.313867443	191.0242075
376	Methane, tetrafluoro-, CFC-14	mg	824.49085	153.497984	124.0031935	546.9896722
377	Methane, trichlorofluoro-, CFC-11	ng	1.4336828	0.025160472	0.019058383	1.389463942
378	Methane, trifluoro-, HFC-23	ng	280.988923	4.931240052	3.735282212	272.3224004
379	Methanesulfonic acid	µg	2.88698761	5.6352E-05	4.51444E-05	2.886886117
380	Methanol	mg	119.385224	0.724057547	0.581294428	118.0798718
381	Methanol	mg	7.12343802	0.022242133	0.017918728	7.08327716
382	Methyl acetate	ng	116.886263	0.002272463	0.001820931	116.8821693
383	Methyl acetate	ng	280.521897	0.005453813	0.004370156	280.5120731
384	Methyl acrylate	µg	3.11617958	0.018012595	0.014414253	3.08375273
385	Methyl acrylate	µg	60.8755484	0.35188132	0.281586655	60.24208047
386	Methyl amine	µg	970.191656	0.103306567	0.083884868	970.0044643
387	Methyl amine	µg	2.32851576	0.00024793	0.000201319	2.328066507
388	Methyl borate	ng	81.6902858	0.046846451	0.037387783	81.60605153
389	Methyl ethyl ketone	mg	4.92969173	0.029741132	0.023804189	4.876146409
390	Methyl formate	ng	92.3768337	0.130242617	0.10409186	92.14249922
391	Methyl formate	ng	36.880771	0.051998379	0.041557887	36.7872147
392	Methyl lactate	ng	366.963951	0.181304043	0.146642998	366.6360036
393	Metolachlor	mg	243.670668	0.004684706	0.003753153	243.66223
394	Metribuzin	ng	464.845341	149.8890522	119.6081605	195.3481279
395	Molybdenum	µg	133.69745	25.77757345	20.71076027	87.20911636
396	Molybdenum	mg	15.7913106	2.155927365	1.728136201	11.90724701
397	Molybdenum	µg	668.017799	33.78586912	27.12458202	607.1073482
398	Molybdenum-99	µBq	529.424432	256.845168	206.6123374	65.96692712
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	31.3575544	4.704337745	3.780971018	22.87224565
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	mg	4.43508953	0.670513713	0.5389061	3.225669717
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	5.81168067	1.149761197	0.959604285	3.702315192
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	mg	16.2516244	2.456969077	1.974718188	11.8199371
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	11.6638116	2.320052956	1.936358145	7.407400485
404	Monoethanolamine	µg	210.066402	8.763089467	7.26224744	194.0410651
405	Napropamide	µg	262.954498	0.007647547	0.00611861	262.9407314
406	Nickel	mg	7.00581758	0.614610276	0.493466156	5.897741146
407	Nickel	µg	-253.836108	1.247871147	0.998658802	-256.0826383

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	mg	14.9701608	3.010254328	2.397989045	9.561917415
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	g	5.83917289	0.7756107	0.633558336	4.430003854
410	Nickel, ion	mg	200.56548	28.74064116	23.08309981	148.7417387
411	Niobium-95	nBq	523.33468	253.8907099	204.2357014	65.20826838
412	Niobium-95	mBq	2.63501402	0.986112335	0.793084003	0.855817679
413	Nitrate	µg	429.456948	125.5048612	100.8560614	203.0960254
414	Nitrate	g	35.8205332	0.247878523	0.198317965	35.37433666
415	Nitrite	mg	1.1896844	0.050992409	0.040991392	1.097700603
416	Nitrobenzene	µg	2.77058016	0.001008443	0.00081555	2.768756171
417	Nitrobenzene	µg	11.1030741	0.004041326	0.003268311	11.09576445
418	Nitrogen	mg	19.3637882	2.540139132	2.035634817	14.78801428
419	Nitrogen oxides	g	33.7340278	11.15052523	8.924851785	13.65865074
420	Nitrogen, organic bound	mg	16.7200073	3.670938244	2.938249699	10.11081931
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	6.36157437	1.457922223	1.168249451	3.735402699
422	Noble gases, radioactive, unspecified	kBq	640.888773	159.9766187	128.5787747	352.3333791
423	o-Xylene	ng	6.84489132	1.006133568	0.845421355	4.993336398
424	Occupation, arable, non-irrigated	m2a	1.09908089	3.20453E-05	2.56385E-05	1.099023207
425	Occupation, construction site	cm2a	14.0683722	0.435471699	0.350006654	13.2828938
426	Occupation, dump site	cm2a	83.6194104	21.48044419	17.14073634	44.99822987
427	Occupation, dump site, benthos	cm2a	536.069812	44.42950566	35.94227369	455.6980327
428	Occupation, forest, intensive	cm2a	71.6421604	4.97729546	4.11918483	62.5456801
429	Occupation, forest, intensive, normal	m2a	0.14749123	0.037567903	0.029974351	0.079948978
430	Occupation, forest, intensive, short-cycle	mm2a	55.1896827	12.08835579	9.980215806	33.12111111
431	Occupation, industrial area	cm2a	60.4871531	14.39180822	11.28375571	34.81158912
432	Occupation, industrial area, benthos	mm2a	5.04514324	0.507702872	0.408606153	4.12883422
433	Occupation, industrial area, built up	cm2a	178.85952	13.76500021	11.22956261	153.8649572
434	Occupation, industrial area, vegetation	cm2a	118.820144	56.50232565	48.10686758	14.21095078
435	Occupation, mineral extraction site	cm2a	295.211439	148.0789269	126.796272	20.33623971
436	Occupation, permanent crop, fruit, intensive	mm2a	62.398923	17.45745962	14.41661269	30.52485069
437	Occupation, shrub land, sclerophyllous	mm2a	331.684438	24.64663741	20.10851429	286.9292859
438	Occupation, traffic area, rail embankment	cm2a	16.9150426	2.072363742	1.651492055	13.19118683
439	Occupation, traffic area, rail network	cm2a	18.7042575	2.291558448	1.826171097	14.58652795
440	Occupation, traffic area, road embankment	cm2a	19.4036569	4.311017824	3.444977492	11.64766157
441	Occupation, traffic area, road network	cm2a	116.966841	37.42920261	30.91280668	48.62483169
442	Occupation, urban, discontinuously built	cm2a	758.509347	0.067067402	0.054045465	758.3882342
443	Occupation, water bodies, artificial	cm2a	102.809789	35.20178216	30.02989728	37.57810921
444	Occupation, water courses, artificial	cm2a	56.7578935	16.60180488	13.28600012	26.87008851
445	Oil, crude, in ground	oz	46.0460724	11.46207766	9.174253382	25.40974139
446	Oils, biogenic	mg	2.80634043	0.471743504	0.376910028	1.957686894
447	Oils, unspecified	g	3.10957377	0.546307119	0.441100603	2.122166049
448	Oils, unspecified	g	3.06279341	0.476078245	0.385559952	2.201155209
449	Olivine, in ground	mg	652.230855	3.820349919	3.095753843	645.3147517
450	Orbencarb	µg	2.51021789	0.809415773	0.64589595	1.054906162
451	Ozone	mg	21.8910964	5.054824992	4.049752049	12.78651934
452	PAH, polycyclic aromatic hydrocarbons	mg	940.3945	161.8953288	133.4595977	645.0395732
453	PAH, polycyclic aromatic hydrocarbons	µg	359.835184	88.73619756	71.35215607	199.7468304
454	Particulates, < 2.5 um	g	1.81485596	0.50852154	0.410203475	0.896130949
455	Particulates, > 10 um	g	4.76116916	1.745849875	1.392204189	1.623115096
456	Particulates, > 2.5 um, and < 10um	g	3.93435536	0.629995221	0.503281322	2.801078815

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	µg	4.75257842	0.175531288	0.141739992	4.435307136
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	11.421319	0.421833199	0.340626646	10.65885919
459	Peat, in ground	g	2.825032	0.002196056	0.001784447	2.821051496
460	Pentane	mg	120.900637	29.13041968	23.45786241	68.31235539
461	Phenol	µg	324.174219	72.85318073	60.97446901	190.3465694
462	Phenol	mg	8.06126327	1.427556868	1.145139811	5.488566588
463	Phenol, 2,4-dichloro-	ng	499.657379	0.05480205	0.045008628	499.5575686
464	Phenol, pentachloro-	µg	11.5253259	1.049377988	0.841101658	9.634846265
465	Phosphate	g	7.12073334	0.90279132	0.722956355	5.494985668
466	Phosphine	ng	2.37406688	0.01372285	0.010981462	2.349362571
467	Phosphorus	µg	379.584626	44.31830644	35.64043079	299.6258891
468	Phosphorus	mg	29.9230377	0.124498518	0.10073713	29.69780209
469	Phosphorus	mg	2.08188958	0.348074928	0.279778838	1.454035817
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	g	1.21722082	0.002036135	0.001528707	1.213655982
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	38.303579	2.790234344	2.247182164	33.26616253
472	Pirimicarb	µg	210.957708	0.004055781	0.00324929	210.950403
473	Platinum	ng	1.0366372	0.279253571	0.224489291	0.532894338
474	Plutonium-238	nBq	9.09873656	2.271410293	1.825611778	5.001714492
475	Plutonium-alpha	nBq	20.8576808	5.206919358	4.184982933	11.46577848
476	Polonium-210	Bq	680.929179	70.61273406	56.70072821	553.6157166
477	Polonium-210	Bq	5.44904977	0.022004018	0.017691263	5.40935449
478	Polychlorinated biphenyls	µg	1.04258464	0.200456973	0.164844811	0.677282851
479	Potassium	mg	20.3601269	3.411604832	2.741448119	14.20707392
480	Potassium	mg	13.7442225	2.316032097	1.861739293	9.566451102
481	Potassium-40	mBq	85.8250294	5.685621573	4.560876877	75.578531
482	Potassium-40	Bq	550.166065	13.11816784	10.52356931	526.5243278
483	Potassium, ion	g	14.26146	2.009678281	1.60869142	10.64309034
484	Propanal	µg	11.9576918	0.848554088	0.723606206	10.38553149
485	Propanal	µg	576.865426	0.435694966	0.347712584	576.0820182
486	Propane	mg	137.862935	21.53474067	17.23888219	99.08931186
487	Propene	mg	7.58084195	1.015283996	0.813729323	5.751828632
488	Propene	mg	5.88194238	0.067408956	0.055551639	5.758981789
489	Propionic acid	µg	451.069959	14.04622809	11.27587145	425.7478599
490	Propionic acid	µg	2.8320667	0.000167044	0.000136453	2.8317632
491	Propylamine	ng	96.1661351	0.072629364	0.0579629	96.03554281
492	Propylamine	ng	230.801894	0.174308569	0.139109441	230.4884758
493	Propylene oxide	µg	57.1102653	3.32120578	2.656194116	51.13286539
494	Propylene oxide	µg	137.329555	7.990862416	6.390834756	122.9478575
495	Protactinium-234	mBq	10.6749108	3.078479154	2.474916881	5.121514779
496	Protactinium-234	mBq	196.633927	56.69757054	45.58117254	94.35518383
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	136.530302	13.001387	10.46949301	113.059422
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	489.447823	46.60887801	37.53225119	405.3066943
499	Radioactive species, alpha emitters	mBq	4.53671652	0.036644099	0.02950024	4.470572176
500	Radioactive species, Nuclides, unspecified	Bq	64.9556305	16.21167003	13.02987619	35.71408429
501	Radioactive species, other beta emitters	mBq	503.757845	92.69336905	74.29752119	336.7669549
502	Radium-224	Bq	3.06900796	0.796498208	0.638541439	1.633968312
503	Radium-226	mBq	453.631179	109.4331697	87.96774176	256.2302674
504	Radium-226	Bq	131.226196	36.55542978	29.38533584	65.28543061
505	Radium-228	mBq	187.498757	6.113183063	4.910654269	176.4749194
506	Radium-228	Bq	6.13858428	1.593081362	1.277154255	3.268348661
507	Radon-220	Bq	2.32896611	0.218700008	0.175358252	1.934907849
508	Radon-222	kBq	1409.32969	406.3632337	326.6896189	676.2768391

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	68.9284393	4.7606571	3.841980414	60.32580181
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	215.891856	14.91091247	12.03351398	188.9474294
511	Rhenium, in crude ore, in ground	ng	41.8763667	8.530545225	6.867163879	26.47865764
512	Rubidium	mg	613.800637	159.2996415	127.7082877	326.7927079
513	Ruthenium-103	nBq	114.980059	55.78145246	44.87192174	14.32668516
514	Ruthenium-103	µBq	111.713342	54.19664263	43.59706317	13.91963578
515	Sand, unspecified, in ground	mg	28.8527009	0.665488819	0.539081496	27.64813061
516	Scandium	µg	132.391423	37.30772928	29.99335846	65.09033539
517	Scandium	mg	6.2546925	1.008846156	0.809230369	4.436615976
518	Selenium	µg	346.232785	52.71459529	42.21504893	251.3031403
519	Selenium	mg	9.30163122	1.311561463	1.051269991	6.938799767
520	Shale, in ground	mg	5.52697955	0.028279714	0.022888131	5.475811709
521	Silicon	mg	50.4813109	3.588094966	2.887361501	44.00585441
522	Silicon	g	76.5178336	4.310582505	3.46876445	68.73848665
523	Silicon	mg	10.705904	1.251072196	1.005006595	8.449825218
524	Silicon tetrafluoride	ng	280.701686	21.01907295	16.92869082	242.753922
525	Silver	µg	5.69186876	1.622035174	1.304000209	2.765833379
526	Silver-110	µBq	1.13954024	0.552836905	0.444715102	0.14198823
527	Silver-110	mBq	435.549827	196.1337326	157.7637549	81.65233919
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	217.007543	1.601584851	1.282862398	214.1230954
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	154.817748	1.147562203	0.919205483	152.7509806
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	14.2925673	0.105568023	0.084559719	14.10243958
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	32.6424687	0.241105193	0.193124643	32.2082389
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	31.9951278	0.236323486	0.189294506	31.56950977
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	21.1122699	0.155939038	0.12490681	20.83142402
534	Silver, ion	µg	415.66613	68.97965429	55.40898771	291.277488
535	Sodium	mg	6.41822708	1.046459425	0.840809643	4.530958012
536	Sodium	mg	62.7905809	10.76914204	8.659556394	43.3618825
537	Sodium-24	mBq	4.00576707	1.943359007	1.563284021	0.499124044
538	Sodium chlorate	µg	3.90449143	0.50069631	0.402569472	3.001225651
539	Sodium chloride, in ground	g	348.372097	0.725886529	0.589574392	347.0566363
540	Sodium dichromate	µg	6.99808654	1.544513699	1.237576013	4.215996826
541	Sodium formate	µg	1.5399474	0.065745699	0.05401154	1.420190166
542	Sodium formate	µg	3.69958007	0.157950032	0.129759429	3.411870606
543	Sodium hydroxide	µg	27.5502868	0.160465053	0.128413531	27.26140823
544	Sodium nitrate, in ground	ng	8.87984925	1.086457029	0.883546688	6.909845529
545	Sodium sulphate, various forms, in ground	mg	74.1246793	5.515111042	4.438067587	64.17150069
546	Sodium, ion	g	41.9362973	7.528323427	6.0306661	28.37730777
547	Solids, inorganic	g	2.55447202	0.201386266	0.161573085	2.191512674
548	Solved solids	g	957.828549	70.53188157	57.38514382	829.9115237
549	Stibnite, in ground	ng	32.6218054	6.003359209	4.811934822	21.80651136
550	Strontium	mg	835.40534	70.41847158	56.58795145	708.398917
551	Strontium	g	782.186654	120.3294843	96.33451528	565.5226545
552	Strontium	µg	302.89368	53.46133238	42.99009061	206.4422568
553	Strontium-89	mBq	9.51726807	4.385010896	3.527272926	1.604984244
554	Strontium-90	Bq	59.3818112	5.63737686	4.519055302	49.22537904
555	Styrene	µg	37.3041707	10.60625369	8.954104756	17.74381224
556	Sulfate	g	2.9873562	0.012785049	0.010261037	2.964310117
557	Sulfate	g	240.385935	22.80764859	18.26104626	199.3172398
558	Sulfide	µg	388.31888	31.70074138	25.42371584	331.1944227
559	Sulfite	mg	2.77177257	0.301315086	0.241726012	2.228731474
560	Sulfur	mg	40.0948677	1.361233792	1.100424065	37.63320985
561	Sulfur	mg	20.0796336	3.257633872	2.619524083	14.20247566
562	Sulfur dioxide	g	29.2362127	4.06738668	3.247917311	21.92090871

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
563	Sulfur hexafluoride	µg	264.808738	44.52117621	35.75849453	184.5290671
564	Sulfur trioxide	µg	24.5951038	0.008149635	0.006590365	24.58036384
565	Sulfur, in ground	mg	26.5810005	0.333218651	0.269761916	25.97801991
566	Sulfuric acid	µg	5.76960532	0.034590676	0.027684933	5.707329715
567	Sulfuric acid	ng	3.56107328	0.020584275	0.016472193	3.524016809
568	Suspended solids, unspecified	g	2.0684365	0.135617594	0.109621993	1.823196911
569	Sylvite, 25 % in sylvinite, in ground	g	4.6656867	0.001168572	0.000952357	4.663565775
570	t-Butyl methyl ether	µg	10.4089081	4.124551158	3.428971577	2.855385359
571	t-Butyl methyl ether	µg	112.94117	14.45242052	11.7063772	86.78237199
572	t-Butylamine	µg	2.18456593	6.78419E-05	5.46586E-05	2.184443431
573	t-Butylamine	µg	5.24303596	0.000162823	0.000131183	5.242741953
574	Talc, in ground	mg	4.79194046	0.919399387	0.719379627	3.153161444
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	171.075495	1.2100731	0.969118022	168.8963041
576	Tebutam	mg	623.080095	0.018121136	0.014498266	623.0474755
577	Technetium-99m	mBq	12.1702621	5.901656836	4.747430773	1.521174501
578	Teflubenzuron	ng	30.9897954	9.992603479	7.973877365	13.02331459
579	Tellurium-123m	mBq	2.09015077	0.564471233	0.453758796	1.071920746
580	Tellurium-132	µBq	30.6547222	14.87184262	11.9632625	3.819617069
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	23.2231124	0.172137203	0.137883123	22.91309203
582	Terpenes	µg	1.78578471	0.3911464	0.322932709	1.0717056
583	Thallium	µg	190.913868	103.5397567	82.36362552	5.01048592
584	Thallium	mg	617.510111	78.37579964	62.93672934	476.1975817
585	Thiram	ng	8.13018203	1.78078069	1.470222741	4.879178605
586	Thorium	µg	5.01486569	0.14487936	0.116834436	4.753151893
587	Thorium-228	mBq	24.5997415	1.327591605	1.065216555	22.20693333
588	Thorium-228	Bq	12.3190052	3.186091908	2.554245573	6.578667725
589	Thorium-230	mBq	51.9095693	11.39783616	9.163198845	31.34853429
590	Thorium-230	Bq	26.8290201	7.735830139	6.219106127	12.87408383
591	Thorium-232	mBq	25.4312403	1.73728049	1.393393757	22.30056607
592	Thorium-232	mBq	23.5973821	2.263655681	1.815314657	19.51841177
593	Thorium-234	mBq	10.6771534	3.079144711	2.475452012	5.122556652
594	Thorium-234	mBq	196.659369	56.70468515	45.58689294	94.36779139
595	Tin	µg	336.766237	104.791689	83.83657395	148.1379735
596	Tin	µg	1.91140581	0.010604258	0.008533523	1.892268025
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	12.9876235	2.956084395	2.427858868	7.603680192
598	Tin, ion	mg	6.05131433	0.770017894	0.624430482	4.656865953
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	oz	731.953646	0.020216249	0.016347776	731.9170816
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	1.588197	0.074108164	0.06149287	1.452595964
601	Titanium	mg	3.35604544	0.706759434	0.568257607	2.081028401
602	Titanium	µg	81.1377309	11.79289058	9.465500073	59.87934025
603	Titanium, ion	g	13.7693711	0.024424126	0.019652055	13.72529497
604	TOC, Total Organic Carbon	g	73.9676155	0.641748004	0.518163252	72.80770422
605	Toluene	mg	17.8648507	3.427409204	2.745955713	11.69148579
606	Toluene	mg	8.06154221	1.953721464	1.56665703	4.541163721
607	Toluene, 2-chloro-	µg	1.40076226	0.00030965	0.000250321	1.400202289
608	Toluene, 2-chloro-	µg	2.37529149	0.00063764	0.000515543	2.374138309
609	Transformation, from arable	mm2	3.65071773	0.896895689	0.719889205	2.033932838
610	Transformation, from arable, non-irrigated	dm2	203.133063	0.005907922	0.00472678	203.1224283
611	Transformation, from arable, non-irrigated, fallow	mm2	0.62057857	0.162157553	0.130027159	0.328393861
612	Transformation, from dump site, inert material landfill	mm2	18.3815884	4.085422031	3.348391313	10.94777506
613	Transformation, from dump site, residual material landfill	mm2	47.4181675	0.712706159	0.580377633	46.12508368
614	Transformation, from dump site, sanitary landfill	mm2	0.37748461	0.102074733	0.068555261	0.206854611
615	Transformation, from dump site, slag compartment	mm2	0.08326316	0.027984214	0.023450035	0.031828915
616	Transformation, from forest	cm2	14.6246346	2.926903553	2.348422151	9.349308897

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
617	Transformation, from forest, extensive	cm2	11.8034913	2.781432477	2.221389032	6.800669767
618	Transformation, from forest, intensive, clear-cutting	mm2	1.9710641	0.431728918	0.356437869	1.182897317
619	Transformation, from industrial area	mm2	11.3686618	1.604712704	1.289705646	8.474243473
620	Transformation, from industrial area, benthos	mm2	0.03818994	0.000860383	0.000690654	0.036638906
621	Transformation, from industrial area, built up	mm2	0.0132553	0.000992567	0.00079941	0.011463318
622	Transformation, from industrial area, vegetation	mm2	0.02261212	0.001693203	0.0013637	0.019555221
623	Transformation, from mineral extraction site	cm2	944.103852	488.0761745	414.7419506	41.28572703
624	Transformation, from pasture and meadow	mm2	159.594593	16.82437895	13.59480524	129.1754083
625	Transformation, from pasture and meadow, intensive	cm2	16.577628	0.00048213	0.00038574	16.57676018
626	Transformation, from sea and ocean	cm2	536.903586	44.60360079	36.08482514	456.2151605
627	Transformation, from shrub land, sclerophyllous	mm2	88.9190666	13.13574334	10.59414154	65.18918171
628	Transformation, from tropical rain forest	mm2	1.9710641	0.431728918	0.356437869	1.182897317
629	Transformation, from unknown	cm2	36.4735943	17.94109779	15.45300405	3.079492506
630	Transformation, to arable	mm2	168.445814	47.39267064	37.73304779	83.32009591
631	Transformation, to arable, non-irrigated	dm2	203.298829	0.005912745	0.004730639	203.2881856
632	Transformation, to arable, non-irrigated, fallow	mm2	24.7259647	13.34371493	10.61711719	0.765132548
633	Transformation, to dump site	mm2	55.6538649	17.31205843	13.80668613	24.53512036
634	Transformation, to dump site, benthos	cm2	536.069812	44.42950566	35.94227369	455.6980327
635	Transformation, to dump site, inert material landfill	mm2	18.3815884	4.085422031	3.348391313	10.94777506
636	Transformation, to dump site, residual material landfill	mm2	47.418582	0.712729785	0.580396722	46.12545549
637	Transformation, to dump site, sanitary landfill	mm2	0.37748461	0.102074733	0.068555261	0.206854611
638	Transformation, to dump site, slag compartment	mm2	0.08326316	0.027984214	0.023450035	0.031828915
639	Transformation, to forest	cm2	867.612762	432.816193	370.8433035	63.95326524
640	Transformation, to forest, intensive	mm2	47.7091871	3.315792352	2.744139372	41.64925539
641	Transformation, to forest, intensive, clear-cutting	mm2	1.9710641	0.431728918	0.356437869	1.182897317
642	Transformation, to forest, intensive, normal	cm2	11.1943584	2.717256473	2.169097971	6.308003994
643	Transformation, to forest, intensive, short-cycle	mm2	1.9710641	0.431728918	0.356437869	1.182897317
644	Transformation, to heterogeneous, agricultural	mm2	67.7569847	14.05943391	11.27697867	42.42057217
645	Transformation, to industrial area	mm2	96.1983643	30.51242305	23.98711885	41.69882245
646	Transformation, to industrial area, benthos	mm2	0.83576642	0.174095192	0.142551499	0.519119726
647	Transformation, to industrial area, built up	mm2	145.38621	28.05978484	22.88031273	94.44611215
648	Transformation, to industrial area, vegetation	mm2	240.263163	113.5873417	96.69572247	29.98009865
649	Transformation, to mineral extraction site	cm2	37.7550533	15.50834686	13.25453599	8.9921704
650	Transformation, to pasture and meadow	mm2	8.17044634	0.141887733	0.113936904	7.914621701
651	Transformation, to permanent crop, fruit, intensive	mm2	0.87839976	0.245751016	0.202944603	0.429704144
652	Transformation, to sea and ocean	mm2	0.03818994	0.000860383	0.000690654	0.036638906
653	Transformation, to shrub land, sclerophyllous	mm2	66.2606656	4.928187142	4.020774246	57.31170422

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
654	Transformation, to traffic area, rail embankment	mm2	3.93602099	0.482223102	0.384289498	3.069508388
655	Transformation, to traffic area, rail network	mm2	4.32636401	0.530048072	0.42240185	3.373914084
656	Transformation, to traffic area, road embankment	mm2	12.7683682	2.866275962	2.290413788	7.611678438
657	Transformation, to traffic area, road network	mm2	175.650191	68.33699479	56.63229311	50.68090335
658	Transformation, to unknown	mm2	123.488888	61.79001741	49.18809171	12.51077877
659	Transformation, to urban, discontinuously built	mm2	15.1090168	0.001335939	0.001076551	15.10660434
660	Transformation, to water bodies, artificial	mm2	531.863447	266.9820535	231.9800849	32.9013086
661	Transformation, to water courses, artificial	mm2	62.2647038	19.20015339	15.3685597	27.69599068
662	Tributyltin compounds	µg	308.051934	17.41232274	13.97565587	276.6639554
663	Triethylene glycol	mg	698.359879	15.39284882	12.35669834	670.610332
664	Trimethylamine	ng	206.830469	0.004029602	0.003229046	206.8232103
665	Trimethylamine	ng	496.393126	0.009671044	0.007749712	496.3757053
666	Tungsten	µg	14.5828048	4.204805228	3.380390919	6.9976087
667	Tungsten	mg	7.10673084	0.913098608	0.734690212	5.458942022
668	Ulexite, in ground	mg	522.711388	40.30586424	32.30546609	450.1000575
669	Uranium	µg	6.59893871	0.177905729	0.14320583	6.277827148
670	Uranium-234	mBq	136.508034	35.79130983	28.77398914	71.94273497
671	Uranium-234	mBq	235.962049	68.03708469	54.69740709	113.227557
672	Uranium-235	mBq	6.0170445	1.73494566	1.394783881	2.887314955
673	Uranium-235	mBq	389.337237	112.2611897	90.25072168	186.8253259
674	Uranium-238	mBq	202.623093	40.31674709	32.40419879	129.9021473
675	Uranium-238	Bq	2.44115653	0.180105584	0.144790751	2.116260197
676	Uranium alpha	mBq	579.514816	167.0729097	134.3157282	278.1261781
677	Uranium alpha	Bq	11.3284238	3.266386853	2.625963268	5.436073718
678	Uranium, in ground	mg	44.1355708	12.51119292	10.05824966	21.56612823
679	Urea	µg	925.256133	0.505769132	0.403652974	924.3467108
680	Vanadium	mg	5.19208939	0.792322678	0.634120076	3.765646632
681	Vanadium	µg	2.32243069	0.337549635	0.270932395	1.713948661
682	Vanadium, ion	mg	70.6403207	3.21610765	2.588087905	64.8361251
683	Vermiculite, in ground	mg	4.24892525	2.513130312	1.653336347	0.08245859
684	VOC, volatile organic compounds, unspecified origin	mg	21.9596884	5.709459595	4.577490796	11.67273803
685	Volume occupied, final repository for low-active radioactive waste	mm3	89.3181114	25.72046054	20.67752723	42.92012367
686	Volume occupied, final repository for radioactive waste	mm3	20.7811594	5.590754855	4.494093471	10.69631108
687	Volume occupied, reservoir	m3day	29.7414676	10.33444292	8.309309649	11.09771505
688	Volume occupied, underground deposit	mm3	105.01846	9.431594519	7.629003103	87.95786232
689	Water	mg	496.763192	199.7553276	159.1654738	137.8423902
690	Water, cooling, unspecified natural origin/m3	dm3	112.201168	6.647908075	5.335173348	100.2180865
691	Water, lake	cu.in	273.086242	161.5065195	106.2503564	5.329366544
692	Water, river	dm3	30.5834132	11.4202953	8.214323366	10.94879455
693	Water, salt, ocean	cu.in	196.669907	28.56682961	22.96379183	145.1392851
694	Water, salt, sole	cu.in	148.350888	10.7450482	8.622203471	128.9836367
695	Water, turbine use, unspecified natural origin	m3	37.2201453	13.34207217	10.68607156	13.19200162
696	Water, unspecified natural origin/m3	dm3	173.877435	71.4687512	61.16567976	41.2430038
697	Water, well, in ground	dm3	799.892447	382.7694037	260.1739285	156.9491148
698	Wood, hard, standing	cm3	24.093032	6.238758012	4.944673733	12.90960021
699	Wood, primary forest, standing	mm3	20.4085231	4.470121223	3.690557694	12.24784414
700	Wood, soft, standing	cm3	71.2781064	10.52794649	8.460329879	52.28983004
701	Wood, unspecified, standing/m3	mm3	2.74931215	0.072561017	0.059265218	2.617485918
702	Xenon-131m	Bq	10.157753	4.587596103	3.69013938	1.880017496
703	Xenon-133	Bq	365.542947	167.7249839	134.9154074	62.90255536
704	Xenon-133m	mBq	500.780089	171.2384053	137.699431	191.8422523
705	Xenon-135	Bq	146.636975	67.10483337	53.97797197	25.55416999
706	Xenon-135m	Bq	91.7430659	42.27999007	34.00950924	15.45356657

No	Substance	Unit	Total	Building in components - Mortar	Building in components - Plaster	Building in components - paint
707	Xenon-137	Bq	2.76844954	1.328540085	1.068699218	0.371210235
708	Xenon-138	Bq	20.9258549	9.923146677	7.982258527	3.020449694
709	Xylene	mg	18.3212022	2.985864782	2.393992065	12.94134539
710	Xylene	mg	6.16888021	1.56575324	1.255632658	3.347494309
711	Zinc	mg	10.6109198	1.919058163	1.552824732	7.139036883
712	Zinc	mg	6.63142601	0.245635996	0.196610976	6.189179041
713	Zinc-65	µBq	22.0130166	10.67940243	8.590764291	2.742849906
714	Zinc-65	mBq	54.3091352	26.34755178	21.19459478	6.766988633
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	g	1.16338737	0.189760923	0.159796551	0.813829894
716	Zinc, ion	mg	470.744929	66.33606265	53.20710216	351.2017641
717	Zirconium	µg	1.17932995	0.224873629	0.185263903	0.769192418
718	Zirconium-95	µBq	21.5168839	10.43871044	8.397145953	2.681027546
719	Zirconium-95	µBq	628.914967	305.1120206	245.439337	78.3636095
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	234.067264	1.383888134	1.107540196	231.5758359

Appendix 7.3: Inventory of emitted substances for 1m² of a 220mm double brick wall with both sides plastered and painted

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
1	1-Butanol	ng	663.775819	331.8977384	0.016044979	331.8620353
2	1-Butanol	µg	37.4486295	18.77830202	0.086421295	18.58390621
3	1-Pentanol	ng	331.950552	166.0379761	0.100077221	165.8124989
4	1-Pentanol	ng	796.692452	398.4967061	0.240185418	397.9555607
5	1-Pentene	ng	250.848046	125.4714044	0.075626425	125.3010156
6	1-Pentene	ng	602.048027	301.1377279	0.181502996	300.7287959
7	1-Propanol	µg	32.9030984	16.45954077	0.012839401	16.43071825
8	1-Propanol	µg	7.93166752	3.966068337	0.00037462	3.965224563
9	1,4-Butanediol	µg	2.05962961	1.030046164	0.000372499	1.029210942
10	1,4-Butanediol	ng	823.85782	412.0214553	0.149000778	411.6873641
11	2-Aminopropanol	ng	558.967542	279.4868977	0.005008263	279.4756356
12	2-Aminopropanol	µg	703.966643	703.2633952	1.25203E-05	0.703235241
13	2-Butene, 2-methyl-	pg	55.6413615	27.83119079	0.016774748	27.79339591
14	2-Methyl-1-propanol	µg	570.198339	569.6289414	0.000185294	0.569211852
15	2-Methyl-1-propanol	µg	2.73361858	1.367087439	0.000444697	1.366086444
16	2-Methyl-2-butene	pg	133.541261	66.79585481	0.040259997	66.70514574
17	2-Nitrobenzoic acid	µg	505.276592	504.7718304	7.86367E-06	0.504754153
18	2-Propanol	mg	2.11778759	1.061950668	0.004892336	1.050944586
19	2-Propanol	µg	3.96499859	1.982578661	0.000128642	1.982291285
20	2,4-D	µg	723.993415	723.4274656	0.130014125	0.435935264
21	4-Methyl-2-pentanone	ng	2.40989714	1.300531261	0.160630058	0.948735825
22	Acenaphthene	ng	8.17052014	4.332964758	0.397565869	3.439989514
23	Acenaphthene	ng	664.487244	381.7858108	79.434555	203.2668787
24	Acenaphthylene	ng	41.5567966	23.87677634	4.96785239	12.71216789
25	Acetaldehyde	mg	3.21170875	1.940767278	0.535615976	0.735325492
26	Acetaldehyde	µg	412.710224	206.4691196	0.182526534	206.0585774
27	Acetic acid	mg	55.2899644	27.93639933	0.473466365	26.88009872
28	Acetic acid	mg	8.56124477	4.291787922	0.018568198	4.250888652
29	Acetone	mg	3.97682146	2.03433156	0.073962495	1.868527406
30	Acetone	µg	472.082529	236.0439534	0.00432499	236.0342507
31	Acetonitrile	µg	3.81650762	2.14294165	0.387519251	1.28604672
32	Acetonitrile	µg	4.78453889	2.392292795	3.74088E-05	2.392208691
33	Acetyl chloride	ng	625.856044	313.0462342	0.188682205	312.6211272
34	Acidity, unspecified	µg	754.516391	383.1569223	9.723859794	361.635609
35	Aclonifen	mg	8.73954287	4.369813442	6.73063E-05	4.369662124
36	Acrolein	µg	12.4920341	7.078520559	1.417976988	3.995536594
37	Acrylate, ion	µg	12.9630982	6.500336209	0.030068049	6.432693991
38	Acrylic acid	µg	5.4772086	2.746542221	0.012704353	2.717962029
39	Actinides, radioactive, unspecified	mBq	937.361661	936.7028636	0.223733765	0.435064026
40	Actinides, radioactive, unspecified	mBq	189.627938	108.3365598	21.73715719	59.5542207
41	Aerosols, radioactive, unspecified	mBq	24.7678275	13.79794301	2.272135981	8.697748557
42	Aldehydes, unspecified	µg	476.963431	244.5946671	9.839630889	222.5291327
43	Aldrin	ng	140.867323	70.63939544	0.329281122	69.89864607
44	Aluminium	mg	631.042407	386.1100021	112.5718545	132.3605508
45	Aluminium	g	10.6615844	5.625959078	0.468143851	4.567481464
46	Aluminium	mg	60.0481445	32.76099147	4.401534588	22.88561848
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	g	8.89764402	5.117023122	1.071605406	2.709015495
48	Ammonia	g	2.41959139	1.339882839	0.208269484	0.87143907
49	Ammonium carbonate	µg	44.1187779	22.19721377	0.221800201	21.69976389
50	Ammonium, ion	mg	175.316422	89.08969528	2.301259458	83.92546684
51	Anhydrite, in ground	mg	3.89462507	1.952306795	0.00808418	1.934234092
52	Aniline	µg	3.48414978	1.742449131	0.000605353	1.741095299
53	Aniline	µg	8.76790196	4.384851166	0.001456071	4.381594723
54	Anthranilic acid	ng	735.654958	367.8310576	0.005734819	367.818166
55	Antimony	µg	311.750794	173.5524484	28.28144363	109.916902
56	Antimony	mg	26.0124776	13.2565231	0.402999802	12.3529547
57	Antimony	ng	17.2183403	8.987381909	0.604455272	7.626503106
58	Antimony-122	µBq	498.570566	329.1198774	128.4416781	41.00901009
59	Antimony-124	µBq	816.765538	816.3452343	0.318585478	0.101717867
60	Antimony-124	mBq	47.199443	28.60206804	8.045243847	10.55213112
61	Antimony-125	µBq	12.9054632	8.519246536	3.324707155	1.061509484
62	Antimony-125	mBq	44.5091083	27.0525114	7.716771127	9.739825742

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
63	AOX, Adsorbable Organic Halogen as Cl	µg	544.799797	278.1880459	9.308374041	257.3033767
64	Argon-41	Bq	10.7172756	5.680568939	0.516500816	4.52020587
65	Arsenic	mg	2.65918457	1.481460563	0.243485174	0.934238832
66	Arsenic	µg	23.9439078	13.05977199	1.749445463	9.134690396
67	Arsenic, ion	mg	34.1992678	18.52462322	2.285400601	13.38924398
68	Arsine	pg	63.8433539	32.01420389	0.148085997	31.68106404
69	Atrazine	ng	36.9554787	18.53171183	0.086383875	18.33738304
70	Barite	mg	640.342165	334.0125822	22.39480129	283.9347812
71	Barite, 15% in crude ore, in ground	g	11.7065161	6.291325726	0.704852296	4.710338032
72	Barium	mg	751.97228	751.3099617	0.071520116	0.590798476
73	Barium	mg	243.783216	136.449093	23.30049406	84.03362843
74	Barium	mg	27.4717589	15.05761005	2.125743568	10.28840527
75	Barium-140	µBq	839.481069	554.1642569	216.2672534	69.04955845
76	Barium-140	mBq	2.18400014	1.441717984	0.562642749	0.179639406
77	Basalt, in ground	g	2.5185002	1.482340967	0.374283505	0.661875732
78	Benomyl	ng	8.16157657	4.58266574	0.828705803	2.75020503
79	Bentazone	mg	4.46025871	2.230150792	3.435E-05	2.230073566
80	Benzal chloride	pg	0.40606637	0.21913877	0.027066001	0.159861597
81	Benzaldehyde	µg	6.22526957	3.532614301	0.716701004	1.975954268
82	Benzene	mg	67.6255127	35.4133884	2.570429086	29.64169523
83	Benzene	mg	38.6290116	19.88254418	0.913947519	17.8325199
84	Benzene, 1-methyl-2-nitro-	ng	871.788308	435.8983915	0.006790714	435.8831262
85	Benzene, 1,2-dichloro-	µg	18.1291302	9.064755178	0.000303906	9.064071144
86	Benzene, 1,2-dichloro-	µg	110.755048	55.40302038	0.040819338	55.31120837
87	Benzene, chloro-	mg	725.13309	724.4097155	0.000828695	0.722545815
88	Benzene, ethyl-	mg	2.94975737	1.705858613	0.369718291	0.874180464
89	Benzene, ethyl-	mg	2.56428176	1.473323082	0.306536305	0.784422371
90	Benzene, hexachloro-	µg	627.094621	626.5899395	0.100165114	0.404516368
91	Benzene, pentachloro-	ng	105.719346	58.95490547	9.964283591	36.80015701
92	Benzo(a)pyrene	µg	73.4977512	39.34112688	4.201138145	29.95548622
93	Beryllium	µg	77.9580088	51.64985167	20.17134048	6.1368166
94	Beryllium	mg	6.53537853	3.532990724	0.424756917	2.577630885
95	BOD5, Biological Oxygen Demand	g	49.621045	25.70626815	1.447283598	22.46749327
96	Borate	µg	117.216626	58.62001736	0.018683052	58.57792608
97	Borax, in ground	µg	132.339437	78.8033713	20.83759363	32.69847166
98	Boron	mg	31.1285696	16.27679478	1.142501389	13.70927345
99	Boron	mg	449.709319	239.3998463	23.406164	186.903309
100	Boron	µg	857.935981	474.5633483	73.3186673	310.0539651
101	Boron trifluoride	pg	0.87374478	0.438135821	0.002026826	0.433582137
102	Bromate	mg	105.339456	52.69197712	0.036149841	52.611329
103	Bromide	mg	7.36655219	3.683969202	0.001111103	3.681471889
104	Bromine	mg	3.25299078	1.706488191	0.128459914	1.418042679
105	Bromine	mg	88.4526198	50.61372564	10.3061853	27.53270881
106	Bromine, 0.0023% in water	mg	8.49298771	4.247291666	0.001277707	4.24441834
107	Butadiene	ng	277.550381	138.9473242	0.275732075	138.3273245
108	Butane	mg	170.999955	95.93518663	16.702411	58.36235752
109	Butene	mg	2.60956166	1.533245881	0.365578124	0.710737658
110	Butene	µg	12.4633069	6.287262585	0.088151671	6.087892616
111	Butyl acetate	µg	46.4866973	23.31350213	0.112298769	23.06089641
112	Butyrolactone	ng	32.7917804	16.44822579	0.083795033	16.25975956
113	Butyrolactone	ng	78.7012577	39.47623656	0.201111741	39.02390936
114	Cadmium	µg	848.308391	481.2729925	91.35963938	275.6757593
115	Cadmium	µg	442.577273	221.3823774	0.150223434	221.0446726
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	mg	898.382405	897.5993695	0.095543331	0.687492246
117	Cadmium, ion	mg	11.4148299	6.14260526	0.698947478	4.573277136
118	Calcite, in ground	oz	893.630824	614.7173464	267.1264422	11.78703559
119	Calcium	mg	32.2147849	18.06020516	3.139675477	11.0149043
120	Calcium	mg	260.339525	141.9780149	18.98759849	99.37391115
121	Calcium, ion	g	97.0292578	51.83596832	5.280013987	39.9132755
122	Carbetamide	mg	790.108908	789.3196064	1.48105E-05	0.789286296
123	Carbofuran	µg	4.47447523	2.512385941	0.454328074	1.50776121
124	Carbon	mg	199.511491	107.8084603	12.95106346	78.75196718

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
125	Carbon-14	Bq	137.975722	81.09885976	19.47370963	37.40315284
126	Carbon dioxide, biogenic	g	473.319413	303.6899467	106.7465288	62.88293764
127	Carbon dioxide, fossil	kg	28.6153985	17.89486844	5.713475586	5.00705443
128	Carbon dioxide, in air	oz	528.896493	511.509632	0.524405903	16.86245479
129	Carbon dioxide, land transformation	mg	282.622597	149.8644609	13.87150329	118.886633
130	Carbon disulfide	mg	40.3926941	21.84999734	2.665624346	15.87707238
131	Carbon disulfide	µg	869.513828	868.6595641	0.011492597	0.842771734
132	Carbon monoxide, biogenic	mg	59.6716878	36.50519598	9.242513901	13.92397792
133	Carbon monoxide, fossil	g	27.2445122	16.07230157	3.923192539	7.249018087
134	Carbon, in organic matter, in soil	mg	5.6518403	3.173468131	0.573875207	1.904496965
135	Carbonate	mg	60.5613066	30.62540335	0.557921378	29.3779819
136	Carboxylic acids, unspecified	mg	448.680461	255.8285986	50.52319167	142.3286705
137	Cerium-141	µBq	203.509562	134.3421323	52.42807437	16.73935569
138	Cerium-141	µBq	873.199752	576.4228145	224.9537677	71.82317003
139	Cerium-144	µBq	265.830597	175.4819738	68.48328413	21.86533876
140	Cesium	µg	106.830163	61.38006371	12.77082877	32.67927079
141	Cesium-134	µBq	9.74678458	6.434116866	2.510967641	0.801700072
142	Cesium-134	mBq	25.8195124	14.71133268	2.896050248	8.212129508
143	Cesium-136	µBq	154.975887	102.3037852	39.92490216	12.74719919
144	Cesium-137	µBq	172.778858	114.0560015	44.51129305	14.21156293
145	Cesium-137	Bq	22.033424	12.6099187	2.561086707	6.862418628
146	Chloramine	µg	2.32958192	1.165016807	0.00036052	1.164204589
147	Chloramine	µg	21.4056425	10.70483949	0.003221716	10.69758129
148	Chlorate	mg	805.164508	402.7669694	0.299828019	402.0977105
149	Chloride	g	106.362785	60.1711013	11.17031115	35.021373
150	Chloride	mg	972.023094	525.8584488	64.01665388	382.1479915
151	Chlorinated solvents, unspecified	µg	258.814178	130.0050689	0.975842236	127.8332674
152	Chlorine	mg	16.0509549	8.213768231	0.307784661	7.529402013
153	Chlorine	mg	3.08672078	2.188906191	0.849577009	0.048237585
154	Chloroacetic acid	µg	382.493072	191.2580459	0.018378256	191.216648
155	Chloroacetic acid	mg	96.5607388	48.28087259	0.000806033	48.27906014
156	Chloroacetyl chloride	µg	938.859922	937.9220213	1.6698E-05	0.937884473
157	Chloroform	µg	20.8779187	10.68544503	0.395444796	9.797028881
158	Chloroform	µg	2.03549156	1.018867734	0.001794726	1.014829098
159	Chlorosilane, trimethyl-	µg	782.209322	781.6483813	0.185131383	0.375809552
160	Chlorosulfonic acid	µg	6.97682734	3.488447715	5.45496E-05	3.488325073
161	Chlorosulfonic acid	µg	17.3984566	8.699313215	0.000136033	8.699007377
162	Chlorothalonil	µg	17.0518594	10.16472883	2.615451222	4.2716793
163	Chromium	mg	17.5978118	9.331707902	0.868883538	7.397220343
164	Chromium	mg	3.83135173	1.929903813	0.022878912	1.878569008
165	Chromium-51	µBq	13.0408408	8.608612055	3.359581705	1.072646992
166	Chromium-51	mBq	170.664967	111.3660058	41.88270463	17.41625699
167	Chromium VI	µg	448.898031	243.0542291	30.17567702	175.6681245
168	Chromium VI	mg	65.4351754	35.21328287	4.043003343	26.1788892
169	Chromium VI	mg	979.078019	978.3158025	0.173706448	0.588510119
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	g	4.56176667	2.460404362	0.291686122	1.809676185
171	Chromium, ion	mg	7.18077942	3.626540212	0.058171265	3.496067939
172	Chrysotile, in ground	mg	38.5832818	19.29587091	0.006872158	19.28053877
173	Cinnabar, in ground	mg	658.317006	657.6601468	0.000649599	0.656209929
174	Clay, bentonite, in ground	g	2.34814295	1.297756013	0.20187528	0.848511657
175	Clay, unspecified, in ground	oz	335.498353	230.966762	100.5895599	3.942031463
176	Coal, brown, in ground	oz	602.723463	584.0079748	1.510869673	17.20461884
177	Coal, hard, unspecified, in ground	oz	74.0903443	45.41294568	13.33004147	15.34735712
178	Cobalt	µg	651.20371	362.7363606	59.56398635	228.9033632
179	Cobalt	mg	120.627907	64.15206227	6.165002424	50.3108428
180	Cobalt	µg	3.48146566	1.819473894	0.126413223	1.535578545
181	Cobalt-57	mBq	4.91951753	3.247507197	1.267367001	0.404643329
182	Cobalt-58	µBq	18.159904	11.98784522	4.678356377	1.493702411
183	Cobalt-58	mBq	803.666138	515.2477157	182.4508281	105.9675946
184	Cobalt-60	µBq	160.425878	105.9014698	41.32892573	13.1954821
185	Cobalt-60	mBq	698.784793	450.1585875	162.1058554	86.52034994
186	Cobalt, in ground	µg	19.7781399	10.74311298	1.399175428	7.635851524
187	COD, Chemical Oxygen Demand	g	113.761476	57.86119822	1.584256357	54.31602096

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
188	Colemanite, in ground	mg	29.3825233	14.93854654	0.390585447	14.05339135
189	Copper	mg	14.1894535	7.715098685	0.994775946	5.479578885
190	Copper	mg	-650.151228	-649.3615339	0.112780369	-0.902474692
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	428.416907	231.5818141	27.92846015	168.9066329
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	g	2.35334782	1.272894099	0.154668416	0.925785304
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	624.258378	337.6529693	41.02800753	245.5774014
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	g	3.12161394	1.687378558	0.203456269	1.230779114
195	Copper, ion	mg	138.170443	75.33626426	10.14540243	52.68877639
196	Cumene	mg	11.948248	6.006811307	0.054014529	5.887422119
197	Cumene	mg	28.7114488	14.43427067	0.129794693	14.1473834
198	Cyanide	µg	353.46243	187.0220232	16.70870007	149.7317069
199	Cyanide	mg	4.06315427	2.260337891	0.366143738	1.436672639
200	Cyanoacetic acid	µg	5.71375835	2.856907055	4.46741E-05	2.856806616
201	Cypermethrin	µg	34.9296164	17.50390885	0.064550732	17.36115678
202	Diatomite, in ground	ng	570.04242	313.9052969	46.3035237	209.8335997
203	Dichromate	µg	45.4080383	25.52080469	4.528419082	15.35881457
204	Diethylamine	µg	929.837101	928.9085278	0.000271467	0.928301371
205	Diethylamine	µg	4.457973	2.229389332	0.000651532	2.227932131
206	Dimethyl malonate	µg	7.16503868	3.582554304	5.60211E-05	3.582428354
207	Dimethylamine	µg	46.6147259	23.30774517	0.000614891	23.30636587
208	Dinitrogen monoxide	g	2.31544668	1.166551052	0.01427073	1.134624902
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	22.0936075	14.95446738	6.221201756	0.917938346
210	Dipropylamine	ng	853.222693	426.7167586	0.170519443	426.3354151
211	Dipropylamine	µg	2.04777294	1.024139461	0.000409249	1.023224231
212	DOC, Dissolved Organic Carbon	g	147.262735	73.95098501	0.516151234	72.79559889
213	Dolomite, in ground	mg	579.721216	330.5491213	67.86004511	181.3120493
214	Energy, gross calorific value, in biomass	MJ	13.5629047	6.870346447	0.142001544	6.550556677
215	Energy, gross calorific value, in biomass, primary forest	J	391.837882	220.0141851	39.78634279	132.0373546
216	Energy, kinetic (in wind), converted	kJ	456.43906	239.0730618	17.39829494	199.9677032
217	Energy, potential (in hydropower reservoir), converted	MJ	7.93705024	4.837254208	1.393523042	1.706272988
218	Energy, solar, converted	kJ	9.13818143	5.17284129	0.97047211	2.994868025
219	Ethane	mg	479.183108	245.3140911	9.126389355	224.7426277
220	Ethane, 1,1-difluoro-, HFC-152a	µg	3.30315041	1.863349513	0.340390794	1.099410102
221	Ethane, 1,1,1-trichloro-, HCFC-140	ng	15.4077414	9.046043015	2.161094901	4.200603531
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	871.691758	469.95572	54.43138214	347.3046557
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	259.944348	130.3489046	0.602943525	128.9925001
224	Ethane, 1,2-dichloro-	µg	868.112726	441.8838176	12.55256146	413.6763468
225	Ethane, 1,2-dichloro-	µg	65.2986588	33.30910777	1.060967608	30.92858344
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	62.3324318	37.07603611	9.50400301	15.75239266
227	Ethane, hexafluoro-, HFC-116	µg	184.140372	100.6277521	13.82601321	69.68660694
228	Ethanol	mg	2.01253904	1.070994299	0.103671621	0.837873116
229	Ethanol	mg	640.618098	639.9783845	0.000211774	0.639502093
230	Ethene	mg	32.8874938	17.34726852	1.434033793	14.10619149
231	Ethene	mg	11.9206878	5.996886834	0.060906402	5.862894567
232	Ethene, chloro-	µg	252.291713	131.1585854	8.033756987	113.0993707
233	Ethene, chloro-	µg	2.11403784	1.126015164	0.110685243	0.877337435
234	Ethene, tetrachloro-	ng	36.7432354	21.43659379	4.93468845	10.3719532
235	Ethyl acetate	mg	9.83152048	4.930631025	0.023804542	4.877084915
236	Ethyl acetate	µg	3.27737836	1.639126292	0.000706796	1.637545269
237	Ethyl cellulose	µg	19.8842592	9.970923866	0.046084041	9.867251261

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
238	Ethylamine	µg	720.012335	719.2932322	0.000153358	0.718949084
239	Ethylamine	µg	3.45217089	1.726314395	0.000368061	1.725488433
240	Ethylene diamine	ng	287.704542	145.4282838	2.515543369	139.7607153
241	Ethylene diamine	ng	690.598443	349.0911327	6.052420165	335.4548905
242	Ethylene oxide	µg	221.10783	122.8684105	19.5978112	78.64160826
243	Ethylene oxide	µg	283.293077	141.6627198	0.026267825	141.6040892
244	Ethyne	mg	2.65510386	1.349798958	0.036036808	1.269268096
245	Feldspar, in ground	µg	3.889645	2.363899817	0.579448065	0.946297118
246	Fenpiclonil	µg	302.033098	151.0824992	0.105263009	150.8453355
247	Fluoride	g	943.062477	942.1954076	0.060431552	0.806637715
248	Fluoride	mg	3.92530358	2.167966062	0.330160157	1.427177366
249	Fluorine	mg	4.02539032	2.339486465	0.525496185	1.160407666
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	18.4542309	9.575894762	0.561795541	8.316540634
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	mg	610.033551	305.1755082	0.255726135	304.6023169
252	Fluorspar, 92%, in ground	mg	610.156278	322.5812641	28.15424391	259.4207703
253	Fluosilicic acid	µg	194.177477	107.053795	16.10053374	71.02314831
254	Fluosilicic acid	µg	349.52035	192.6972765	28.98096074	127.8421124
255	Formaldehyde	mg	30.7088808	16.52808506	1.881342522	12.29945321
256	Formaldehyde	mg	38.5764875	19.29303923	0.00792425	19.27552407
257	Formamide	ng	607.104281	303.6668138	0.183033197	303.2544341
258	Formamide	µg	729.536607	728.8083492	0.000439292	0.72781861
259	Formate	mg	674.00154	673.3282329	1.6847E-05	0.673290475
260	Formic acid	µg	38.007109	20.59103545	2.620362807	14.79571071
261	Formic acid	ng	422.970411	211.5650983	0.127518898	211.2777942
262	Furan	µg	7.2483094	4.069871969	0.735973452	2.442463975
263	Gallium, 0.014% in bauxite, in ground	ng	25.4814359	14.37912605	2.633473521	8.468836364
264	Gas, mine, off-gas, process, coal mining/m3	dm3	27.6830737	17.58770034	5.964688724	4.130684627
265	Gas, natural, in ground	gal*	784.596325	399.7572074	11.94388956	372.8952277
266	Glutaraldehyde	µg	79.0542818	41.23596805	2.764790281	35.05352349
267	Glyphosate	µg	241.085622	128.7899579	13.18470617	99.11095785
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	µg	19.4775283	9.7669856	0.04516735	9.665375365
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	35.7176223	17.91056314	0.082827121	17.724232
270	Gold, Au 1.4E-4%, in ore, in ground	µg	42.7660234	21.44497624	0.099171898	21.22187524
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	65.320031	32.75465983	0.151474639	32.41389656
272	Gold, Au 4.3E-4%, in ore, in ground	µg	16.1890613	8.117987328	0.037541553	8.033532391
273	Gold, Au 4.9E-5%, in ore, in ground	µg	38.7746853	19.44352442	0.089916842	19.24124402
274	Gold, Au 6.7E-4%, in ore, in ground	µg	60.0294305	30.10169376	0.139205809	29.78853091
275	Gold, Au 7.1E-4%, in ore, in ground	µg	67.6896891	33.94292183	0.156969001	33.58979824
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	4.05609773	2.033925863	0.009405911	2.012765958
277	Granite, in ground	ng	29.1618121	17.64895161	5.033086405	6.47977404
278	Gravel, in ground	lb	264.763127	180.0757361	83.02955184	1.657838981
279	Gypsum, in ground	µg	684.839871	370.3667494	45.50980684	268.963315
280	Heat, waste	MJ	272.55648	157.0807099	33.24946086	82.22630942
281	Heat, waste	MJ	850.396646	847.7264985	0.306628803	2.3635182
282	Heat, waste	kJ	200.045175	111.5684599	18.54608469	69.93062995
283	Helium	mg	9.92980533	6.233498503	2.022742054	1.673564774
284	Heptane	mg	25.9973308	15.28310143	3.655442437	7.058786983
285	Hexane	mg	496.209182	253.296865	8.3107591	234.6015581
286	Hydrocarbons, aliphatic, alkanes, cyclic	mg	3.72195727	1.86198319	0.00167578	1.858298302
287	Hydrocarbons, aliphatic, alkanes, unspecified	g	650.334891	649.6883994	0.002596146	0.643895107
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	13.8879359	7.979415602	1.66020774	4.248312521
289	Hydrocarbons, aliphatic, unsaturated	mg	9.78130226	5.127516994	0.38066699	4.273118277

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
290	Hydrocarbons, aliphatic, unsaturated	mg	744.152057	743.5996172	0.15325019	0.399189553
291	Hydrocarbons, aromatic	mg	31.5505394	16.13774653	0.590950498	14.82184232
292	Hydrocarbons, aromatic	mg	57.5582111	33.01394486	6.790231363	17.75403486
293	Hydrocarbons, chlorinated	µg	253.408134	148.2881569	36.28397014	68.83600694
294	Hydrocarbons, unspecified	mg	30.4878612	15.64151987	0.644761051	14.20158026
295	Hydrogen	mg	242.948016	122.1331823	1.061278676	119.7535552
296	Hydrogen-3, Tritium	Bq	640.647797	363.2635866	69.01775774	208.3664527
297	Hydrogen-3, Tritium	kBq	50.1836384	28.69067865	5.785116222	15.70784356
298	Hydrogen chloride	mg	664.342599	369.3724856	59.83569321	235.1344198
299	Hydrogen fluoride	mg	56.0190239	29.42807438	2.281963233	24.30898627
300	Hydrogen peroxide	µg	14.7333694	7.388435867	0.034814715	7.310118867
301	Hydrogen peroxide	µg	139.23618	73.30391695	4.929760781	61.00250233
302	Hydrogen sulfide	mg	63.4425293	32.37213614	1.051648645	30.01874456
303	Hydrogen sulfide	mg	4.55957185	2.668250696	0.52762015	1.363701005
304	Hydroxide	µg	411.986476	206.7852141	1.268916078	203.9323457
305	Hypochlorite	mg	1.93122165	1.021351405	0.08943448	0.820435764
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	29.270302	15.67108318	1.722941825	11.87627701
307	Iodide	mg	11.8608373	6.73176673	1.284859796	3.844210824
308	Iodine	mg	912.325498	911.4958001	0.065577395	0.764120208
309	Iodine-129	mBq	116.745632	66.69811199	13.3826626	36.66485699
310	Iodine-131	Bq	4.09403152	2.149084427	0.163642327	1.781304763
311	Iodine-131	mBq	10.5483811	6.520986263	2.005439201	2.021955671
312	Iodine-133	mBq	774.475978	774.0571098	0.285711596	0.133156592
313	Iodine-133	mBq	905.544856	905.0788673	0.353214615	0.112773982
314	Iodine-135	µBq	410.28519	241.7225818	58.82822192	109.7343858
315	Iodine, 0.03% in water	mg	989.478668	988.4905554	0.000303237	0.987809581
316	Iron	mg	92.0941306	51.9365898	9.47231988	30.68522094
317	Iron	mg	511.924124	268.6970044	20.50066769	222.7264522
318	Iron-59	µBq	376.935926	248.825614	97.1062486	31.00406328
319	Iron, 46% in ore, 25% in crude ore, in ground	g	119.340588	65.87466566	10.21831142	43.24761113
320	Iron, ion	g	14.3026433	7.6938676	0.871067932	5.737707793
321	Isocyanic acid	µg	64.5048792	35.33228816	4.939590202	24.23300084
322	Isoprene	ng	336.348832	188.8574716	34.15209876	113.3392613
323	Isopropylamine	ng	716.125837	358.0772529	0.023234506	358.0253491
324	Isopropylamine	µg	860.24692	859.3876014	5.57639E-05	0.85926303
325	Kaolinite, 24% in crude ore, in ground	mg	38.5477454	23.1177358	6.130926058	9.299083501
326	Kieserite, 25% in crude ore, in ground	µg	228.885218	130.4717525	25.61250599	72.80095927
327	Krypton-85	Bq	34.1015267	18.15352268	1.76967909	14.17832493
328	Krypton-85m	Bq	12.5930541	8.242674086	3.130981078	1.219398888
329	Krypton-87	Bq	3.07209979	1.974612104	0.705524652	0.39196303
330	Krypton-88	Bq	3.85318798	2.501848622	0.925453871	0.42588549
331	Krypton-89	Bq	1.53716728	1.01125026	0.390409971	0.13550705
332	Lactic acid	ng	668.37975	334.2724486	0.133574837	333.9737267
333	Lactic acid	µg	803.05491	802.2530533	0.000320582	0.801536116
334	Lanthanum-140	µBq	71.7471881	47.36226109	18.4835118	5.901415237
335	Lanthanum-140	mBq	2.32614023	1.535548596	0.599261027	0.191330607
336	Lead	mg	9.1733405	5.234268984	1.037660511	2.901411009
337	Lead	mg	25.8113376	14.01639451	1.782223853	10.01271928
338	Lead	µg	719.699176	361.2671306	2.266237073	356.1658087
339	Lead-210	mBq	737.83332	390.2962467	34.33879213	313.1982808
340	Lead-210	Bq	7.1931335	3.60544976	0.014277508	3.573406234
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	118.174894	63.94033795	7.814647644	46.41990837
342	Linuron	mg	67.3310685	33.66585791	0.000518612	33.66469197
343	Lithium, 0.15% in brine, in ground	µg	17.5638726	8.785253745	0.005294854	8.773323977
344	Lithium, ion	µg	645.667527	347.3455525	41.1924768	257.129498
345	m-Xylene	µg	104.159899	56.02440297	6.334592465	41.80090362
346	m-Xylene	µg	684.200237	683.5186908	0.001632663	0.679913284
347	Magnesite, 60% in crude ore, in ground	g	10.1021519	6.766304026	2.733313523	0.602534348

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
348	Magnesium	mg	26.1575419	13.751788	1.082660801	11.32309308
349	Magnesium	g	43.0483976	23.05875455	2.457903284	17.5317398
350	Magnesium	mg	48.526994	26.51718944	3.62420981	18.38559478
351	Magnesium, 0.13% in water	µg	117.07378	62.48489541	6.337896289	48.2509882
352	Mancozeb	µg	22.1468144	13.20186963	3.396932253	5.548012479
353	Manganese	mg	2.70022009	1.513459645	0.262923122	0.923837321
354	Manganese	g	3.50967982	1.884184591	0.207227429	1.418267799
355	Manganese	mg	4.42996779	2.406401041	0.307598919	1.715967834
356	Manganese-54	µBq	6.67835558	4.408563147	1.720477828	0.549314603
357	Manganese-54	mBq	48.663777	31.17314438	11.00555364	6.485078937
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	mg	695.921542	400.8036921	88.20627804	206.9115717
359	Mercury	mg	803.914904	803.4000188	0.229962184	0.28492256
360	Mercury	mg	573.371442	572.8804585	0.065608998	0.425374799
361	Mercury	µg	57.6667788	28.8348079	0.002274477	28.82969643
362	Metaldehyde	µg	297.249207	148.6267646	0.003458352	148.6189837
363	Metamorphous rock, graphite containing, in ground	mg	10.4153467	5.741552941	0.862578239	3.811215498
364	Methane, biogenic	mg	259.171758	140.3895315	17.04542135	101.7368053
365	Methane, bromo-, Halon 1001	pg	0.09288688	0.050127564	0.006191296	0.036568025
366	Methane, bromochlorodifluoro-, Halon 1211	µg	122.260027	61.84760972	1.152285564	59.26013193
367	Methane, bromotrifluoro-, Halon 1301	µg	81.1571261	48.75834406	13.07018034	19.32860175
368	Methane, chlorodifluoro-, HCFC-22	µg	449.451032	227.833869	4.997147002	216.6200155
369	Methane, dichloro-, HCC-30	µg	10.8044261	5.432371095	0.048493718	5.323561306
370	Methane, dichloro-, HCC-30	mg	774.230058	773.5903057	0.107626168	0.532125997
371	Methane, dichlorodifluoro-, CFC-12	µg	734.845653	734.1247227	0.010457933	0.710472119
372	Methane, dichlorofluoro-, HCFC-21	ng	883.977928	883.1103156	0.011739458	0.855872674
373	Methane, fossil	g	46.4389345	26.13792877	4.650398248	15.65060746
374	Methane, monochloro-, R-40	ng	429.399982	251.7579169	59.76006487	117.8820003
375	Methane, tetrachloro-, CFC-10	µg	383.059689	191.7216137	0.313867443	191.0242075
376	Methane, tetrafluoro-, CFC-14	mg	825.161843	824.4908497	0.124003193	0.546989672
377	Methane, trichlorofluoro-, CFC-11	ng	2.84220512	1.433682797	0.019058383	1.389463942
378	Methane, trifluoro-, HFC-23	ng	557.046605	280.9889227	3.735282212	272.3224004
379	Methanesulfonic acid	µg	5.77391887	2.886987613	4.51444E-05	2.886886117
380	Methanol	mg	238.04639	119.3852237	0.581294428	118.0798718
381	Methanol	mg	14.2246339	7.12343802	0.017918728	7.08327716
382	Methyl acetate	ng	233.770253	116.8862627	0.001820931	116.8821693
383	Methyl acetate	ng	561.03834	280.5218971	0.004370156	280.5120731
384	Methyl acrylate	µg	6.21434656	3.116179578	0.014414253	3.08375273
385	Methyl acrylate	µg	121.399216	60.87554844	0.281586655	60.24208047
386	Methyl amine	µg	971.161744	970.1916557	8.38849E-05	0.970004464
387	Methyl amine	µg	4.65678358	2.328515756	0.000201319	2.328066507
388	Methyl borate	ng	163.333725	81.69028576	0.037387783	81.60605153
389	Methyl ethyl ketone	mg	9.82964233	4.92969173	0.023804189	4.876146409
390	Methyl formate	ng	184.623425	92.37683369	0.10409186	92.14249922
391	Methyl formate	ng	73.7095435	36.88077096	0.041557887	36.7872147
392	Methyl lactate	ng	733.746597	366.9639506	0.146642998	366.6360036
393	Metolachlor	mg	487.336651	243.6706679	0.003753153	243.66223
394	Metribuzin	ng	779.801629	464.8453406	119.6081605	195.3481279
395	Molybdenum	µg	241.617327	133.6974501	20.71076027	87.20911636
396	Molybdenum	mg	29.4266938	15.79131058	1.728136201	11.90724701
397	Molybdenum	µg	668.652031	668.0177993	0.027124582	0.607107348
398	Molybdenum-99	µBq	802.003697	529.4244325	206.6123374	65.96692712
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	58.0107711	31.35755441	3.780971018	22.87224565
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	mg	8.19966535	4.435089529	0.5389061	3.225669717
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	10.4736002	5.811680674	0.959604285	3.702315192

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	mg	30.0462797	16.25162437	1.974718188	11.8199371
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	21.0075702	11.66381159	1.936358145	7.407400485
404	Monoethanolamine	µg	411.369715	210.066402	7.26224744	194.0410651
405	Napropamide	µg	525.901348	262.9544976	0.00611861	262.9407314
406	Nickel	mg	13.3970249	7.005817579	0.493466156	5.897741146
407	Nickel	µg	-508.920088	-253.8361084	0.998658802	-256.0826383
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	mg	26.9300672	14.97016079	2.397989045	9.561917415
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	g	10.9027351	5.83917289	0.633558336	4.430003854
410	Nickel, ion	mg	372.390318	200.5654797	23.08309981	148.7417387
411	Niobium-95	nBq	792.778649	523.3346797	204.2357014	65.20826838
412	Niobium-95	mBq	4.2839157	2.635014017	0.793084003	0.855817679
413	Nitrate	µg	733.409035	429.456948	100.8560614	203.0960254
414	Nitrate	g	71.3931878	35.82053315	0.198317965	35.37433666
415	Nitrite	mg	2.3283764	1.189684404	0.040991392	1.097700603
416	Nitrobenzene	µg	5.54015188	2.770580164	0.00081555	2.768756171
417	Nitrobenzene	µg	22.2021068	11.10307409	0.003268311	11.09576445
418	Nitrogen	mg	36.1874373	19.36378823	2.035634817	14.78801428
419	Nitrogen oxides	g	56.3175303	33.73402775	8.924851785	13.65865074
420	Nitrogen, organic bound	mg	29.7690763	16.72000726	2.938249699	10.11081931
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	11.2652265	6.361574373	1.168249451	3.735402699
422	Noble gases, radioactive, unspecified	kBq	1121.80093	640.8887725	128.5787747	352.3333791
423	o-Xylene	ng	12.6836491	6.844891322	0.845421355	4.993336398
424	Occupation, arable, non-irrigated	m2a	2.19812974	1.099080891	2.56385E-05	1.099023207
425	Occupation, construction site	cm2a	27.7012726	14.06837215	0.350006654	13.2828938
426	Occupation, dump site	cm2a	145.758377	83.6194104	17.14073634	44.99822987
427	Occupation, dump site, benthos	cm2a	540.986215	536.0698121	0.359422737	4.556980327
428	Occupation, forest, intensive	cm2a	138.307025	71.64216039	4.11918483	62.5456801
429	Occupation, forest, intensive, normal	m2a	0.25741456	0.147491233	0.029974351	0.079948978
430	Occupation, forest, intensive, short-cycle	mm2a	98.2910096	55.18968271	9.980215806	33.12111111
431	Occupation, industrial area	cm2a	106.582498	60.48715306	11.28375571	34.81158912
432	Occupation, industrial area, benthos	mm2a	9.58258362	5.045143245	0.408606153	4.12883422
433	Occupation, industrial area, built up	cm2a	343.95404	178.85952	11.22956261	153.8649572
434	Occupation, industrial area, vegetation	cm2a	181.137962	118.820144	48.10686758	14.21095078
435	Occupation, mineral extraction site	cm2a	442.34395	295.2114386	126.796272	20.33623971
436	Occupation, permanent crop, fruit, intensive	mm2a	107.340386	62.398923	14.41661269	30.52485069
437	Occupation, shrub land, sclerophyllous	mm2a	638.722238	331.6844376	20.10851429	286.9292859
438	Occupation, traffic area, rail embankment	cm2a	31.7577215	16.91504263	1.651492055	13.19118683
439	Occupation, traffic area, rail network	cm2a	35.1169565	18.7042575	1.826171097	14.58652795
440	Occupation, traffic area, road embankment	cm2a	34.4962959	19.40365688	3.444977492	11.64766157
441	Occupation, traffic area, road network	cm2a	196.504479	116.966841	30.91280668	48.62483169
442	Occupation, urban, discontinuously built	cm2a	766.09377	758.5093471	0.000540455	7.583882342
443	Occupation, water bodies, artificial	cm2a	170.417795	102.8097887	30.02989728	37.57810921
444	Occupation, water courses, artificial	cm2a	96.9139821	56.75789351	13.28600012	26.87008851
445	Oil, crude, in ground	oz	80.6300672	46.04607243	9.174253382	25.40974139
446	Oils, biogenic	mg	5.14093735	2.806340427	0.376910028	1.957686894
447	Oils, unspecified	g	5.67284042	3.109573771	0.441100603	2.122166049
448	Oils, unspecified	g	5.64950857	3.062793406	0.385559952	2.201155209

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
449	Olivine, in ground	mg	652.879266	652.2308554	0.003095754	0.645314752
450	Orbencarb	µg	4.21102	2.510217886	0.64589595	1.054906162
451	Ozone	mg	38.7273678	21.89109638	4.049752049	12.78651934
452	PAH, polycyclic aromatic hydrocarbons	mg	941.172999	940.3944998	0.133459598	0.645039573
453	PAH, polycyclic aromatic hydrocarbons	µg	630.93417	359.835184	71.35215607	199.7468304
454	Particulates, < 2.5 um	g	3.12119039	1.814855963	0.410203475	0.896130949
455	Particulates, > 10 um	g	7.77648845	4.76116916	1.392204189	1.623115096
456	Particulates, > 2.5 um, and < 10um	g	7.2387155	3.934355358	0.503281322	2.801078815
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	µg	9.32962554	4.752578416	0.141739992	4.435307136
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	22.4208049	11.42131904	0.340626646	10.65885919
459	Peat, in ground	g	5.64786794	2.825031999	0.001784447	2.821051496
460	Pentane	mg	212.670855	120.9006375	23.45786241	68.31235539
461	Phenol	µg	575.495258	324.1742192	60.97446901	190.3465694
462	Phenol	mg	14.6949697	8.061263268	1.145139811	5.488566588
463	Phenol, 2,4-dichloro-	ng	999.259956	499.6573792	0.045008628	499.5575686
464	Phenol, pentachloro-	µg	22.0012738	11.52532591	0.841101658	9.634846265
465	Phosphate	g	13.3386754	7.120733343	0.722956355	5.494985668
466	Phosphine	ng	4.73441092	2.374066883	0.010981462	2.349362571
467	Phosphorus	µg	714.850946	379.5846264	35.64043079	299.6258891
468	Phosphorus	mg	59.721577	29.92303774	0.10073713	29.69780209
469	Phosphorus	mg	3.81570424	2.081889584	0.279778838	1.454035817
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	g	2.43240551	1.217220823	0.001528707	1.213655982
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	73.8169237	38.30357904	2.247182164	33.26616253
472	Pirimicarb	µg	421.91136	210.957708	0.00324929	210.950403
473	Platinum	ng	1.79402083	1.0366372	0.224489291	0.532894338
474	Plutonium-238	nBq	15.9260628	9.098736564	1.825611778	5.001714492
475	Plutonium-alpha	nBq	36.5084422	20.85768077	4.184982933	11.46577848
476	Polonium-210	Bq	681.539495	680.9291789	0.056700728	0.553615717
477	Polonium-210	Bq	10.8760955	5.449049772	0.017691263	5.40935449
478	Polychlorinated biphenyls	µg	1.8847123	1.042584635	0.164844811	0.677282851
479	Potassium	mg	37.3086489	20.36012687	2.741448119	14.20707392
480	Potassium	mg	25.1724129	13.74422249	1.861739293	9.566451102
481	Potassium-40	mBq	165.964437	85.82502945	4.560876877	75.578531
482	Potassium-40	Bq	550.703113	550.1660649	0.010523569	0.526524328
483	Potassium, ion	g	26.5132418	14.26146004	1.60869142	10.64309034
484	Propanal	µg	23.0668295	11.95769179	0.723606206	10.38553149
485	Propanal	µg	577.441856	576.8654258	0.000347713	0.576082018
486	Propane	mg	254.191129	137.8629347	17.23888219	99.08931186
487	Propene	mg	14.1463999	7.580841951	0.813729323	5.751828632
488	Propene	mg	11.6964758	5.881942384	0.055551639	5.758981789
489	Propionic acid	µg	888.093691	451.0699595	11.27587145	425.7478599
490	Propionic acid	µg	5.66396635	2.832066696	0.000136453	2.8317632
491	Propylamine	ng	192.259641	96.16613507	0.0579629	96.03554281
492	Propylamine	ng	461.429479	230.8018938	0.139109441	230.4884758
493	Propylene oxide	µg	110.899325	57.11026528	2.656194116	51.13286539
494	Propylene oxide	µg	266.668247	137.3295547	6.390834756	122.9478575
495	Protactinium-234	mBq	18.2713425	10.67491081	2.474916881	5.121514779
496	Protactinium-234	mBq	336.570283	196.6339269	45.58117254	94.35518383
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	260.059217	136.530302	10.46949301	113.059422
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	932.286769	489.4478235	37.53225119	405.3066943
499	Radioactive species, alpha emitters	mBq	9.03678893	4.536716515	0.02950024	4.470572176

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
500	Radioactive species, Nuclides, unspecified	Bq	113.699591	64.95563051	13.02987619	35.71408429
501	Radioactive species, other beta emitters	mBq	914.822321	503.7578452	74.29752119	336.7669549
502	Radium-224	Bq	5.34151771	3.069007959	0.638541439	1.633968312
503	Radium-226	mBq	797.829188	453.6311789	87.96774176	256.2302674
504	Radium-226	Bq	225.896963	131.2261962	29.38533584	65.28543061
505	Radium-228	mBq	368.88433	187.4987568	4.910654269	176.4749194
506	Radium-228	Bq	10.6840872	6.138584278	1.277154255	3.268348661
507	Radon-220	Bq	4.43923221	2.328966109	0.175358252	1.934907849
508	Radon-222	kBq	2412.29615	1409.329692	326.6896189	676.2768391
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	133.096222	68.92843932	3.841980414	60.32580181
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	416.872799	215.8918558	12.03351398	188.9474294
511	Rhenium, in crude ore, in ground	ng	75.2221883	41.87636674	6.867163879	26.47865764
512	Rubidium	mg	614.255138	613.8006371	0.127708288	0.326792708
513	Ruthenium-103	nBq	174.178666	114.9800594	44.87192174	14.32668516
514	Ruthenium-103	µBq	169.230041	111.7133416	43.59706317	13.91963578
515	Sand, unspecified, in ground	mg	57.039913	28.85270092	0.539081496	27.64813061
516	Scandium	µg	227.475117	132.3914231	29.99335846	65.09033539
517	Scandium	mg	11.5005388	6.254692501	0.809230369	4.436615976
518	Selenium	µg	639.750974	346.2327845	42.21504893	251.3031403
519	Selenium	mg	17.291701	9.301631221	1.051269991	6.938799767
520	Shale, in ground	mg	11.0256794	5.526979554	0.022888131	5.475811709
521	Silicon	mg	97.3745268	50.48131087	2.887361501	44.00585441
522	Silicon	g	148.725085	76.51783361	3.46876445	68.73848665
523	Silicon	mg	20.1607358	10.70590401	1.005006595	8.449825218
524	Silicon tetrafluoride	ng	540.384299	280.7016858	16.92869082	242.753922
525	Silver	µg	9.76170235	5.691868762	1.304000209	2.765833379
526	Silver-110	µBq	1.72624357	1.139540238	0.444715102	0.14198823
527	Silver-110	mBq	674.965921	435.5498267	157.7637549	81.65233919
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	432.4135	217.0075426	1.282862398	214.1230954
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	308.487934	154.8177483	0.919205483	152.7509806
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	28.4795666	14.29256732	0.084559719	14.10243958
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	65.0438323	32.64246873	0.193124643	32.2082389
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	63.753932	31.99512776	0.189294506	31.56950977
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	42.0686007	21.11226987	0.12490681	20.83142402
534	Silver, ion	µg	762.352606	415.66613	55.40898771	291.277488
535	Sodium	mg	11.7899947	6.418227079	0.840809643	4.530958012
536	Sodium	mg	114.81202	62.79058093	8.659556394	43.3618825
537	Sodium-24	mBq	6.06817514	4.005767072	1.563284021	0.499124044
538	Sodium chlorate	µg	7.30828656	3.904491433	0.402569472	3.001225651
539	Sodium chloride, in ground	g	696.018308	348.3720973	0.589574392	347.0566363
540	Sodium dichromate	µg	12.4516594	6.998086538	1.237576013	4.215996826
541	Sodium formate	µg	3.01414911	1.539947404	0.05401154	1.420190166
542	Sodium formate	µg	7.2412101	3.699580067	0.129759429	3.411870606
543	Sodium hydroxide	µg	54.9401086	27.55028681	0.128413531	27.26140823
544	Sodium nitrate, in ground	ng	16.6732415	8.879849246	0.883546688	6.909845529
545	Sodium sulphate, various forms, in ground	mg	142.734248	74.12467932	4.438067587	64.17150069
546	Sodium, ion	g	76.3442712	41.9362973	6.0306661	28.37730777
547	Solids, inorganic	g	4.90755778	2.554472024	0.161573085	2.191512674
548	Solved solids	g	958.715846	957.8285491	0.057385144	0.829911524
549	Stibnite, in ground	ng	59.2402516	32.62180539	4.811934822	21.80651136

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
550	Strontium	mg	836.170327	835.4053401	0.056587951	0.708398917
551	Strontium	g	782.848511	782.1866541	0.096334515	0.565522654
552	Strontium	µg	552.326027	302.8936797	42.99009061	206.4422568
553	Strontium-89	mBq	14.6495252	9.517268066	3.527272926	1.604984244
554	Strontium-90	Bq	113.126246	59.38181121	4.519055302	49.22537904
555	Styrene	µg	64.0020877	37.30417069	8.954104756	17.74381224
556	Sulfate	g	5.96192736	2.987356203	0.010261037	2.964310117
557	Sulfate	g	457.964221	240.3859346	18.26104626	199.3172398
558	Sulfide	µg	744.937019	388.31888	25.42371584	331.1944227
559	Sulfite	mg	5.24223006	2.771772572	0.241726012	2.228731474
560	Sulfur	mg	78.8285016	40.09486771	1.100424065	37.63320985
561	Sulfur	mg	36.9016334	20.07963362	2.619524083	14.20247566
562	Sulfur dioxide	g	54.4050387	29.2362127	3.247917311	21.92090871
563	Sulfur hexafluoride	µg	485.096299	264.8087378	35.75849453	184.5290671
564	Sulfur trioxide	µg	49.182058	24.59510384	0.006590365	24.58036384
565	Sulfur, in ground	mg	52.8287823	26.58100047	0.269761916	25.97801991
566	Sulfuric acid	µg	11.50462	5.769605324	0.027684933	5.707329715
567	Sulfuric acid	ng	7.10156228	3.561073277	0.016472193	3.524016809
568	Suspended solids, unspecified	g	4.0012554	2.068436497	0.109621993	1.823196911
569	Sylvite, 25 % in sylvinite, in ground	g	9.33020483	4.665686703	0.000952357	4.663565775
570	t-Butyl methyl ether	µg	16.693265	10.40890809	3.428971577	2.855385359
571	t-Butyl methyl ether	µg	211.429919	112.9411697	11.7063772	86.78237199
572	t-Butylamine	µg	4.36906402	2.184565932	5.46586E-05	2.184443431
573	t-Butylamine	µg	10.4859091	5.243035959	0.000131183	5.242741953
574	Talc, in ground	mg	8.66448153	4.791940458	0.719379627	3.153161444
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	340.940917	171.0754953	0.969118022	168.8963041
576	Tebutam	mg	623.703157	623.0800949	1.44983E-05	0.623047475
577	Technetium-99m	mBq	18.4388674	12.17026211	4.747430773	1.521174501
578	Teflubenzuron	ng	51.9869874	30.98979544	7.973877365	13.02331459
579	Tellurium-123m	mBq	3.61583032	2.090150774	0.453758796	1.071920746
580	Tellurium-132	µBq	46.4376018	30.65472219	11.9632625	3.819617069
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	46.2740875	23.22311236	0.137883123	22.91309203
582	Terpenes	µg	3.18042302	1.785784708	0.322932709	1.0717056
583	Thallium	µg	278.28798	190.9138681	82.36362552	5.01048592
584	Thallium	mg	618.049245	617.5101107	0.062936729	0.476197582
585	Thiram	ng	14.4795834	8.130182035	1.470222741	4.879178605
586	Thorium	µg	9.88485202	5.014865689	0.116834436	4.753151893
587	Thorium-228	mBq	47.8718914	24.59974149	1.065216555	22.20693333
588	Thorium-228	Bq	21.4519185	12.31900521	2.554245573	6.578667725
589	Thorium-230	mBq	92.4213024	51.90956929	9.163198845	31.34853429
590	Thorium-230	Bq	45.9222101	26.8290201	6.219106127	12.87408383
591	Thorium-232	mBq	49.1252002	25.43124032	1.393393757	22.30056607
592	Thorium-232	mBq	44.9311085	23.59738211	1.815314657	19.51841177
593	Thorium-234	mBq	18.275162	10.67715338	2.475452012	5.122556652
594	Thorium-234	mBq	336.614054	196.6593695	45.58689294	94.36779139
595	Tin	µg	568.740784	336.7662365	83.83657395	148.1379735
596	Tin	µg	3.81220736	1.911405807	0.008533523	1.892268025
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	23.0191625	12.98762345	2.427858868	7.603680192
598	Tin, ion	mg	11.3326108	6.051314329	0.624430482	4.656865953
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	oz	757.77184	731.9536456	0.000576651	25.81761813
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	3.10228583	1.588196998	0.06149287	1.452595964
601	Titanium	mg	6.00533145	3.356045441	0.568257607	2.081028401
602	Titanium	µg	150.482571	81.13773091	9.465500073	59.87934025
603	Titanium, ion	g	27.5143182	13.76937115	0.019652055	13.72529497
604	TOC, Total Organic Carbon	g	147.293483	73.96761547	0.518163252	72.80770422
605	Toluene	mg	32.3022922	17.8648507	2.745955713	11.69148579
606	Toluene	mg	14.169363	8.061542215	1.56665703	4.541163721
607	Toluene, 2-chloro-	µg	2.80121487	1.40076226	0.000250321	1.400202289

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
608	Toluene, 2-chloro-	µg	4.74994534	2.375291492	0.000515543	2.374138309
609	Transformation, from arable	mm2	6.40453978	3.650717732	0.719889205	2.033932838
610	Transformation, from arable, non-irrigated	dm2	406.260218	203.133063	0.00472678	203.1224283
611	Transformation, from arable, non-irrigated, fallow	mm2	1.07899959	0.620578573	0.130027159	0.328393861
612	Transformation, from dump site, inert material landfill	mm2	32.6777548	18.3815884	3.348391313	10.94777506
613	Transformation, from dump site, residual material landfill	mm2	94.1236288	47.41816747	0.580377633	46.12508368
614	Transformation, from dump site, sanitary landfill	mm2	0.65289448	0.377484606	0.068555261	0.206854611
615	Transformation, from dump site, slag compartment	mm2	0.13854211	0.083263164	0.023450035	0.031828915
616	Transformation, from forest	cm2	26.3223656	14.6246346	2.348422151	9.349308897
617	Transformation, from forest, extensive	cm2	20.8255501	11.80349128	2.221389032	6.800669767
618	Transformation, from forest, intensive, clear-cutting	mm2	3.51039929	1.971064104	0.356437869	1.182897317
619	Transformation, from industrial area	mm2	21.1326109	11.36866182	1.289705646	8.474243473
620	Transformation, from industrial area, benthos	mm2	0.0755195	0.038189943	0.000690654	0.036638906
621	Transformation, from industrial area, built up	mm2	0.02551802	0.013255296	0.00079941	0.011463318
622	Transformation, from industrial area, vegetation	mm2	0.04353105	0.022612124	0.0013637	0.019555221
623	Transformation, from mineral extraction site	cm2	948.664129	944.1038521	4.147419506	0.41285727
624	Transformation, from pasture and meadow	mm2	302.364806	159.5945925	13.59480524	129.1754083
625	Transformation, from pasture and meadow, intensive	cm2	33.154774	16.57762805	0.00038574	16.57676018
626	Transformation, from sea and ocean	cm2	541.826586	536.9035865	0.360848251	4.562151605
627	Transformation, from shrub land, sclerophyllous	mm2	164.70239	88.91906659	10.59414154	65.18918171
628	Transformation, from tropical rain forest	mm2	3.51039929	1.971064104	0.356437869	1.182897317
629	Transformation, from unknown	cm2	55.0060909	36.47359435	15.45300405	3.079492506
630	Transformation, to arable	mm2	289.498958	168.4458143	37.73304779	83.32009591
631	Transformation, to arable, non-irrigated	dm2	406.591745	203.2988289	0.004730639	203.2881856
632	Transformation, to arable, non-irrigated, fallow	mm2	36.1082144	24.72596467	10.61711719	0.765132548
633	Transformation, to dump site	mm2	93.9956714	55.65386492	13.80668613	24.53512036
634	Transformation, to dump site, benthos	cm2	540.986215	536.0698121	0.359422737	4.556980327
635	Transformation, to dump site, inert material landfill	mm2	32.6777548	18.3815884	3.348391313	10.94777506
636	Transformation, to dump site, residual material landfill	mm2	94.1244342	47.41858199	0.580396722	46.12545549
637	Transformation, to dump site, sanitary landfill	mm2	0.65289448	0.377484606	0.068555261	0.206854611
638	Transformation, to dump site, slag compartment	mm2	0.13854211	0.083263164	0.023450035	0.031828915
639	Transformation, to forest	cm2	871.960727	867.6127618	3.708433035	0.639532652
640	Transformation, to forest, intensive	mm2	92.1025819	47.70918712	2.744139372	41.64925539
641	Transformation, to forest, intensive, clear-cutting	mm2	3.51039929	1.971064104	0.356437869	1.182897317
642	Transformation, to forest, intensive, normal	cm2	19.6714604	11.19435844	2.169097971	6.308003994
643	Transformation, to forest, intensive, short-cycle	mm2	3.51039929	1.971064104	0.356437869	1.182897317
644	Transformation, to heterogeneous, agricultural	mm2	121.454536	67.75698475	11.27697867	42.42057217

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
645	Transformation, to industrial area	mm2	161.884306	96.19836435	23.98711885	41.69882245
646	Transformation, to industrial area, benthos	mm2	1.49743764	0.835766417	0.142551499	0.519119726
647	Transformation, to industrial area, built up	mm2	262.712635	145.3862097	22.88031273	94.44611215
648	Transformation, to industrial area, vegetation	mm2	366.938984	240.2631628	96.69572247	29.98009865
649	Transformation, to mineral extraction site	cm2	60.0017596	37.75505325	13.25453599	8.9921704
650	Transformation, to pasture and meadow	mm2	16.1990049	8.170446337	0.113936904	7.914621701
651	Transformation, to permanent crop, fruit, intensive	mm2	1.51104851	0.878399763	0.202944603	0.429704144
652	Transformation, to sea and ocean	mm2	0.0755195	0.038189943	0.000690654	0.036638906
653	Transformation, to shrub land, sclerophyllous	mm2	127.593144	66.26066561	4.020774246	57.31170422
654	Transformation, to traffic area, rail embankment	mm2	7.38981887	3.936020988	0.384289498	3.069508388
655	Transformation, to traffic area, rail network	mm2	8.12267994	4.326364006	0.42240185	3.373914084
656	Transformation, to traffic area, road embankment	mm2	22.6704604	12.76836819	2.290413788	7.611678438
657	Transformation, to traffic area, road network	mm2	282.963388	175.6501912	56.63229311	50.68090335
658	Transformation, to unknown	mm2	185.187758	123.4888879	49.18809171	12.51077877
659	Transformation, to urban, discontinuously built	mm2	30.2166977	15.10901683	0.001076551	15.10660434
660	Transformation, to water bodies, artificial	mm2	796.74484	531.863447	231.9800849	32.9013086
661	Transformation, to water courses, artificial	mm2	105.329254	62.26470378	15.3685597	27.69599068
662	Tributyltin compounds	µg	598.691545	308.051934	13.97565587	276.6639554
663	Triethylene glycol	mg	699.042846	698.3598792	0.012356698	0.670610332
664	Trimethylamine	ng	413.656908	206.8304689	0.003229046	206.8232103
665	Trimethylamine	ng	992.776581	496.3931261	0.007749712	496.3757053
666	Tungsten	µg	24.9608045	14.58280485	3.380390919	6.9976087
667	Tungsten	mg	13.3003631	7.106730843	0.734690212	5.458942022
668	Ulexite, in ground	mg	523.193793	522.7113878	0.032305466	0.450100058
669	Uranium	µg	13.0199717	6.598938707	0.14320583	6.277827148
670	Uranium-234	mBq	237.224758	136.5080339	28.77398914	71.94273497
671	Uranium-234	mBq	403.887013	235.9620488	54.69740709	113.227557
672	Uranium-235	mBq	10.2991433	6.017044496	1.394783881	2.887314955
673	Uranium-235	mBq	666.413285	389.3372373	90.25072168	186.8253259
674	Uranium-238	mBq	364.929439	202.6230931	32.40419879	129.9021473
675	Uranium-238	Bq	4.70220748	2.441156532	0.144790751	2.116260197
676	Uranium alpha	mBq	991.956722	579.514816	134.3157282	278.1261781
677	Uranium alpha	Bq	19.3904608	11.32842384	2.625963268	5.436073718
678	Uranium, in ground	mg	75.7599487	44.13557081	10.05824966	21.56612823
679	Urea	µg	926.180883	925.2561329	0.000403653	0.924346711
680	Vanadium	mg	9.59185609	5.192089386	0.634120076	3.765646632
681	Vanadium	µg	4.30731175	2.322430691	0.270932395	1.713948661
682	Vanadium, ion	mg	138.064534	70.64032066	2.588087905	64.8361251
683	Vermiculite, in ground	mg	5.98472019	4.248925249	1.653336347	0.08245859
684	VOC, volatile organic compounds, unspecified origin	mg	38.2099173	21.95968842	4.577490796	11.67273803
685	Volume occupied, final repository for low-active radioactive waste	mm3	152.915762	89.31811144	20.67752723	42.92012367
686	Volume occupied, final repository for radioactive waste	mm3	35.9715639	20.7811594	4.494093471	10.69631108
687	Volume occupied, reservoir	m3day	49.1484923	29.74146762	8.309309649	11.09771505
688	Volume occupied, underground deposit	mm3	200.605325	105.0184599	7.629003103	87.95786232
689	Water	mg	793.771056	496.7631917	159.1654738	137.8423902

No	Substance	Unit	Total	220mm Double Brick components	Building in component - Plaster	Building in components - paint
690	Water, cooling, unspecified natural origin/m3	dm3	217.754428	112.2011679	5.335173348	100.2180865
691	Water, lake	cu.in	384.665965	273.0862425	106.2503564	5.329366544
692	Water, river	dm3	49.7465311	30.58341322	8.214323366	10.94879455
693	Water, salt, ocean	cu.in	364.772983	196.6699066	22.96379183	145.1392851
694	Water, salt, sole	cu.in	285.956728	148.3508883	8.622203471	128.9836367
695	Water, turbine use, unspecified natural origin	m3	61.0982185	37.22014535	10.68607156	13.19200162
696	Water, unspecified natural origin/m3	dm3	276.286118	173.8774348	61.16567976	41.2430038
697	Water, well, in ground	dm3	806.727867	799.892447	4.263485777	2.571934562
698	Wood, hard, standing	cm3	41.9473059	24.09303196	4.944673733	12.90960021
699	Wood, primary forest, standing	mm3	36.3469249	20.40852306	3.690557694	12.24784414
700	Wood, soft, standing	cm3	132.028266	71.2781064	8.460329879	52.28983004
701	Wood, unspecified, standing/m3	mm3	5.42606329	2.749312153	0.059265218	2.617485918
702	Xenon-131m	Bq	15.7279099	10.15775298	3.69013938	1.880017496
703	Xenon-133	Bq	563.360909	365.5429466	134.9154074	62.90255536
704	Xenon-133m	mBq	830.321772	500.7800887	137.699431	191.8422523
705	Xenon-135	Bq	226.169117	146.6369753	53.97797197	25.55416999
706	Xenon-135m	Bq	141.206142	91.74306588	34.00950924	15.45356657
707	Xenon-137	Bq	4.20835899	2.768449538	1.068699218	0.371210235
708	Xenon-138	Bq	31.9285631	20.9258549	7.982258527	3.020449694
709	Xylene	mg	33.6565397	18.32120224	2.393992065	12.94134539
710	Xylene	mg	10.7720072	6.168880207	1.255632658	3.347494309
711	Zinc	mg	19.3027814	10.61091978	1.552824732	7.139036883
712	Zinc	mg	13.017216	6.631426013	0.196610976	6.189179041
713	Zinc-65	µBq	33.3466308	22.01301662	8.590764291	2.742849906
714	Zinc-65	mBq	82.2707186	54.30913519	21.19459478	6.766988633
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	g	2.13701381	1.163387367	0.159796551	0.813829894
716	Zinc, ion	mg	875.153795	470.7449289	53.20710216	351.2017641
717	Zirconium	µg	2.13378627	1.17932995	0.185263903	0.769192418
718	Zirconium-95	µBq	32.5950574	21.51688394	8.397145953	2.681027546
719	Zirconium-95	µBq	952.717914	628.9149671	245.439337	78.3636095
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	466.75064	234.0672642	1.107540196	231.5758359

Appendix 7.4: Inventory of emitted substances for 1m² of a 280mm double brick cavity wall with face brick externally

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
1	1-Butanol	ng	331.898506	331.8977384	0.000767187
2	1-Butanol	µg	18.7865006	18.77830202	0.008198574
3	1-Pentanol	ng	166.047726	166.0379761	0.009750101
4	1-Pentanol	ng	398.520106	398.4967061	0.023400249
5	1-Pentene	ng	125.478772	125.4714044	0.007367963
6	1-Pentene	ng	301.155411	301.1377279	0.017683069
7	1-Propanol	µg	16.4602046	16.45954077	0.000663845
8	1-Propanol	µg	3.96610429	3.966068337	3.59514E-05
9	1,4-Butanediol	µg	1.03007583	1.030046164	2.96706E-05
10	1,4-Butanediol	ng	412.033324	412.0214553	0.011868321
11	2-Aminopropanol	ng	279.48734	279.4868977	0.00044215
12	2-Aminopropanol	ng	703.2645	703.2633952	0.001104766
13	2-Butene, 2-methyl-	pg	27.8328251	27.83119079	0.0016343
14	2-Methyl-1-propanol	ng	569.646309	569.6289414	0.01736762
15	2-Methyl-1-propanol	µg	1.36712912	1.367087439	4.16814E-05
16	2-Methyl-2-butene	pg	66.7997772	66.79585481	0.003922378
17	2-Nitrobenzoic acid	ng	504.772512	504.7718304	0.000682069
18	2-Propanol	mg	1.06242607	1.061950668	0.000475402
19	2-Propanol	µg	1.98258707	1.982578661	8.41324E-06
20	2,4-D	ng	726.501485	723.4274656	3.074019732
21	4-Methyl-2-pentanone	ng	1.30437809	1.300531261	0.003846828
22	Acenaphthene	ng	4.38501055	4.332964758	0.052045793
23	Acenaphthene	ng	383.121972	381.7858108	1.336161472
24	Acenaphthylene	ng	23.9603401	23.87677634	0.083563796
25	Acetaldehyde	mg	1.95100363	1.940767278	0.010236353
26	Acetaldehyde	µg	206.48691	206.4691196	0.017790318
27	Acetic acid	mg	28.0191018	27.93639933	0.082702513
28	Acetic acid	mg	4.29372782	4.291787922	0.001939894
29	Acetone	mg	2.04234713	2.03433156	0.008015567
30	Acetone	µg	236.044309	236.0439534	0.000355881
31	Acetonitrile	µg	2.15209941	2.14294165	0.009157756
32	Acetonitrile	µg	2.39229606	2.392292795	3.26405E-06
33	Acetyl chloride	ng	313.064617	313.0462342	0.018382509
34	Acidity, unspecified	µg	383.447909	383.1569223	0.290986913
35	Aclonifen	mg	4.36981931	4.369813442	5.8644E-06
36	Acrolein	µg	7.08615705	7.078520559	0.007636493
37	Acrylate, ion	µg	6.50325248	6.500336209	0.002916273
38	Acrylic acid	µg	2.7477744	2.746542221	0.001232184
39	Actinides, radioactive, unspecified	µBq	941.961615	936.7028636	5.258751315
40	Actinides, radioactive, unspecified	mBq	109.222886	108.3365598	0.8863261
41	Aerosols, radioactive, unspecified	mBq	13.9295512	13.79794301	0.13160819
42	Aldehydes, unspecified	µg	245.131988	244.5946671	0.5373212
43	Aldrin	ng	70.6712058	70.63939544	0.031810324
44	Aluminium	mg	397.732138	386.1100021	11.62213591
45	Aluminium	g	5.72867287	5.625959078	0.102713795
46	Aluminium	mg	32.9008921	32.76099147	0.139900648
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	g	5.20945582	5.117023122	0.092432698
48	Ammonia	g	1.34493576	1.339882839	0.005052916
49	Ammonium carbonate	µg	22.2063334	22.19721377	0.009119654
50	Ammonium, ion	mg	89.4462436	89.08969528	0.356548324
51	Anhydrite, in ground	mg	1.95271196	1.952306795	0.000405164
52	Aniline	µg	1.74249034	1.742449131	4.12071E-05
53	Aniline	µg	4.38495034	4.384851166	9.91761E-05
54	Anthranilic acid	ng	367.831555	367.8310576	0.000497265
55	Antimony	µg	174.33482	173.5524484	0.782371386
56	Antimony	mg	13.344217	13.2565231	0.087693898

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
57	Antimony	ng	9.01528823	8.987381909	0.027906322
58	Antimony-122	µBq	329.450103	329.1198774	0.330225707
59	Antimony-124	nBq	817.164323	816.3452343	0.819088601
60	Antimony-124	mBq	28.7483649	28.60206804	0.146296816
61	Antimony-125	µBq	8.52779441	8.519246536	0.008547878
62	Antimony-125	mBq	27.1860809	27.0525114	0.13356953
63	AOX, Adsorbable Organic Halogen as Cl	µg	278.773211	278.1880459	0.585165525
64	Argon-41	Bq	5.75018723	5.680568939	0.069618291
65	Arsenic	mg	1.51375651	1.481460563	0.032295945
66	Arsenic	µg	13.1146487	13.05977199	0.054876674
67	Arsenic, ion	mg	19.0271981	18.52462322	0.502574931
68	Arsine	pg	32.0285666	32.01420389	0.014362728
69	Atrazine	ng	18.540057	18.53171183	0.008345146
70	Barite	mg	335.724919	334.0125822	1.712336782
71	Barite, 15% in crude ore, in ground	g	6.31470037	6.291325726	0.023374642
72	Barium	µg	769.077826	751.3099617	17.76786382
73	Barium	mg	138.300796	136.449093	1.851702813
74	Barium	mg	15.1204317	15.05761005	0.062821666
75	Barium-140	µBq	554.720284	554.1642569	0.556026731
76	Barium-140	mBq	1.44316455	1.441717984	0.001446564
77	Basalt, in ground	g	1.49198507	1.482340967	0.009644104
78	Benomyl	ng	4.60224951	4.58266574	0.019583765
79	Bentazone	mg	2.23015378	2.230150792	2.99292E-06
80	Benzal chloride	pg	0.21978696	0.21913877	0.000648187
81	Benzaldehyde	µg	3.53504051	3.532614301	0.002426205
82	Benzene	mg	35.8538536	35.4133884	0.44046524
83	Benzene	mg	19.9174064	19.88254418	0.034862185
84	Benzene, 1-methyl-2-nitro-	ng	435.89898	435.8983915	0.000589004
85	Benzene, 1,2-dichloro-	µg	9.06478335	9.064755178	2.81724E-05
86	Benzene, 1,2-dichloro-	µg	55.4067938	55.40302038	0.003773457
87	Benzene, chloro-	µg	724.486316	724.4097155	0.076600934
88	Benzene, ethyl-	mg	1.71096059	1.705858613	0.005101981
89	Benzene, ethyl-	mg	1.47847928	1.473323082	0.005156197
90	Benzene, hexachloro-	µg	627.019623	626.5899395	0.429683399
91	Benzene, pentachloro-	ng	59.2950807	58.95490547	0.340175189
92	Benzo(a)pyrene	µg	40.9163871	39.34112688	1.575260221
93	Beryllium	µg	51.8757974	51.64985167	0.22594574
94	Beryllium	mg	3.61623664	3.532990724	0.083245915
95	BOD5, Biological Oxygen Demand	g	25.8355887	25.70626815	0.129320531
96	Borate	µg	58.6218328	58.62001736	0.001815489
97	Borax, in ground	µg	79.250156	78.8033713	0.446784686
98	Boron	mg	16.5081383	16.27679478	0.231343502
99	Boron	mg	244.15666	239.3998463	4.756813936
100	Boron	µg	476.956358	474.5633483	2.393010082
101	Boron trifluoride	pg	0.43833252	0.438135821	0.000196702
102	Bromate	mg	52.70348	52.69197712	0.011502833
103	Bromide	mg	3.68406673	3.683969202	9.75305E-05
104	Bromine	mg	1.72864847	1.706488191	0.022160281
105	Bromine	mg	50.827464	50.61372564	0.213738345
106	Bromine, 0.0023% in water	mg	4.24740657	4.247291666	0.000114902
107	Butadiene	ng	138.970382	138.9473242	0.023057503
108	Butane	mg	96.373924	95.93518663	0.438737408
109	Butene	mg	1.53812986	1.533245881	0.004883981
110	Butene	µg	6.29262335	6.287262585	0.005360768
111	Butyl acetate	µg	23.324158	23.31350213	0.010655823
112	Butyrolactone	ng	16.4559677	16.44822579	0.007741959
113	Butyrolactone	ng	39.4948176	39.47623656	0.018581039

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
114	Cadmium	µg	484.801536	481.2729925	3.528543519
115	Cadmium	µg	221.39449	221.3823774	0.012112371
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	µg	901.968915	897.5993695	4.369545175
117	Cadmium, ion	mg	6.2960882	6.14260526	0.153482942
118	Calcite, in ground	oz	615.30108	614.7173464	0.583733543
119	Calcium	mg	18.3091	18.06020516	0.24889481
120	Calcium	mg	142.666031	141.9780149	0.68801638
121	Calcium, ion	g	52.9605402	51.83596832	1.12457189
122	Carbetamide	µg	789.320925	789.3196064	0.001318511
123	Carbofuran	µg	2.52312251	2.512385941	0.010736566
124	Carbon	mg	108.204992	107.8084603	0.39653167
125	Carbon-14	Bq	81.6411338	81.09885976	0.542274084
126	Carbon dioxide, biogenic	g	304.481709	303.6899467	0.791762135
127	Carbon dioxide, fossil	oz	21.1183833	17.89486844	3.223514866
128	Carbon dioxide, in air	g	512.665798	511.509632	1.156165964
129	Carbon dioxide, land transformation	mg	151.467842	149.8644609	1.603380812
130	Carbon disulfide	mg	22.3704611	21.84999734	0.520463787
131	Carbon disulfide	ng	869.771094	868.6595641	1.111529437
132	Carbon monoxide, biogenic	mg	36.6570755	36.50519598	0.151879514
133	Carbon monoxide, fossil	g	17.3950184	16.07230157	1.322716826
134	Carbon, in organic matter, in soil	mg	3.1870298	3.173468131	0.013561673
135	Carbonate	mg	30.6430584	30.62540335	0.017655055
136	Carboxylic acids, unspecified	mg	256.751344	255.8285986	0.922745031
137	Cerium-141	µBq	134.476926	134.3421323	0.134793458
138	Cerium-141	µBq	577.001174	576.4228145	0.578359905
139	Cerium-144	µBq	175.658045	175.4819738	0.176071671
140	Cesium	µg	61.5948807	61.38006371	0.214816956
141	Cesium-134	µBq	6.44057261	6.434116866	0.00645574
142	Cesium-134	mBq	14.8326701	14.71133268	0.121337389
143	Cesium-136	µBq	102.406433	102.3037852	0.102647592
144	Cesium-137	µBq	114.170441	114.0560015	0.11443928
145	Cesium-137	Bq	12.7119081	12.6099187	0.101989367
146	Chloramine	µg	1.16505183	1.165016807	3.50275E-05
147	Chloramine	µg	10.7051525	10.70483949	0.000312968
148	Chlorate	mg	402.855967	402.7669694	0.088997709
149	Chloride	g	60.8374862	60.1711013	0.666384852
150	Chloride	mg	528.488252	525.8584488	2.629803398
151	Chlorinated solvents, unspecified	µg	130.061885	130.0050689	0.056816228
152	Chlorine	mg	8.31180287	8.213768231	0.098034638
153	Chlorine	mg	2.19038729	2.188906191	0.001481094
154	Chloroacetic acid	µg	191.26036	191.2580459	0.00231461
155	Chloroacetic acid	mg	48.2809449	48.28087259	7.22646E-05
156	Chloroacetyl chloride	ng	937.923495	937.9220213	0.001473401
157	Chloroform	µg	10.6928815	10.68544503	0.007436435
158	Chloroform	µg	1.01904124	1.018867734	0.000173507
159	Chlorosilane, trimethyl-	ng	786.434888	781.6483813	4.78650649
160	Chlorosulfonic acid	µg	3.48845247	3.488447715	4.75964E-06
161	Chlorosulfonic acid	µg	8.69932508	8.699313215	1.18694E-05
162	Chlorothalonil	µg	10.4202879	10.16472883	0.255559106
163	Chromium	mg	13.1838576	9.331707902	3.852149657
164	Chromium	mg	1.93070361	1.929903813	0.000799796
165	Chromium-51	µBq	8.6172496	8.608612055	0.008637541
166	Chromium-51	mBq	111.536376	111.3660058	0.170370432
167	Chromium VI	µg	338.238684	243.0542291	95.1844547
168	Chromium VI	mg	43.2281961	35.21328287	8.014913197
169	Chromium VI	µg	984.728759	978.3158025	6.412956773

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	g	3.57215575	2.460404362	1.111751384
171	Chromium, ion	mg	3.65672405	3.626540212	0.030183836
172	Chrysotile, in ground	mg	19.298056	19.29587091	0.002185143
173	Cinnabar, in ground	µg	657.862205	657.6601468	0.202058262
174	Clay, bentonite, in ground	g	1.86852558	1.297756013	0.570769568
175	Clay, unspecified, in ground	oz	231.006627	230.966762	0.03986465
176	Coal, brown, in ground	g	591.477205	584.0079748	7.469230475
177	Coal, hard, unspecified, in ground	oz	46.902069	45.41294568	1.489123273
178	Cobalt	µg	414.729211	362.7363606	51.99285047
179	Cobalt	mg	69.2457047	64.15206227	5.09364245
180	Cobalt	µg	1.83149749	1.819473894	0.0120236
181	Cobalt-57	mBq	3.25076562	3.247507197	0.003258422
182	Cobalt-58	µBq	11.9998734	11.98784522	0.012028133
183	Cobalt-58	mBq	516.464046	515.2477157	1.21633075
184	Cobalt-60	µBq	106.007727	105.9014698	0.10625736
185	Cobalt-60	mBq	451.119118	450.1585875	0.960530344
186	Cobalt, in ground	µg	10.7789341	10.74311298	0.035821164
187	COD, Chemical Oxygen Demand	g	58.1553146	57.86119822	0.294116376
188	Colemanite, in ground	mg	14.9718324	14.93854654	0.033285885
189	Copper	mg	7.91445355	7.715098685	0.199354867
190	Copper	µg	-644.928303	-649.361534	4.433231367
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	232.544944	231.5818141	0.963129495
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	g	1.27822528	1.272894099	0.005331178
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	339.06714	337.6529693	1.414171023
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	g	1.69439533	1.687378558	0.007016771
195	Copper, ion	mg	77.5243161	75.33626426	2.188051843
196	Cumene	mg	6.01560098	6.006811307	0.008789668
197	Cumene	mg	14.4553921	14.43427067	0.021121407
198	Cyanide	µg	229.520152	187.0220232	42.49812848
199	Cyanide	mg	2.36765543	2.260337891	0.107317537
200	Cyanoacetic acid	µg	2.85691095	2.856907055	3.89797E-06
201	Cypermethrin	µg	17.5054611	17.50390885	0.001552212
202	Diatomite, in ground	ng	315.398464	313.9052969	1.49316709
203	Dichromate	µg	25.6881597	25.52080469	0.167354975
204	Diethylamine	ng	928.92707	928.9085278	0.018542447
205	Diethylamine	µg	2.22943383	2.229389332	4.45026E-05
206	Dimethyl malonate	µg	3.58255919	3.582554304	4.88804E-06
207	Dimethylamine	µg	23.3077937	23.30774517	4.85734E-05
208	Dinitrogen monoxide	g	1.16766788	1.166551052	0.001116824
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	15.338996	14.95446738	0.38452858
210	Dipropylamine	ng	426.728347	426.7167586	0.011588018
211	Dipropylamine	µg	1.02416727	1.024139461	2.78114E-05
212	DOC, Dissolved Organic Carbon	g	74.0581587	73.95098501	0.107173659
213	Dolomite, in ground	mg	448.411546	330.5491213	117.862425
214	Energy, gross calorific value, in biomass	MJ	6.88178712	6.870346447	0.011440675
215	Energy, gross calorific value, in biomass, primary forest	J	220.954406	220.0141851	0.940220738
216	Energy, kinetic (in wind), converted	kJ	242.14151	239.0730618	3.068447879
217	Energy, potential (in hydropower reservoir), converted	MJ	4.90627398	4.837254208	0.069019775
218	Energy, solar, converted	kJ	5.21749183	5.17284129	0.044650543
219	Ethane	mg	247.070688	245.3140911	1.756597079

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
220	Ethane, 1,1-difluoro-, HFC-152a	µg	1.8797865	1.863349513	0.01643699
221	Ethane, 1,1,1-trichloro-, HCFC-140	ng	9.09680455	9.046043015	0.050761536
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	472.470055	469.95572	2.514335013
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	130.407384	130.3489046	0.05847895
224	Ethane, 1,2-dichloro-	µg	442.748721	441.8838176	0.864903447
225	Ethane, 1,2-dichloro-	µg	33.3725507	33.30910777	0.06344294
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	37.2983236	37.07603611	0.222287483
227	Ethane, hexafluoro-, HFC-116	µg	101.197774	100.6277521	0.570021709
228	Ethanol	mg	1.08234206	1.070994299	0.011347765
229	Ethanol	µg	639.998287	639.9783845	0.019902005
230	Ethene	mg	18.3855896	17.34726852	1.038321049
231	Ethene	mg	6.0051918	5.996886834	0.008304968
232	Ethene, chloro-	µg	131.527865	131.1585854	0.369280136
233	Ethene, chloro-	µg	1.13025054	1.126015164	0.004235373
234	Ethene, tetrachloro-	ng	21.5597489	21.43659379	0.123155094
235	Ethyl acetate	mg	4.93288978	4.930631025	0.002258756
236	Ethyl acetate	µg	1.63917547	1.639126292	4.91806E-05
237	Ethyl cellulose	µg	9.9753954	9.970923866	0.004471531
238	Ethylamine	ng	719.305895	719.2932322	0.012663175
239	Ethylamine	µg	1.72634479	1.726314395	3.03918E-05
240	Ethylene diamine	ng	145.665504	145.4282838	0.237220137
241	Ethylene diamine	ng	349.661776	349.0911327	0.570643022
242	Ethylene oxide	µg	122.974101	122.8684105	0.105690268
243	Ethylene oxide	µg	141.664562	141.6627198	0.001842708
244	Ethyne	mg	1.41588232	1.349798958	0.066083363
245	Feldspar, in ground	µg	2.37014342	2.363899817	0.0062436
246	Fenpiclonil	µg	151.09276	151.0824992	0.010260826
247	Fluoride	mg	952.926159	942.1954076	10.73075186
248	Fluoride	mg	2.17858972	2.167966062	0.010623661
249	Fluorine	mg	2.3732266	2.339486465	0.033740136
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	9.75584148	9.575894762	0.179946722
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	mg	305.255028	305.1755082	0.079520319
252	Fluorspar, 92%, in ground	mg	323.872294	322.5812641	1.291029429
253	Fluosilicic acid	µg	107.714814	107.053795	0.661018712
254	Fluosilicic acid	µg	193.88711	192.6972765	1.189833682
255	Formaldehyde	mg	16.5952042	16.52808506	0.067119118
256	Formaldehyde	mg	19.2942043	19.29303923	0.001165062
257	Formamide	ng	303.684646	303.6668138	0.017832151
258	Formamide	ng	728.851148	728.8083492	0.042798401
259	Formate	µg	673.329522	673.3282329	0.001288673
260	Formic acid	µg	20.6550543	20.59103545	0.064018891
261	Formic acid	ng	211.577522	211.5650983	0.012423627
262	Furan	µg	4.08726431	4.069871969	0.017392337
263	Gallium, 0.014% in bauxite, in ground	ng	14.5057176	14.37912605	0.126591594
264	Gas, mine, off-gas, process, coal mining/m3	dm3	17.9961347	17.58770034	0.408434336
265	Gas, natural, in ground	gal*	401.729863	399.7572074	1.972655353
266	Glutaraldehyde	µg	41.4473677	41.23596805	0.211399602
267	Glyphosate	µg	130.469795	128.7899579	1.679836947
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	µg	9.77136689	9.7669856	0.004381287
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	17.9185975	17.91056314	0.00803433

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
270	Gold, Au 1.4E-4%, in ore, in ground	µg	21.454596	21.44497624	0.009619794
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	32.769353	32.75465983	0.014693219
272	Gold, Au 4.3E-4%, in ore, in ground	µg	8.1216289	8.117987328	0.003641575
273	Gold, Au 4.9E-5%, in ore, in ground	µg	19.4522465	19.44352442	0.008722037
274	Gold, Au 6.7E-4%, in ore, in ground	µg	30.1151969	30.10169376	0.01350313
275	Gold, Au 7.1E-4%, in ore, in ground	µg	33.958148	33.94292183	0.015226179
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	2.03483825	2.033925863	0.000912385
277	Granite, in ground	ng	17.7611552	17.64895161	0.112203638
278	Gravel, in ground	lb	180.105974	180.0757361	0.030237641
279	Gypsum, in ground	µg	379.283598	370.3667494	8.916849013
280	Heat, waste	MJ	158.494162	157.0807099	1.413451778
281	Heat, waste	Wh	855.717583	847.7264985	7.991084419
282	Heat, waste	kJ	112.280886	111.5684599	0.71242591
283	Helium	mg	6.24825234	6.233498503	0.014753836
284	Heptane	mg	15.3319195	15.28310143	0.048818067
285	Hexane	mg	253.457593	253.296865	0.160728478
286	Hydrocarbons, aliphatic, alkanes, cyclic	mg	1.86211791	1.86198319	0.000134717
287	Hydrocarbons, aliphatic, alkanes, unspecified	mg	655.315943	649.6883994	5.627543982
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	8.00734181	7.979415602	0.027926204
289	Hydrocarbons, aliphatic, unsaturated	mg	5.23834075	5.127516994	0.11082376
290	Hydrocarbons, aliphatic, unsaturated	µg	746.177439	743.5996172	2.577822133
291	Hydrocarbons, aromatic	mg	17.8329057	16.13774653	1.695159199
292	Hydrocarbons, aromatic	mg	33.1299835	33.01394486	0.116038654
293	Hydrocarbons, chlorinated	µg	148.941511	148.2881569	0.653354533
294	Hydrocarbons, unspecified	mg	15.7812093	15.64151987	0.13968947
295	Hydrogen	mg	122.198908	122.1331823	0.065726055
296	Hydrogen-3, Tritium	Bq	366.379785	363.2635866	3.116198197
297	Hydrogen-3, Tritium	Bq	262.287222	28.69067865	233.5965434
298	Hydrogen chloride	mg	376.052336	369.3724856	6.679850689
299	Hydrogen fluoride	mg	30.2494862	29.42807438	0.821411787
300	Hydrogen peroxide	µg	7.39178061	7.388435867	0.003344744
301	Hydrogen peroxide	µg	73.3539613	73.30391695	0.050044353
302	Hydrogen sulfide	mg	33.6486535	32.37213614	1.276517395
303	Hydrogen sulfide	mg	2.72168391	2.668250696	0.053433209
304	Hydroxide	µg	206.892462	206.7852141	0.107247414
305	Hypochlorite	mg	1.03384544	1.021351405	0.012494033
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	15.7501937	15.67108318	0.07911056
307	Iodide	mg	6.75538235	6.73176673	0.023615621
308	Iodine	µg	923.680605	911.4958001	12.18480543
309	Iodine-129	mBq	67.2437861	66.69811199	0.545674076
310	Iodine-131	Bq	2.17661646	2.149084427	0.027532035
311	Iodine-131	mBq	6.54779697	6.520986263	0.026810704
312	Iodine-133	µBq	775.35908	774.0571098	1.301969735
313	Iodine-133	µBq	905.986988	905.0788673	0.908120692
314	Iodine-135	µBq	243.104477	241.7225818	1.381895249
315	Iodine, 0.03% in water	µg	988.516149	988.4905554	0.025593345
316	Iron	mg	53.0732107	51.9365898	1.136620895
317	Iron	mg	272.026134	268.6970044	3.329129211
318	Iron-59	µBq	249.075276	248.825614	0.249661792
319	Iron, 46% in ore, 25% in crude ore, in ground	g	112.029767	65.87466566	46.1551016

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
320	Iron, ion	g	7.87537013	7.6938676	0.181502528
321	Isocyanic acid	µg	35.7656341	35.33228816	0.43334595
322	Isoprene	ng	189.664545	188.8574716	0.807073717
323	Isopropylamine	ng	358.078772	358.0772529	0.001519539
324	Isopropylamine	ng	859.391248	859.3876014	0.003646961
325	Kaolinite, 24% in crude ore, in ground	mg	23.6676084	23.1177358	0.549872622
326	Kieserite, 25% in crude ore, in ground	µg	132.14407	130.4717525	1.672317284
327	Krypton-85	Bq	18.3715282	18.15352268	0.218005484
328	Krypton-85m	Bq	8.2541694	8.242674086	0.01149531
329	Krypton-87	Bq	1.97903989	1.974612104	0.00442779
330	Krypton-88	Bq	2.50627272	2.501848622	0.004424097
331	Krypton-89	Bq	1.01242425	1.01125026	0.001173989
332	Lactic acid	ng	334.281526	334.2724486	0.00907737
333	Lactic acid	ng	802.274839	802.2530533	0.021785835
334	Lanthanum-140	µBq	47.4097825	47.36226109	0.047521419
335	Lanthanum-140	mBq	1.53708931	1.535548596	0.00154071
336	Lead	mg	5.56893594	5.234268984	0.334666958
337	Lead	mg	14.2666275	14.01639451	0.250232997
338	Lead	µg	361.455234	361.2671306	0.188103826
339	Lead-210	mBq	396.973647	390.2962467	6.677400395
340	Lead-210	Bq	3.60876977	3.60544976	0.003320009
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	64.2440346	63.94033795	0.303696629
342	Linuron	mg	33.6659031	33.66585791	4.51874E-05
343	Lithium, 0.15% in brine, in ground	µg	8.78576963	8.785253745	0.000515886
344	Lithium, ion	µg	348.332661	347.3455525	0.987108426
345	m-Xylene	µg	56.6209565	56.02440297	0.596553561
346	m-Xylene	ng	683.592493	683.5186908	0.073802078
347	Magnesite, 60% in crude ore, in ground	g	7.39276498	6.766304026	0.62646095
348	Magnesium	mg	14.1894405	13.751788	0.43765248
349	Magnesium	g	23.5849231	23.05875455	0.526168544
350	Magnesium	mg	26.6386467	26.51718944	0.121457257
351	Magnesium, 0.13% in water	µg	62.8352857	62.48489541	0.350390301
352	Mancozeb	µg	13.5337882	13.20186963	0.331918624
353	Manganese	mg	1.59015951	1.513459645	0.076699861
354	Manganese	g	1.92895616	1.884184591	0.04477157
355	Manganese	mg	2.42428021	2.406401041	0.017879166
356	Manganese-54	µBq	4.41298652	4.408563147	0.004423377
357	Manganese-54	mBq	31.2478731	31.17314438	0.074728725
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	g	401.596193	400.8036921	0.792500962
359	Mercury	µg	855.341719	803.4000188	51.94170021
360	Mercury	µg	594.902151	572.8804585	22.02169245
361	Mercury	µg	28.8350547	28.8348079	0.000246794
362	Metaldehyde	µg	148.627078	148.6267646	0.000313698
363	Metamorphous rock, graphite containing, in ground	mg	5.77703075	5.741552941	0.035477805
364	Methane, biogenic	mg	141.361313	140.3895315	0.971781977
365	Methane, bromo-, Halon 1001	pg	0.05027584	0.050127564	0.000148271
366	Methane, bromochlorodifluoro-, Halon 1211	µg	62.2177301	61.84760972	0.370120374
367	Methane, bromotrifluoro-, Halon 1301	µg	48.9005554	48.75834406	0.142211368
368	Methane, chlorodifluoro-, HCFC-22	µg	229.249925	227.833869	1.416056119
369	Methane, dichloro-, HCC-30	µg	5.43362472	5.432371095	0.00125362
370	Methane, dichloro-, HCC-30	µg	776.771075	773.5903057	3.180768939
371	Methane, dichlorodifluoro-, CFC-12	ng	735.762261	734.1247227	1.637538754
372	Methane, dichlorofluoro-, HCFC-21	pg	883.721727	883.1103156	0.611411213
373	Methane, fossil	g	26.4187606	26.13792877	0.280831794

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
374	Methane, monochloro-, R-40	ng	253.174062	251.7579169	1.416144982
375	Methane, tetrachloro-, CFC-10	µg	191.839465	191.7216137	0.117851607
376	Methane, tetrafluoro-, CFC-14	µg	829.582015	824.4908497	5.091165121
377	Methane, trichlorofluoro-, CFC-11	ng	1.43467539	1.433682797	0.000992593
378	Methane, trifluoro-, HFC-23	ng	281.183463	280.9889227	0.19453993
379	Methanesulfonic acid	µg	2.88699155	2.886987613	3.93901E-06
380	Methanol	mg	119.418736	119.3852237	0.03351223
381	Methanol	mg	7.12879422	7.12343802	0.005356203
382	Methyl acetate	ng	116.886421	116.8862627	0.000157942
383	Methyl acetate	ng	280.522276	280.5218971	0.000379053
384	Methyl acrylate	µg	3.1175776	3.116179578	0.001398025
385	Methyl acrylate	µg	60.9028593	60.87554844	0.027310837
386	Methyl amine	ng	970.196673	970.1916557	0.005017507
387	Methyl amine	µg	2.3285278	2.328515756	1.20419E-05
388	Methyl borate	ng	81.6939249	81.69028576	0.003639167
389	Methyl ethyl ketone	mg	4.93195046	4.92969173	0.00225873
390	Methyl formate	ng	92.3869608	92.37683369	0.010127143
391	Methyl formate	ng	36.8848141	36.88077096	0.004043185
392	Methyl lactate	ng	366.973916	366.9639506	0.009965442
393	Metolachlor	mg	243.670995	243.6706679	0.000327012
394	Metribuzin	ng	476.532408	464.8453406	11.68706735
395	Molybdenum	µg	135.09004	133.6974501	1.392589959
396	Molybdenum	mg	16.0999673	15.79131058	0.308656762
397	Molybdenum	ng	670.672107	668.0177993	2.654307945
398	Molybdenum-99	µBq	529.955636	529.4244325	0.531203781
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	31.487952	31.35755441	0.130397584
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	mg	4.45366478	4.435089529	0.018575247
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	14.4252602	5.811680674	8.613579503
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	mg	16.3196898	16.25162437	0.068065437
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	29.0479493	11.66381159	17.38413767
404	Monoethanolamine	µg	210.307169	210.066402	0.240766586
405	Napropamide	µg	262.955053	262.9544976	0.000555003
406	Nickel	mg	7.13009276	7.005817579	0.124275184
407	Nickel	µg	-253.732307	-253.836108	0.103801662
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	mg	14.9849015	14.97016079	0.014740724
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	g	8.72268897	5.83917289	2.883516081
410	Nickel, ion	mg	221.882469	200.5654797	21.31698949
411	Niobium-95	nBq	523.859773	523.3346797	0.52509341
412	Niobium-95	mBq	2.64626769	2.635014017	0.011253672
413	Nitrate	µg	432.814961	429.456948	3.358012894
414	Nitrate	g	35.8634397	35.82053315	0.042906526
415	Nitrite	mg	1.19195047	1.189684404	0.002266065
416	Nitrobenzene	µg	2.77063579	2.770580164	5.56254E-05
417	Nitrobenzene	µg	11.103297	11.10307409	0.000222918
418	Nitrogen	mg	19.5265957	19.36378823	0.162807431
419	Nitrogen oxides	g	33.9468759	33.73402775	0.212848189
420	Nitrogen, organic bound	mg	17.1739546	16.72000726	0.453947384
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	6.40471291	6.361574373	0.043138539
422	Noble gases, radioactive, unspecified	kBq	646.13249	640.8887725	5.243717156

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
423	o-Xylene	ng	6.86513779	6.844891322	0.020246465
424	Occupation, arable, non-irrigated	m2a	1.09908322	1.099080891	2.32604E-06
425	Occupation, construction site	cm2a	14.1823453	14.06837215	0.113973154
426	Occupation, dump site	cm2a	87.3496592	83.6194104	3.730248814
427	Occupation, dump site, benthos	mm2a	538.818007	536.0698121	2.748194836
428	Occupation, forest, intensive	cm2a	72.0983006	71.64216039	0.456140187
429	Occupation, forest, intensive, normal	m2a	0.14990739	0.147491233	0.002416156
430	Occupation, forest, intensive, short-cycle	mm2a	55.4255326	55.18968271	0.235849923
431	Occupation, industrial area	cm2a	62.0337495	60.48715306	1.546596471
432	Occupation, industrial area, benthos	mm2a	5.07050563	5.045143245	0.025362386
433	Occupation, industrial area, built up	cm2a	180.317261	178.85952	1.457741326
434	Occupation, industrial area, vegetation	cm2a	119.213221	118.820144	0.39307696
435	Occupation, mineral extraction site	cm2a	296.228781	295.2114386	1.017342755
436	Occupation, permanent crop, fruit, intensive	mm2a	62.715806	62.398923	0.316882987
437	Occupation, shrub land, sclerophyllous	mm2a	342.284362	331.6844376	10.59992477
438	Occupation, traffic area, rail embankment	cm2a	17.1537118	16.91504263	0.238669181
439	Occupation, traffic area, rail network	cm2a	18.9681705	18.7042575	0.263913033
440	Occupation, traffic area, road embankment	cm2a	19.6671952	19.40365688	0.26353832
441	Occupation, traffic area, road network	cm2a	118.058361	116.966841	1.09152041
442	Occupation, urban, discontinuously built	mm2a	758.512933	758.5093471	0.003585539
443	Occupation, water bodies, artificial	cm2a	103.326694	102.8097887	0.516905068
444	Occupation, water courses, artificial	cm2a	57.6416015	56.75789351	0.883708039
445	Oil, crude, in ground	oz	46.1755742	46.04607243	0.129501817
446	Oils, biogenic	mg	2.84086636	2.806340427	0.034525931
447	Oils, unspecified	g	3.12461152	3.109573771	0.015037749
448	Oils, unspecified	g	3.07595093	3.062793406	0.013157521
449	Olivine, in ground	µg	652.382976	652.2308554	0.152120248
450	Orbencarb	µg	2.57332921	2.510217886	0.063111325
451	Ozone	mg	22.0785073	21.89109638	0.187410926
452	PAH, polycyclic aromatic hydrocarbons	µg	975.001882	940.3944998	34.60738192
453	PAH, polycyclic aromatic hydrocarbons	µg	397.506012	359.835184	37.67082783
454	Particulates, < 2.5 um	g	1.90807982	1.814855963	0.093223857
455	Particulates, > 10 um	g	5.0168904	4.76116916	0.255721236
456	Particulates, > 2.5 um, and < 10um	g	4.10458718	3.934355358	0.17023182
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	µg	4.75733903	4.752578416	0.00476061
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	11.4327596	11.42131904	0.011440601
459	Peat, in ground	g	2.82521684	2.825031999	0.00018484
460	Pentane	mg	121.491296	120.9006375	0.59065897
461	Phenol	µg	325.945326	324.1742192	1.771106778
462	Phenol	mg	8.08205644	8.061263268	0.020793176
463	Phenol, 2,4-dichloro-	ng	499.658934	499.6573792	0.00155526
464	Phenol, pentachloro-	µg	11.6733408	11.52532591	0.148014893
465	Phosphate	g	7.3109568	7.120733343	0.190223455
466	Phosphine	ng	2.37513197	2.374066883	0.001065082
467	Phosphorus	µg	388.387234	379.5846264	8.802607463
468	Phosphorus	mg	29.9656503	29.92303774	0.042612597
469	Phosphorus	mg	2.09446003	2.081889584	0.012570448
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	g	1.2175394	1.217220823	0.000318581
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	39.0233659	38.30357904	0.719786888
472	Pirimicarb	µg	210.957991	210.957708	0.000283111

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
473	Platinum	ng	1.04450406	1.0366372	0.007866863
474	Plutonium-238	nBq	9.17317534	9.098736564	0.074438776
475	Plutonium-alpha	nBq	21.0283222	20.85768077	0.170641431
476	Polonium-210	mBq	692.946036	680.9291789	12.01685731
477	Polonium-210	Bq	5.45344725	5.449049772	0.004397479
478	Polychlorinated biphenyls	µg	1.78130653	1.042584635	0.738721892
479	Potassium	mg	20.655829	20.36012687	0.295702128
480	Potassium	mg	13.8231678	13.74422249	0.078945335
481	Potassium-40	mBq	87.5697697	85.82502945	1.744740254
482	Potassium-40	mBq	552.009368	550.1660649	1.843303126
483	Potassium, ion	g	14.5893641	14.26146004	0.327904014
484	Propanal	µg	11.960483	11.95769179	0.002791255
485	Propanal	ng	576.899302	576.8654258	0.033876172
486	Propane	mg	138.718428	137.8629347	0.855493675
487	Propene	mg	7.68774142	7.580841951	0.106899466
488	Propene	mg	5.89015137	5.881942384	0.008208986
489	Propionic acid	µg	455.07085	451.0699595	4.000890791
490	Propionic acid	µg	2.83207297	2.832066696	6.26939E-06
491	Propylamine	ng	96.1717822	96.16613507	0.00564708
492	Propylamine	ng	230.815447	230.8018938	0.013552844
493	Propylene oxide	µg	57.2993941	57.11026528	0.189128844
494	Propylene oxide	µg	137.784596	137.3295547	0.455040877
495	Protactinium-234	mBq	10.7494002	10.67491081	0.074489383
496	Protactinium-234	mBq	198.007473	196.6339269	1.37354621
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	136.956238	136.530302	0.425935945
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	490.974768	489.4478235	1.52694451
499	Radioactive species, alpha emitters	mBq	4.54289879	4.536716515	0.006182278
500	Radioactive species, Nuclides, unspecified	Bq	65.4871538	64.95563051	0.531523337
501	Radioactive species, other beta emitters	mBq	506.155978	503.7578452	2.398132592
502	Radium-224	Bq	3.07974881	3.069007959	0.010740848
503	Radium-226	mBq	457.746621	453.6311789	4.115442548
504	Radium-226	Bq	132.10082	131.2261962	0.874623917
505	Radium-228	mBq	193.052047	187.4987568	5.553290611
506	Radium-228	Bq	6.16006768	6.138584278	0.021483405
507	Radon-220	Bq	2.35851201	2.328966109	0.029545903
508	Radon-222	kBq	1419.17436	1409.329692	9.844671949
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	69.0663823	68.92843932	0.137942944
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	216.323909	215.8918558	0.432052787
511	Rhenium, in crude ore, in ground	ng	42.0030449	41.87636674	0.126678191
512	Rubidium	µg	615.948807	613.8006371	2.148169564
513	Ruthenium-103	nBq	115.095426	114.9800594	0.115366463
514	Ruthenium-103	µBq	111.82543	111.7133416	0.11208878
515	Sand, unspecified, in ground	mg	28.919568	28.85270092	0.066867098
516	Scandium	µg	133.461262	132.3914231	1.069838759
517	Scandium	mg	6.38104012	6.254692501	0.126347618
518	Selenium	µg	349.544514	346.2327845	3.311729081
519	Selenium	mg	9.50904444	9.301631221	0.207413218
520	Shale, in ground	mg	5.52812658	5.526979554	0.001147023
521	Silicon	mg	52.2455633	50.48131087	1.764252398
522	Silicon	g	80.8363352	76.51783361	4.318501579

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
523	Silicon	mg	10.7733389	10.70590401	0.067434858
524	Silicon tetrafluoride	ng	286.136076	280.7016858	5.434390184
525	Silver	µg	5.73215581	5.691868762	0.040287047
526	Silver-110	µBq	1.14068361	1.139540238	0.00114337
527	Silver-110	mBq	436.447667	435.5498267	0.897840214
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	217.118026	217.0075426	0.110483243
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	154.896758	154.8177483	0.079009512
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	14.2998474	14.29256732	0.007280029
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	32.6590955	32.64246873	0.016626746
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	32.0114248	31.99512776	0.016296997
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	21.1230235	21.11226987	0.010753645
534	Silver, ion	µg	422.524926	415.66613	6.858796404
535	Sodium	mg	6.52140185	6.418227079	0.103174772
536	Sodium	mg	63.0464967	62.79058093	0.255915811
537	Sodium-24	mBq	4.0097863	4.005767072	0.004019229
538	Sodium chlorate	µg	3.92162331	3.904491433	0.017131875
539	Sodium chloride, in ground	g	348.517878	348.3720973	0.14578033
540	Sodium dichromate	µg	7.04325339	6.998086538	0.045166851
541	Sodium formate	µg	1.54967775	1.539947404	0.009730344
542	Sodium formate	µg	3.72295663	3.699580067	0.023376559
543	Sodium hydroxide	µg	27.5626928	27.55028681	0.012405958
544	Sodium nitrate, in ground	ng	8.91917022	8.879849246	0.039320973
545	Sodium sulphate, various forms, in ground	mg	74.3806225	74.12467932	0.255943219
546	Sodium, ion	g	42.4796489	41.9362973	0.543351619
547	Solids, inorganic	g	2.59393209	2.554472024	0.039460071
548	Solved solids	g	958.043949	957.8285491	0.215399947
549	Stibnite, in ground	ng	32.7769777	32.62180539	0.155172267
550	Strontium	µg	857.81217	835.4053401	22.4068295
551	Strontium	mg	798.301337	782.1866541	16.11468284
552	Strontium	µg	304.157719	302.8936797	1.264039747
553	Strontium-89	mBq	9.53365945	9.517268066	0.016391384
554	Strontium-90	Bq	60.1427226	59.38181121	0.760911347
555	Styrene	µg	37.4994528	37.30417069	0.195282093
556	Sulfate	g	2.98812713	2.987356203	0.000770927
557	Sulfate	g	244.396633	240.3859346	4.010698599
558	Sulfide	µg	389.620965	388.31888	1.302085471
559	Sulfite	mg	2.8057108	2.771772572	0.033938227
560	Sulfur	mg	40.1309291	40.09486771	0.036061429
561	Sulfur	mg	20.161834	20.07963362	0.082200428
562	Sulfur dioxide	g	29.4637971	29.2362127	0.22758436
563	Sulfur hexafluoride	µg	267.071601	264.8087378	2.262863334
564	Sulfur trioxide	µg	24.5955542	24.59510384	0.000450372
565	Sulfur, in ground	mg	26.6021427	26.58100047	0.021142201
566	Sulfuric acid	µg	5.77224058	5.769605324	0.002635256
567	Sulfuric acid	ng	3.5626709	3.561073277	0.001597623
568	Suspended solids, unspecified	g	2.09407376	2.068436497	0.025637267
569	Sylvite, 25 % in sylvinite, in ground	g	4.66572633	4.665686703	3.96242E-05
570	t-Butyl methyl ether	µg	10.4554555	10.40890809	0.046547364
571	t-Butyl methyl ether	µg	113.342423	112.9411697	0.401253725
572	t-Butylamine	µg	2.18457011	2.184565932	4.18099E-06

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
573	t-Butylamine	µg	5.24304599	5.243035959	1.00345E-05
574	Talc, in ground	mg	4.86299691	4.791940458	0.071056448
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	171.160608	171.0754953	0.085112547
576	Tebutam	µg	623.08141	623.0800949	0.001315099
577	Technetium-99m	mBq	12.1825528	12.17026211	0.012290675
578	Teflubenzuron	ng	31.7689333	30.98979544	0.779137823
579	Tellurium-123m	mBq	2.10586047	2.090150774	0.015709695
580	Tellurium-132	µBq	30.6854799	30.65472219	0.030757748
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	23.234964	23.22311236	0.011851624
582	Terpenes	µg	1.79341617	1.785784708	0.007631464
583	Thallium	µg	191.07436	190.9138681	0.160492229
584	Thallium	µg	630.924684	617.5101107	13.41457345
585	Thiram	ng	8.16492596	8.130182035	0.03474393
586	Thorium	µg	5.23565143	5.014865689	0.220785738
587	Thorium-228	mBq	25.1801476	24.59974149	0.580406086
588	Thorium-228	Bq	12.3619937	12.31900521	0.042988509
589	Thorium-230	mBq	52.1946273	51.90956929	0.285058047
590	Thorium-230	Bq	27.0164271	26.8290201	0.187406975
591	Thorium-232	mBq	25.9230993	25.43124032	0.491858932
592	Thorium-232	mBq	23.8948828	23.59738211	0.297500719
593	Thorium-234	mBq	10.7516571	10.67715338	0.07450368
594	Thorium-234	mBq	198.033069	196.6593695	1.373699043
595	Tin	µg	364.129083	336.7662365	27.36284655
596	Tin	µg	1.91263733	1.911405807	0.001231524
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	13.03332	12.98762345	0.045696512
598	Tin, ion	mg	6.15553352	6.051314329	0.104219189
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	g	731.954971	731.9536456	0.001324944
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	1.59106277	1.588196998	0.002865776
601	Titanium	mg	3.41416496	3.356045441	0.058119517
602	Titanium	µg	82.0232612	81.13773091	0.885530291
603	Titanium, ion	g	13.7729741	13.76937115	0.003602939
604	TOC, Total Organic Carbon	g	74.0748364	73.96761547	0.107220932
605	Toluene	mg	17.9976959	17.8648507	0.132845189
606	Toluene	mg	8.08824405	8.061542215	0.026701839
607	Toluene, 2-chloro-	µg	1.40077954	1.40076226	1.72749E-05
608	Toluene, 2-chloro-	µg	2.37532692	2.375291492	3.54327E-05
609	Transformation, from arable	mm2	3.69987082	3.650717732	0.049153086
610	Transformation, from arable, non-irrigated	dm2	203.133492	203.133063	0.000428754
611	Transformation, from arable, non-irrigated, fallow	mm2	0.63179469	0.620578573	0.011216119
612	Transformation, from dump site, inert material landfill	mm2	18.7075302	18.3815884	0.325941823
613	Transformation, from dump site, residual material landfill	mm2	49.20748	47.41816747	1.789312491
614	Transformation, from dump site, sanitary landfill	mm2	0.37894442	0.377484606	0.001459819
615	Transformation, from dump site, slag compartment	mm2	0.08367108	0.083263164	0.00040792
616	Transformation, from forest	cm2	14.683245	14.6246346	0.05861035
617	Transformation, from forest, extensive	cm2	11.9772234	11.80349128	0.173732159
618	Transformation, from forest, intensive, clear-cutting	mm2	1.97948735	1.971064104	0.008423249

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
619	Transformation, from industrial area	mm2	11.4384637	11.36866182	0.069801895
620	Transformation, from industrial area, benthos	mm2	0.03841697	0.038189943	0.000227024
621	Transformation, from industrial area, built up	mm2	0.01351192	0.013255296	0.000256624
622	Transformation, from industrial area, vegetation	mm2	0.02304989	0.022612124	0.00043777
623	Transformation, from mineral extraction site	mm2	945.079822	944.1038521	0.975970313
624	Transformation, from pasture and meadow	mm2	163.515007	159.5945925	3.920414371
625	Transformation, from pasture and meadow, intensive	cm2	16.577663	16.57762805	3.49894E-05
626	Transformation, from sea and ocean	mm2	539.654924	536.9035865	2.75133763
627	Transformation, from shrub land, sclerophyllous	mm2	91.4930934	88.91906659	2.574026832
628	Transformation, from tropical rain forest	mm2	1.97948735	1.971064104	0.008423249
629	Transformation, from unknown	cm2	36.6309341	36.47359435	0.157339779
630	Transformation, to arable	mm2	169.39116	168.4458143	0.945345679
631	Transformation, to arable, non-irrigated	dm2	203.299258	203.2988289	0.000429104
632	Transformation, to arable, non-irrigated, fallow	mm2	24.7422016	24.72596467	0.016236946
633	Transformation, to dump site	mm2	58.2190277	55.65386492	2.565162761
634	Transformation, to dump site, benthos	mm2	538.818007	536.0698121	2.748194836
635	Transformation, to dump site, inert material landfill	mm2	18.7075302	18.3815884	0.325941823
636	Transformation, to dump site, residual material landfill	mm2	49.2078953	47.41858199	1.789313284
637	Transformation, to dump site, sanitary landfill	mm2	0.37894442	0.377484606	0.001459819
638	Transformation, to dump site, slag compartment	mm2	0.08367108	0.083263164	0.00040792
639	Transformation, to forest	mm2	869.937049	867.6127618	2.32428694
640	Transformation, to forest, intensive	mm2	48.0129546	47.70918712	0.303767494
641	Transformation, to forest, intensive, clear-cutting	mm2	1.97948735	1.971064104	0.008423249
642	Transformation, to forest, intensive, normal	cm2	11.3632122	11.19435844	0.168853811
643	Transformation, to forest, intensive, short-cycle	mm2	1.97948735	1.971064104	0.008423249
644	Transformation, to heterogeneous, agricultural	mm2	68.0376365	67.75698475	0.280651793
645	Transformation, to industrial area	mm2	99.5382813	96.19836435	3.339916951
646	Transformation, to industrial area, benthos	mm2	0.83890922	0.835766417	0.003142799
647	Transformation, to industrial area, built up	mm2	148.327895	145.3862097	2.94168534
648	Transformation, to industrial area, vegetation	mm2	241.059574	240.2631628	0.796411247
649	Transformation, to mineral extraction site	cm2	37.8603913	37.75505325	0.105338016
650	Transformation, to pasture and meadow	mm2	8.20774841	8.170446337	0.037302076
651	Transformation, to permanent crop, fruit, intensive	mm2	0.88286057	0.878399763	0.004460805
652	Transformation, to sea and ocean	mm2	0.03841697	0.038189943	0.000227024
653	Transformation, to shrub land, sclerophyllous	mm2	68.3777877	66.26066561	2.117122054
654	Transformation, to traffic area, rail embankment	mm2	3.99155747	3.936020988	0.055536483
655	Transformation, to traffic area, rail network	mm2	4.38740824	4.326364006	0.061044231
656	Transformation, to traffic area, road embankment	mm2	12.9440704	12.76836819	0.175702234

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
657	Transformation, to traffic area, road network	mm2	177.111872	175.6501912	1.461680396
658	Transformation, to unknown	mm2	123.734516	123.4888879	0.245628419
659	Transformation, to urban, discontinuously built	mm2	15.1090883	15.10901683	7.14216E-05
660	Transformation, to water bodies, artificial	mm2	532.328359	531.863447	0.464911542
661	Transformation, to water courses, artificial	mm2	63.2992291	62.26470378	1.034525331
662	Tributyltin compounds	µg	311.41854	308.051934	3.366606105
663	Triethylene glycol	µg	702.48457	698.3598792	4.124690321
664	Trimethylamine	ng	206.830749	206.8304689	0.000279839
665	Trimethylamine	ng	496.393798	496.3931261	0.000671615
666	Tungsten	µg	14.6846698	14.58280485	0.101864934
667	Tungsten	mg	7.25457766	7.106730843	0.147846814
668	Ulexite, in ground	µg	528.339036	522.7113878	5.627648008
669	Uranium	µg	6.83895469	6.598938707	0.240015985
670	Uranium-234	mBq	137.383959	136.5080339	0.875925292
671	Uranium-234	mBq	237.610304	235.9620488	1.648255454
672	Uranium-235	mBq	6.05907501	6.017044496	0.042030514
673	Uranium-235	mBq	392.056859	389.3372373	2.719621499
674	Uranium-238	mBq	204.821274	202.6230931	2.19818091
675	Uranium-238	Bq	2.44697771	2.441156532	0.005821179
676	Uranium alpha	mBq	583.56381	579.514816	4.048994214
677	Uranium alpha	Bq	11.4075571	11.32842384	0.079133238
678	Uranium, in ground	mg	44.4388641	44.13557081	0.303293304
679	Urea	ng	925.295415	925.2561329	0.039282121
680	Vanadium	mg	5.2456565	5.192089386	0.053567119
681	Vanadium	µg	2.34777737	2.322430691	0.025346681
682	Vanadium, ion	mg	72.6697384	70.64032066	2.029417768
683	Vermiculite, in ground	mg	4.25174449	4.248925249	0.002819243
684	VOC, volatile organic compounds, unspecified origin	mg	22.0383088	21.95968842	0.078620359
685	Volume occupied, final repository for low-active radioactive waste	mm3	89.9431729	89.31811144	0.625061437
686	Volume occupied, final repository for radioactive waste	mm3	20.9386801	20.7811594	0.157520707
687	Volume occupied, reservoir	m3day	29.8787019	29.74146762	0.137234301
688	Volume occupied, underground deposit	mm3	109.602763	105.0184599	4.584303165
689	Water	mg	512.457809	496.7631917	15.6946174
690	Water, cooling, unspecified natural origin/m3	dm3	112.901701	112.2011679	0.700532629
691	Water, lake	cu.in	273.267291	273.0862425	0.181048447
692	Water, river	dm3	30.7773084	30.58341322	0.193895135
693	Water, salt, ocean	cu.in	198.226026	196.6699066	1.556119707
694	Water, salt, sole	cu.in	148.512784	148.3508883	0.161895419
695	Water, turbine use, unspecified natural origin	cu.yd	38.1881451	37.22014535	0.967999801
696	Water, unspecified natural origin/m3	dm3	174.667108	173.8774348	0.789673056
697	Water, well, in ground	cu.in	805.061544	799.892447	5.16909715
698	Wood, hard, standing	cm3	24.5574742	24.09303196	0.46444221
699	Wood, primary forest, standing	mm3	20.4957374	20.40852306	0.087214321
700	Wood, soft, standing	cm3	71.8699702	71.2781064	0.591863768
701	Wood, unspecified, standing/m3	mm3	2.75275301	2.749312153	0.00344086
702	Xenon-131m	Bq	10.1782448	10.15775298	0.020491844
703	Xenon-133	Bq	366.200697	365.5429466	0.65775058
704	Xenon-133m	mBq	503.452789	500.7800887	2.67269987
705	Xenon-135	Bq	146.906212	146.6369753	0.269236384
706	Xenon-135m	Bq	91.9025531	91.74306588	0.159487253

No	Substance	Unit	Total	220mm Double Brick Wall Components	Building in component - wall ties
707	Xenon-137	Bq	2.77166749	2.768449538	0.003217952
708	Xenon-138	Bq	20.9537767	20.9258549	0.027921815
709	Xylene	mg	18.4916001	18.32120224	0.1703979
710	Xylene	mg	6.19069229	6.168880207	0.021812083
711	Zinc	mg	11.5747197	10.61091978	0.963799941
712	Zinc	mg	6.64080003	6.631426013	0.009374017
713	Zinc-65	µBq	22.0351036	22.01301662	0.022086999
714	Zinc-65	mBq	54.3636268	54.30913519	0.054491658
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	g	1.16707868	1.163387367	0.003691309
716	Zinc, ion	mg	481.818129	470.7449289	11.07319999
717	Zirconium	µg	1.98723925	1.17932995	0.807909299
718	Zirconium-95	µBq	21.5384731	21.51688394	0.021589203
719	Zirconium-95	µBq	629.545996	628.9149671	0.631028647
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	234.173443	234.0672642	0.106179107

Appendix 7.5: Inventory of emitted substances for 1m² of a 280mm double brick cavity wall with both sides plastered and painted

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
1	1-Butanol	ng	663.776586	331.8985056	0.016045002	331.8620353
2	1-Butanol	µg	37.4568281	18.78650059	0.086421295	18.58390621
3	1-Pentanol	ng	331.960302	166.0477262	0.100077221	165.8124989
4	1-Pentanol	ng	796.715852	398.5201064	0.240185418	397.9555607
5	1-Pentene	ng	250.855414	125.4787724	0.075626425	125.3010156
6	1-Pentene	ng	602.06571	301.155411	0.181502997	300.7287959
7	1-Propanol	µg	32.9037623	16.46020462	0.012839401	16.43071825
8	1-Propanol	µg	7.93170347	3.966104288	0.00037462	3.965224563
9	1,4-Butanediol	µg	2.05965929	1.030075835	0.000372507	1.029210946
10	1,4-Butanediol	ng	823.869693	412.0333237	0.14900392	411.6873657
11	2-Aminopropanol	ng	558.967984	279.4873399	0.005008263	279.4756356
12	2-Aminopropanol	µg	703.967748	703.2644999	1.25203E-05	0.703235241
13	2-Butene, 2-methyl-	pg	55.642995	27.83282509	0.016773909	27.79339596
14	2-Methyl-1-propanol	µg	570.215706	569.646309	0.000185294	0.569211852
15	2-Methyl-1-propanol	µg	2.73366026	1.367129121	0.000444697	1.366086444
16	2-Methyl-2-butene	pg	133.545181	66.79977719	0.040257983	66.70514584
17	2-Nitrobenzoic acid	µg	505.277274	504.7725125	7.86367E-06	0.504754153
18	2-Propanol	mg	2.11826299	1.06242607	0.004892336	1.050944586
19	2-Propanol	µg	3.965007	1.982587074	0.000128642	1.982291285
20	2,4-D	µg	727.067435	726.5014853	0.130014125	0.435935264
21	4-Methyl-2-pentanone	ng	2.41374397	1.304378089	0.160630057	0.948735825
22	Acenaphthene	ng	8.22256593	4.385010551	0.397565869	3.439989514
23	Acenaphthene	ng	665.823406	383.1219722	79.43455503	203.2668787
24	Acenaphthylene	ng	41.6403604	23.96034013	4.967852392	12.71216789
25	Acetaldehyde	mg	3.2219451	1.951003631	0.535615976	0.735325492
26	Acetaldehyde	µg	412.728014	206.4869099	0.182526534	206.0585774
27	Acetic acid	mg	55.3726669	28.01910184	0.473466365	26.88009872
28	Acetic acid	mg	8.56318467	4.293727816	0.018568198	4.250888652
29	Acetone	mg	3.98483703	2.042347127	0.073962495	1.868527406
30	Acetone	µg	472.082885	236.0443093	0.00432499	236.0342507
31	Acetonitrile	µg	3.82566538	2.152099407	0.387519251	1.286046719
32	Acetonitrile	µg	4.78454216	2.392296059	3.74088E-05	2.392208691
33	Acetyl chloride	ng	625.874426	313.0646167	0.188682205	312.6211272
34	Acidity, unspecified	µg	754.807378	383.4479092	9.7238598	361.635609
35	Aclonifen	mg	8.73954874	4.369819306	6.73063E-05	4.369662124
36	Acrolein	µg	12.4996706	7.086157052	1.417976988	3.995536594
37	Acrylate, ion	µg	12.9660145	6.503252482	0.030068049	6.432693991
38	Acrylic acid	µg	5.47844079	2.747774404	0.012704353	2.717962029
39	Actinides, radioactive, unspecified	mBq	942.620413	941.9616149	0.223733765	0.435064026
40	Actinides, radioactive, unspecified	mBq	190.514264	109.2228859	21.73715719	59.5542207
41	Aerosols, radioactive, unspecified	mBq	24.8994357	13.9295512	2.272135982	8.697748557
42	Aldehydes, unspecified	µg	477.500752	245.1319883	9.839630899	222.5291327
43	Aldrin	ng	140.899133	70.67120576	0.329281138	69.89864606
44	Aluminium	mg	642.664543	397.732138	112.5718546	132.3605507
45	Aluminium	g	10.7642982	5.728672873	0.468143851	4.567481463
46	Aluminium	mg	60.1880452	32.90089212	4.401534591	22.88561848
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	g	8.99007673	5.20945582	1.071605419	2.70901549
48	Ammonia	g	2.42464431	1.344935755	0.208269484	0.87143907
49	Ammonium carbonate	µg	44.1278975	22.20633343	0.221800201	21.69976389
50	Ammonium, ion	mg	175.67297	89.4462436	2.30125946	83.92546684
51	Anhydrite, in ground	mg	3.89503023	1.952711959	0.00808418	1.934234092
52	Aniline	µg	3.48419099	1.742490338	0.000605353	1.741095299
53	Aniline	µg	8.76800114	4.384950342	0.001456071	4.381594723
54	Anthranilic acid	ng	735.655456	367.8315549	0.005734819	367.818166
55	Antimony	µg	312.533165	174.3348198	28.28144375	109.9169019
56	Antimony	mg	26.1001715	13.34421699	0.402999804	12.3529547
57	Antimony	ng	17.2462466	9.015288231	0.604455267	7.626503107
58	Antimony-122	µBq	498.900791	329.4501031	128.4416781	41.00901008
59	Antimony-124	µBq	817.584626	817.1643229	0.318585478	0.101717867
60	Antimony-124	mBq	47.3457398	28.74836486	8.045243848	10.55213112
61	Antimony-125	µBq	12.9140111	8.527794414	3.324707155	1.061509484
62	Antimony-125	mBq	44.6426778	27.18608093	7.716771128	9.739825741
63	AOX, Adsorbable Organic Halogen as Cl	µg	545.384962	278.7732114	9.30837419	257.3033761
64	Argon-41	Bq	10.7868939	5.75018723	0.516500816	4.520205869
65	Arsenic	mg	2.69148051	1.513756508	0.243485175	0.934238832

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
66	Arsenic	µg	23.9987845	13.11464866	1.749445464	9.134690395
67	Arsenic, ion	mg	34.7018427	19.02719815	2.285400609	13.38924398
68	Arsine	pg	63.8577167	32.02856662	0.148085997	31.68106404
69	Atrazine	ng	36.9638239	18.54005697	0.086383879	18.33738304
70	Barite	mg	642.054501	335.7249189	22.39480131	283.9347812
71	Barite, 15% in crude ore, in ground	g	11.7298907	6.314700368	0.704852297	4.710338031
72	Barium	mg	769.740144	769.0778255	0.071520116	0.590798476
73	Barium	mg	245.634918	138.3007958	23.30049407	84.03362842
74	Barium	mg	27.5345806	15.12043172	2.125743569	10.28840527
75	Barium-140	µBq	840.037095	554.7202836	216.2672534	69.04955843
76	Barium-140	mBq	2.1854467	1.443164548	0.562642749	0.179639406
77	Basalt, in ground	g	2.52814431	1.491985072	0.374283505	0.661875732
78	Benomyl	ng	8.18116034	4.602249505	0.828705803	2.75020503
79	Bentazone	mg	4.4602617	2.230153785	3.435E-05	2.230073566
80	Benzal chloride	pg	0.40671455	0.219786957	0.027066001	0.159861597
81	Benzaldehyde	µg	6.22769578	3.535040505	0.716701004	1.975954268
82	Benzene	mg	68.065978	35.85385364	2.570429088	29.64169523
83	Benzene	mg	38.6638738	19.91740637	0.91394752	17.8325199
84	Benzene, 1-methyl-2-nitro-	ng	871.788897	435.8989805	0.006790714	435.8831262
85	Benzene, 1,2-dichloro-	µg	18.1291584	9.06478335	0.000303906	9.064071144
86	Benzene, 1,2-dichloro-	µg	110.758822	55.40679383	0.040819343	55.31120837
87	Benzene, chloro-	mg	725.209691	724.4863164	0.000828695	0.722545815
88	Benzene, ethyl-	mg	2.95485935	1.710960593	0.369718291	0.874180464
89	Benzene, ethyl-	mg	2.56943796	1.478479279	0.306536306	0.784422371
90	Benzene, hexachloro-	µg	627.524304	627.0196229	0.100165114	0.404516367
91	Benzene, pentachloro-	ng	106.059521	59.29508066	9.964283637	36.800157
92	Benzo(a)pyrene	µg	75.0730115	40.9163871	4.201138179	29.95548621
93	Beryllium	µg	78.1839545	51.87579741	20.17134048	6.136816599
94	Beryllium	mg	6.61862444	3.616236639	0.424756918	2.577630884
95	BOD5, Biological Oxygen Demand	g	49.7503656	25.83558868	1.447283599	22.46749327
96	Borate	µg	117.218442	58.62183285	0.018683052	58.57792608
97	Borax, in ground	µg	132.786221	79.25015598	20.83759363	32.69847166
98	Boron	mg	31.3599131	16.50813829	1.14250139	13.70927345
99	Boron	mg	454.466133	244.1566602	23.40616419	186.9033089
100	Boron	µg	860.328991	476.9563584	73.31866736	310.0539651
101	Boron trifluoride	pg	0.87394257	0.438332523	0.002027061	0.433582988
102	Bromate	mg	105.350959	52.70347995	0.036149841	52.611329
103	Bromide	mg	7.36664972	3.684066732	0.001111103	3.681471889
104	Bromine	mg	3.27515107	1.728648473	0.128459914	1.418042679
105	Bromine	mg	88.6663581	50.82746399	10.3061853	27.53270881
106	Bromine, 0.0023% in water	mg	8.49310261	4.247406568	0.001277707	4.24441834
107	Butadiene	ng	277.573438	138.9703817	0.275732047	138.3273245
108	Butane	mg	171.438693	96.37392404	16.70241101	58.36235752
109	Butene	mg	2.61444564	1.538129862	0.365578124	0.710737658
110	Butene	µg	12.4686676	6.292623354	0.08815167	6.087892615
111	Butyl acetate	µg	46.4973531	23.32415795	0.112298769	23.06089641
112	Butyrolactone	ng	32.7995223	16.45596775	0.083795044	16.25975956
113	Butyrolactone	ng	78.7198387	39.49481759	0.201111768	39.02390937
114	Cadmium	µg	851.836935	484.8015361	91.35963975	275.6757592
115	Cadmium	µg	442.589386	221.3944898	0.150223435	221.0446726
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	mg	902.75195	901.9689147	0.095543332	0.687492246
117	Cadmium, ion	mg	11.5683128	6.296088201	0.698947482	4.573277133
118	Calcite, in ground	oz	894.214558	615.3010799	267.1264422	11.78703559
119	Calcium	mg	32.4636797	18.30909997	3.139675479	11.0149043
120	Calcium	mg	261.027541	142.6660312	18.9875985	99.37391114
121	Calcium, ion	g	98.1538297	52.96054021	5.280013984	39.91327549
122	Carbetamide	mg	790.110226	789.3209249	1.48105E-05	0.789286296
123	Carbofuran	µg	4.48521179	2.523122507	0.454328074	1.50776121
124	Carbon	mg	199.908023	108.204992	12.95106347	78.75196717
125	Carbon-14	Bq	138.517996	81.64113384	19.47370963	37.40315284
126	Carbon dioxide, biogenic	g	474.111175	304.4817088	106.7465289	62.88293762
127	Carbon dioxide, fossil	kg	31.8389133	21.1183833	5.713475586	5.007054429
128	Carbon dioxide, in air	oz	530.052659	512.665798	0.524405904	16.86245479
129	Carbon dioxide, land transformation	mg	284.225978	151.4678417	13.8715033	118.886633
130	Carbon disulfide	mg	40.9131579	22.37046113	2.665624371	15.87707237
131	Carbon disulfide	µg	870.625358	869.7710936	0.011492597	0.842771733

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
132	Carbon monoxide, biogenic	mg	59.8235673	36.6570755	9.242513913	13.92397791
133	Carbon monoxide, fossil	g	28.567229	17.3950184	3.923192543	7.249018085
134	Carbon, in organic matter, in soil	mg	5.66540198	3.187029804	0.573875207	1.904496964
135	Carbonate	mg	60.5789617	30.64305841	0.557921378	29.3779819
136	Carboxylic acids, unspecified	mg	449.603206	256.7513437	50.5231917	142.3286705
137	Cerium-141	µBq	203.644356	134.4769257	52.42807437	16.73935568
138	Cerium-141	µBq	873.778112	577.0011744	224.9537677	71.82317001
139	Cerium-144	µBq	266.006668	175.6580454	68.48328413	21.86533875
140	Cesium	µg	107.04498	61.59488067	12.77082878	32.67927079
141	Cesium-134	µBq	9.75324032	6.440572606	2.510967641	0.801700071
142	Cesium-134	mBq	25.9408498	14.83267006	2.896050249	8.212129508
143	Cesium-136	µBq	155.078534	102.4064327	39.92490216	12.74719919
144	Cesium-137	µBq	172.893297	114.1704408	44.51129305	14.21156293
145	Cesium-137	Bq	22.1354134	12.71190807	2.561086707	6.862418628
146	Chloramine	µg	2.32961694	1.165051835	0.00036052	1.164204589
147	Chloramine	µg	21.4059555	10.70515246	0.003221716	10.69758129
148	Chlorate	mg	805.253506	402.8559671	0.299828021	402.0977105
149	Chloride	g	107.02917	60.83748616	11.17031115	35.021373
150	Chloride	mg	974.652898	528.4882522	64.0166539	382.1479915
151	Chlorinated solvents, unspecified	µg	258.870995	130.0618851	0.97584224	127.8332674
152	Chlorine	mg	16.1489895	8.31180287	0.307784661	7.529402012
153	Chlorine	mg	3.08820188	2.190387285	0.849577009	0.048237585
154	Chloroacetic acid	µg	382.495387	191.2603605	0.018378256	191.216648
155	Chloroacetic acid	mg	96.560811	48.28094485	0.000806033	48.27906014
156	Chloroacetyl chloride	µg	938.861396	937.9234947	1.6698E-05	0.937884473
157	Chloroform	µg	20.8853551	10.69288146	0.395444796	9.797028881
158	Chloroform	µg	2.03566507	1.019041242	0.001794726	1.014829098
159	Chlorosilane, trimethyl-	µg	786.995829	786.4348878	0.185131384	0.375809552
160	Chlorosulfonic acid	µg	6.9768321	3.488452474	5.45496E-05	3.488325073
161	Chlorosulfonic acid	µg	17.3984685	8.699325084	0.000136033	8.699007377
162	Chlorothalonil	µg	17.3074185	10.42028794	2.615451224	4.271679295
163	Chromium	mg	21.4499614	13.18385756	0.868883557	7.397220324
164	Chromium	mg	3.83215153	1.930703609	0.022878912	1.878569008
165	Chromium-51	µBq	13.0494783	8.617249596	3.359581705	1.072646992
166	Chromium-51	mBq	170.835338	111.5363763	41.88270463	17.41625699
167	Chromium VI	µg	544.082485	338.2386838	30.17567749	175.668124
168	Chromium VI	mg	73.4500886	43.22819607	4.043003358	26.17888918
169	Chromium VI	mg	985.490976	984.7287592	0.173706449	0.588510119
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	g	5.67351805	3.572155746	0.291686127	1.80967618
171	Chromium, ion	mg	7.21096325	3.656724048	0.058171265	3.496067939
172	Chrysotile, in ground	mg	38.585467	19.29805605	0.006872158	19.28053877
173	Cinnabar, in ground	mg	658.519065	657.8622051	0.000649599	0.656209929
174	Clay, bentonite, in ground	g	2.91891252	1.868525581	0.201875281	0.848511657
175	Clay, unspecified, in ground	oz	335.538218	231.0066267	100.5895599	3.942031461
176	Coal, brown, in ground	oz	610.192694	591.4772053	1.510869674	17.20461883
177	Coal, hard, unspecified, in ground	oz	75.5794675	46.90206895	13.33004147	15.34735711
178	Cobalt	µg	703.196561	414.729211	59.56398659	228.9033629
179	Cobalt	mg	125.72155	69.24570472	6.165002455	50.31084277
180	Cobalt	µg	3.49348926	1.831497494	0.126413224	1.535578544
181	Cobalt-57	mBq	4.92277595	3.250765619	1.267367001	0.404643329
182	Cobalt-58	µBq	18.1719321	11.99987336	4.678356377	1.493702411
183	Cobalt-58	mBq	804.882469	516.4640465	182.4508281	105.9675946
184	Cobalt-60	µBq	160.532135	106.0077272	41.32892573	13.1954821
185	Cobalt-60	mBq	699.745323	451.1191178	162.1058554	86.52034993
186	Cobalt, in ground	µg	19.8139611	10.77893414	1.39917547	7.635851519
187	COD, Chemical Oxygen Demand	g	114.055592	58.1553146	1.584256359	54.31602096
188	Colemanite, in ground	mg	29.4158091	14.97183242	0.390585349	14.05339136
189	Copper	mg	14.3888084	7.914453551	0.994775951	5.479578883
190	Copper	mg	-645.717997	-644.9283026	0.112780369	-0.902474692
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	429.380037	232.5449436	27.92846043	168.9066328
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	g	2.358679	1.278225277	0.154668418	0.925785303
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	625.67255	339.0671403	41.02800795	245.5774013

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	g	3.12863071	1.694395328	0.203456271	1.230779113
195	Copper, ion	mg	140.358495	77.52431611	10.14540247	52.68877637
196	Cumene	mg	11.9570376	6.015600975	0.054014529	5.887422119
197	Cumene	mg	28.7325702	14.45539208	0.129794693	14.1473834
198	Cyanide	µg	395.960559	229.5201517	16.7087003	149.7317067
199	Cyanide	mg	4.17047181	2.367655428	0.366143739	1.436672639
200	Cyanoacetic acid	µg	5.71376224	2.856910953	4.46741E-05	2.856806616
201	Cypermethrin	µg	34.9311686	17.50546106	0.064550732	17.36115678
202	Diatomite, in ground	ng	571.535581	315.398464	46.30352351	209.8335931
203	Dichromate	µg	45.5753933	25.68815966	4.528419088	15.35881457
204	Diethylamine	µg	929.855643	928.9270702	0.000271467	0.928301371
205	Diethylamine	µg	4.4580175	2.229433834	0.000651532	2.227932131
206	Dimethyl malonate	µg	7.16504357	3.582559192	5.60211E-05	3.582428354
207	Dimethylamine	µg	46.6147745	23.30779375	0.000614891	23.30636587
208	Dinitrogen monoxide	g	2.31656351	1.167667876	0.01427073	1.134624902
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	22.4781361	15.33899596	6.221201757	0.917938345
210	Dipropylamine	ng	853.234281	426.7283466	0.170519443	426.3354151
211	Dipropylamine	µg	2.04780075	1.024167273	0.000409249	1.023224231
212	DOC, Dissolved Organic Carbon	g	147.369909	74.05815867	0.516151235	72.79559889
213	Dolomite, in ground	mg	697.583641	448.4115463	67.86004529	181.3120491
214	Energy, gross calorific value, in biomass	MJ	13.5743453	6.881787122	0.142001545	6.550556677
215	Energy, gross calorific value, in biomass, primary forest	J	392.778103	220.9544058	39.78634281	132.0373546
216	Energy, kinetic (in wind), converted	kJ	459.507508	242.1415097	17.39829494	199.9677032
217	Energy, potential (in hydropower reservoir), converted	MJ	8.00607001	4.906273983	1.393523043	1.706272987
218	Energy, solar, converted	kJ	9.18283197	5.217491833	0.97047211	2.994868025
219	Ethane	mg	480.939705	247.0706881	9.126389363	224.7426277
220	Ethane, 1,1-difluoro-, HFC-152a	µg	3.31958725	1.879786503	0.340390648	1.099410095
221	Ethane, 1,1,1-trichloro-, HCFC-140	ng	15.458503	9.096804551	2.161094901	4.200603531
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	874.206093	472.470055	54.43138216	347.3046557
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	260.002827	130.4073836	0.602943525	128.9925001
224	Ethane, 1,2-dichloro-	µg	868.977629	442.748721	12.55256156	413.6763468
225	Ethane, 1,2-dichloro-	µg	65.3621018	33.37255072	1.06096761	30.92858344
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	62.5547193	37.29832359	9.504003012	15.75239266
227	Ethane, hexafluoro-, HFC-116	µg	184.710394	101.1977738	13.82601353	69.68660683
228	Ethanol	mg	2.0238868	1.082342064	0.103671621	0.837873116
229	Ethanol	mg	640.638	639.9982865	0.000211774	0.639502093
230	Ethene	mg	33.9258149	18.38558957	1.434033795	14.10619149
231	Ethene	mg	11.9289928	6.005191802	0.060906402	5.862894567
232	Ethene, chloro-	µg	252.660993	131.5278655	8.033757057	113.0993707
233	Ethene, chloro-	µg	2.11827322	1.130250537	0.110685244	0.877337434
234	Ethene, tetrachloro-	ng	36.8663904	21.55974888	4.9346883	10.37195325
235	Ethyl acetate	mg	9.83377924	4.932889781	0.023804541	4.877084915
236	Ethyl acetate	µg	3.27742754	1.639175472	0.000706796	1.637545269
237	Ethyl cellulose	µg	19.8887307	9.975395396	0.046084039	9.867251261
238	Ethylamine	µg	720.024998	719.3058953	0.000153358	0.718949084
239	Ethylamine	µg	3.45220128	1.726344787	0.000368061	1.725488433
240	Ethylene diamine	ng	287.941763	145.665504	2.515543478	139.7607153
241	Ethylene diamine	ng	691.169087	349.6617757	6.05242043	335.4548905
242	Ethylene oxide	µg	221.21352	122.9741007	19.5978112	78.64160826
243	Ethylene oxide	µg	283.29492	141.6645625	0.026267825	141.6040892
244	Ethyne	mg	2.72118722	1.415882321	0.036036809	1.269268095
245	Feldspar, in ground	µg	3.8958886	2.370143417	0.579448066	0.946297118
246	Fenpiclonil	µg	302.043359	151.09276	0.10526301	150.8453355
247	Fluoride	g	953.793229	952.9261594	0.060431552	0.806637715
248	Fluoride	mg	3.93592725	2.178589723	0.330160157	1.427177366
249	Fluorine	mg	4.05913045	2.373226601	0.525496186	1.160407666
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	18.6341777	9.755841484	0.561795542	8.316540633
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	mg	610.113072	305.2550285	0.255726135	304.6023169
252	Fluorspar, 92%, in ground	mg	611.447308	323.8722935	28.15424396	259.4207703

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
253	Fluosilicic acid	µg	194.838496	107.7148137	16.1005341	71.02314819
254	Fluosilicic acid	µg	350.710184	193.8871102	28.9809614	127.8421122
255	Formaldehyde	mg	30.7759999	16.59520418	1.881342525	12.29945321
256	Formaldehyde	mg	38.5776526	19.29420429	0.00792425	19.27552407
257	Formamide	ng	607.122113	303.6846459	0.183033198	303.2544341
258	Formamide	µg	729.579406	728.8511476	0.000439292	0.72781861
259	Formate	mg	674.002829	673.3295216	1.6847E-05	0.673290475
260	Formic acid	µg	38.0711279	20.65505434	2.620362808	14.7957107
261	Formic acid	ng	422.982835	211.5775219	0.127518898	211.2777942
262	Furan	µg	7.26570173	4.087264307	0.735973452	2.442463975
263	Gallium, 0.014% in bauxite, in ground	ng	25.6080318	14.50571764	2.633482878	8.468831262
264	Gas, mine, off-gas, process, coal mining/m3	dm3	28.091508	17.99613468	5.964688724	4.130684627
265	Gas, natural, in ground	gal*	786.56898	401.7298628	11.94388957	372.8952277
266	Glutaraldehyde	µg	79.2656814	41.44736765	2.764790284	35.05352349
267	Glyphosate	µg	242.765459	130.4697949	13.18470618	99.11095784
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	µg	19.4819096	9.771366886	0.04516735	9.665375365
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	35.7256566	17.91859747	0.082827119	17.724232
270	Gold, Au 1.4E-4%, in ore, in ground	µg	42.7756432	21.45459603	0.099171884	21.22187525
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	65.3347243	32.76935305	0.151474645	32.41389657
272	Gold, Au 4.3E-4%, in ore, in ground	µg	16.1927028	8.121628904	0.037541543	8.033532391
273	Gold, Au 4.9E-5%, in ore, in ground	µg	38.7834073	19.45224646	0.089916829	19.24124401
274	Gold, Au 6.7E-4%, in ore, in ground	µg	60.0429336	30.11519689	0.139205816	29.78853091
275	Gold, Au 7.1E-4%, in ore, in ground	µg	67.7049152	33.95814801	0.156969	33.58979824
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	4.05701013	2.034838247	0.00940592	2.012765958
277	Granite, in ground	ng	29.2740157	17.76115525	5.033086413	6.479774026
278	Gravel, in ground	lb	264.793365	180.1059737	83.02955184	1.65783898
279	Gypsum, in ground	µg	693.75672	379.2835984	45.5098069	268.9633149
280	Heat, waste	MJ	273.969932	158.4941617	33.24946086	82.22630942
281	Heat, waste	MJ	858.38773	855.7175829	0.306628803	2.3635182
282	Heat, waste	kJ	200.7576	112.2808858	18.5460847	69.93062995
283	Helium	mg	9.94455917	6.248252339	2.022742054	1.673564774
284	Heptane	mg	26.0461489	15.33191949	3.655442439	7.058786983
285	Hexane	mg	496.369911	253.4575935	8.310759103	234.6015581
286	Hydrocarbons, aliphatic, alkanes, cyclic	mg	3.72209199	1.862117907	0.00167578	1.858298302
287	Hydrocarbons, aliphatic, alkanes, unspecified	g	655.962435	655.3159434	0.002596146	0.643895107
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	13.9158621	8.007341807	1.660207741	4.248312521
289	Hydrocarbons, aliphatic, unsaturated	mg	9.89212602	5.238340755	0.38066699	4.273118277
290	Hydrocarbons, aliphatic, unsaturated	mg	746.729879	746.1774393	0.15325019	0.399189553
291	Hydrocarbons, aromatic	mg	33.2456986	17.83290573	0.590950501	14.82184232
292	Hydrocarbons, aromatic	mg	57.6742497	33.12998351	6.790231366	17.75403486
293	Hydrocarbons, chlorinated	µg	254.061489	148.9415115	36.28397016	68.83600693
294	Hydrocarbons, unspecified	mg	30.6275507	15.78120934	0.644761052	14.20158026
295	Hydrogen	mg	243.013742	122.1989084	1.061278678	119.7535552
296	Hydrogen-3, Tritium	Bq	643.763995	366.3797848	69.01775775	208.3664527
297	Hydrogen-3, Tritium	kBq	283.780182	262.287222	5.785116224	15.70784356
298	Hydrogen chloride	mg	671.022449	376.0523363	59.83569323	235.1344198
299	Hydrogen fluoride	mg	56.8404357	30.24948617	2.281963244	24.30898626
300	Hydrogen peroxide	µg	14.7367142	7.391780611	0.034814715	7.310118866
301	Hydrogen peroxide	µg	139.286224	73.3539613	4.929760772	61.00250233
302	Hydrogen sulfide	mg	64.7190467	33.64865353	1.051648646	30.01874456
303	Hydrogen sulfide	mg	4.61300503	2.721683905	0.527620124	1.363701005
304	Hydroxide	µg	412.093723	206.8924615	1.268915988	203.9323457
305	Hypochlorite	mg	1.94371568	1.033845438	0.08943448	0.820435764
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	29.3494125	15.75019374	1.722941791	11.87627698
307	Iodide	mg	11.884453	6.755382351	1.284859796	3.844210823
308	Iodine	mg	924.510303	923.6806055	0.065577395	0.764120208
309	Iodine-129	mBq	117.291306	67.24378607	13.38266261	36.66485699
310	Iodine-131	Bq	4.12156355	2.176616462	0.163642328	1.781304763

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
311	Iodine-131	mBq	10.5751918	6.547796967	2.005439201	2.02195567
312	Iodine-133	mBq	775.777948	775.3590795	0.285711596	0.133156592
313	Iodine-133	mBq	906.452977	905.986988	0.353214615	0.112773982
314	Iodine-135	µBq	411.667085	243.1044771	58.82822191	109.7343858
315	Iodine, 0.03% in water	mg	989.504262	988.5161488	0.000303237	0.987809581
316	Iron	mg	93.2307515	53.07321069	9.472319888	30.68522094
317	Iron	mg	515.253253	272.0261336	20.5006677	222.7264521
318	Iron-59	µBq	377.185588	249.0752758	97.1062486	31.00406327
319	Iron, 46% in ore, 25% in crude ore, in ground	g	165.49569	112.0297673	10.21831147	43.24761107
320	Iron, ion	g	14.4841459	7.875370129	0.871067934	5.737707791
321	Isocyanic acid	µg	64.9382239	35.76563411	4.939590602	24.23299922
322	Isoprene	ng	337.155905	189.6645453	34.15209877	113.3392613
323	Isopropylamine	ng	716.127356	358.0787725	0.023234506	358.0253491
324	Isopropylamine	µg	860.250567	859.3912483	5.5764E-05	0.85926303
325	Kaolinite, 24% in crude ore, in ground	mg	39.0976179	23.66760842	6.130926058	9.299083375
326	Kieserite, 25% in crude ore, in ground	µg	230.557533	132.1440698	25.61250595	72.80095744
327	Krypton-85	Bq	34.3195322	18.37152816	1.769679091	14.17832492
328	Krypton-85m	Bq	12.6045494	8.254169396	3.130981078	1.219398888
329	Krypton-87	Bq	3.07652758	1.979039894	0.705524652	0.39196303
330	Krypton-88	Bq	3.85761208	2.506272719	0.925453871	0.42588549
331	Krypton-89	Bq	1.53834127	1.01242425	0.390409971	0.13550705
332	Lactic acid	ng	668.388828	334.281526	0.133574837	333.9737267
333	Lactic acid	µg	803.076696	802.2748392	0.000320582	0.801536116
334	Lanthanum-140	µBq	71.7947095	47.4097825	18.4835118	5.901415235
335	Lanthanum-140	mBq	2.32768094	1.537089306	0.599261027	0.191330606
336	Lead	mg	9.50800746	5.568935942	1.037660515	2.901411007
337	Lead	mg	26.0615706	14.2666275	1.782223855	10.01271928
338	Lead	µg	719.88728	361.4552344	2.266237075	356.1658087
339	Lead-210	mBq	744.51072	396.9736471	34.33879218	313.1982808
340	Lead-210	Bq	7.19645351	3.608769768	0.014277508	3.573406234
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	118.478591	64.24403458	7.814647644	46.41990837
342	Linuron	mg	67.3311137	33.6659031	0.000518612	33.66469197
343	Lithium, 0.15% in brine, in ground	µg	17.5643886	8.785769631	0.005294938	8.773323984
344	Lithium, ion	µg	646.654636	348.3326609	41.19247676	257.129498
345	m-Xylene	µg	104.756453	56.62095653	6.334592473	41.80090361
346	m-Xylene	µg	684.274039	683.5924929	0.001632663	0.679913284
347	Magnesite, 60% in crude ore, in ground	g	10.7286128	7.392764975	2.733313524	0.602534348
348	Magnesium	mg	26.5951944	14.18944048	1.082660803	11.32309307
349	Magnesium	g	43.5745662	23.5849231	2.45790329	17.5317398
350	Magnesium	mg	48.6484513	26.63864669	3.624209813	18.38559478
351	Magnesium, 0.13% in water	µg	117.424171	62.83528571	6.337896639	48.2509882
352	Mancozeb	µg	22.478733	13.53378825	3.396932256	5.548012473
353	Manganese	mg	2.77691995	1.590159506	0.262923123	0.923837321
354	Manganese	g	3.55445139	1.928956162	0.20722743	1.418267799
355	Manganese	mg	4.44784696	2.424280207	0.307598919	1.715967833
356	Manganese-54	µBq	6.68277896	4.412986525	1.720477828	0.549314603
357	Manganese-54	mBq	48.7385057	31.24787311	11.00555364	6.485078935
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	g	401.891311	401.596193	0.088206279	0.206911571
359	Mercury	mg	855.856604	855.341719	0.229962184	0.28492256
360	Mercury	mg	595.393135	594.902151	0.065608998	0.425374799
361	Mercury	µg	57.6670256	28.83505469	0.002274477	28.82969643
362	Metaldehyde	µg	297.24952	148.6270783	0.003458352	148.6189837
363	Metamorphous rock, graphite containing, in ground	mg	10.4508245	5.777030746	0.862578254	3.811215494
364	Methane, biogenic	mg	260.14354	141.3613134	17.04542135	101.7368053
365	Methane, bromo-, Halon 1001	pg	0.09303516	0.050275835	0.006191296	0.036568025
366	Methane, bromochlorodifluoro-, Halon 1211	µg	122.630148	62.21773009	1.152285566	59.26013193
367	Methane, bromotrifluoro-, Halon 1301	µg	81.2993375	48.90055543	13.07018035	19.32860175
368	Methane, chlorodifluoro-, HCFC-22	µg	450.867088	229.2499252	4.997147006	216.6200155
369	Methane, dichloro-, HCC-30	µg	10.8056797	5.433624716	0.048493718	5.323561306
370	Methane, dichloro-, HCC-30	mg	777.410827	776.7710746	0.107626168	0.532125997
371	Methane, dichlorodifluoro-, CFC-12	µg	736.483192	735.7622615	0.010457933	0.710472119
372	Methane, dichlorofluoro-, HCFC-21	ng	884.589339	883.7217268	0.011739458	0.855872674

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
373	Methane, fossil	g	46.7197663	26.41876056	4.650398246	15.65060747
374	Methane, monochloro-, R-40	ng	430.816127	253.1740619	59.76006485	117.8820003
375	Methane, tetrachloro-, CFC-10	µg	383.17754	191.8394653	0.313867443	191.0242075
376	Methane, tetrafluoro-, CFC-14	mg	830.253008	829.5820148	0.124003196	0.546989671
377	Methane, trichlorofluoro-, CFC-11	ng	2.84319771	1.43467539	0.019058383	1.389463941
378	Methane, trifluoro-, HFC-23	ng	557.241145	281.1834626	3.735282138	272.3224004
379	Methanesulfonic acid	µg	5.77392281	2.886991552	4.51444E-05	2.886886117
380	Methanol	mg	238.079902	119.418736	0.581294428	118.0798718
381	Methanol	mg	14.2299901	7.128794223	0.017918728	7.08327716
382	Methyl acetate	ng	233.770411	116.8864206	0.001820931	116.8821693
383	Methyl acetate	ng	561.038719	280.5222761	0.004370156	280.5120731
384	Methyl acrylate	µg	6.21574459	3.117577604	0.014414253	3.08375273
385	Methyl acrylate	µg	121.426526	60.90285928	0.281586654	60.24208047
386	Methyl amine	µg	971.166762	970.1966732	8.38849E-05	0.970004464
387	Methyl amine	µg	4.65679562	2.328527798	0.000201319	2.328066507
388	Methyl borate	ng	163.337364	81.69392493	0.037387794	81.6060515
389	Methyl ethyl ketone	mg	9.83190106	4.931950459	0.023804189	4.876146409
390	Methyl formate	ng	184.63355	92.38696084	0.104091252	92.14249804
391	Methyl formate	ng	73.713586	36.88481415	0.041557644	36.78721423
392	Methyl lactate	ng	733.756563	366.9739161	0.146642998	366.6360036
393	Metolachlor	mg	487.336978	243.6709949	0.003753153	243.66223
394	Metribuzin	ng	791.488696	476.532408	119.6081606	195.3481277
395	Molybdenum	µg	243.009917	135.09004	20.71076029	87.20911635
396	Molybdenum	mg	29.7353506	16.09996734	1.728136206	11.90724701
397	Molybdenum	µg	671.306339	670.6721073	0.027124582	0.607107348
398	Molybdenum-99	µBq	802.534901	529.9556363	206.6123374	65.9669271
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	58.1411687	31.48795199	3.780971056	22.87224563
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	mg	8.2182406	4.453664777	0.538906106	3.225669714
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	19.0871797	14.42526018	0.959604289	3.702315189
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	mg	30.1143451	16.3196898	1.974718208	11.81993709
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	38.3917079	29.04794926	1.936358153	7.407400478
404	Monoethanolamine	µg	411.610481	210.3071686	7.262247428	194.041065
405	Napropamide	µg	525.901903	262.9550526	0.00611861	262.9407314
406	Nickel	mg	13.5213001	7.130092763	0.493466159	5.897741145
407	Nickel	µg	-508.816286	-253.7323067	0.998658803	-256.0826383
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	mg	26.944808	14.98490151	2.397989046	9.561917415
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	g	13.7862512	8.722688971	0.633558349	4.430003841
410	Nickel, ion	mg	393.707308	221.8824691	23.08309989	148.7417386
411	Niobium-95	nBq	793.303743	523.8597731	204.2357014	65.20826836
412	Niobium-95	mBq	4.29516937	2.646267689	0.793084003	0.855817679
413	Nitrate	µg	736.767048	432.8149609	100.8560615	203.0960253
414	Nitrate	g	71.4360943	35.86343968	0.198317965	35.37433666
415	Nitrite	mg	2.33064246	1.191950468	0.040991392	1.097700603
416	Nitrobenzene	µg	5.54020751	2.770635789	0.00081555	2.768756171
417	Nitrobenzene	µg	22.2023298	11.10329701	0.003268311	11.09576445
418	Nitrogen	mg	36.3502448	19.52659566	2.035634818	14.78801428
419	Nitrogen oxides	g	56.5303785	33.94687594	8.924851789	13.65865073
420	Nitrogen, organic bound	mg	30.2230237	17.17395464	2.938249706	10.11081931
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	11.3083651	6.404712912	1.168249452	3.735402698
422	Noble gases, radioactive, unspecified	kBq	1127.04464	646.1324897	128.5787747	352.3333791
423	o-Xylene	ng	12.7038955	6.865137787	0.845421355	4.993336398
424	Occupation, arable, non-irrigated	m2a	2.19813206	1.099083217	2.56385E-05	1.099023207
425	Occupation, construction site	cm2a	27.8152458	14.18234531	0.350006651	13.28289379
426	Occupation, dump site	cm2a	149.488625	87.34965921	17.14073635	44.99822986

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
427	Occupation, dump site, benthos	cm2a	543.73441	538.8180069	0.359422737	4.556980327
428	Occupation, forest, intensive	cm2a	138.763165	72.09830058	4.119184837	62.54568007
429	Occupation, forest, intensive, normal	m2a	0.25983072	0.149907388	0.029974351	0.079948978
430	Occupation, forest, intensive, short-cycle	mm2a	98.5268596	55.42553264	9.980215809	33.12111111
431	Occupation, industrial area	cm2a	108.129095	62.03374953	11.28375607	34.811589
432	Occupation, industrial area, benthos	mm2a	9.607946	5.070505631	0.408606153	4.12883422
433	Occupation, industrial area, built up	cm2a	345.411781	180.3172614	11.2295623	153.8649572
434	Occupation, industrial area, vegetation	cm2a	181.531008	119.213221	48.10683545	14.2109516
435	Occupation, mineral extraction site	cm2a	443.361294	296.2287814	126.7962713	20.33624118
436	Occupation, permanent crop, fruit, intensive	mm2a	107.657269	62.71580598	14.41661269	30.52485068
437	Occupation, shrub land, sclerophyllous	mm2a	649.322162	342.2843623	20.10851441	286.9292857
438	Occupation, traffic area, rail embankment	cm2a	31.9963907	17.15371181	1.651492056	13.19118683
439	Occupation, traffic area, rail network	cm2a	35.380869	18.96817053	1.826170545	14.58652796
440	Occupation, traffic area, road embankment	cm2a	34.7598343	19.6671952	3.444977505	11.64766156
441	Occupation, traffic area, road network	cm2a	197.595999	118.0583614	30.9128063	48.62483173
442	Occupation, urban, discontinuously built	cm2a	766.097355	758.5129326	0.000540455	7.583882342
443	Occupation, water bodies, artificial	cm2a	170.9347	103.3266937	30.0298973	37.57810922
444	Occupation, water courses, artificial	cm2a	97.7976902	57.64160155	13.28600013	26.8700885
445	Oil, crude, in ground	oz	80.759569	46.17557425	9.174253386	25.40974139
446	Oils, biogenic	mg	5.17546328	2.840866358	0.37691003	1.957686893
447	Oils, unspecified	g	5.68787817	3.12461152	0.441100603	2.122166048
448	Oils, unspecified	g	5.66266609	3.075950926	0.385559952	2.201155209
449	Olivine, in ground	mg	653.031386	652.3829757	0.003095754	0.645314752
450	Orbencarb	µg	4.27413132	2.57332921	0.64589595	1.054906161
451	Ozone	mg	38.9147787	22.0785073	4.04975205	12.78651933
452	PAH, polycyclic aromatic hydrocarbons	mg	975.780381	975.0018817	0.133459599	0.645039573
453	PAH, polycyclic aromatic hydrocarbons	µg	668.604998	397.5060118	71.35215613	199.7468303
454	Particulates, < 2.5 um	g	3.21441424	1.90807982	0.410203475	0.896130948
455	Particulates, > 10 um	g	8.03220968	5.016890396	1.392204189	1.623115096
456	Particulates, > 2.5 um, and < 10um	g	7.40894732	4.104587178	0.503281323	2.801078815
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	µg	9.33438615	4.757339026	0.141739991	4.435307136
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	22.4322455	11.43275964	0.340626646	10.65885919
459	Peat, in ground	g	5.64805278	2.825216839	0.001784447	2.821051496
460	Pentane	mg	213.261514	121.4912965	23.45786242	68.31235539
461	Phenol	µg	577.266364	325.945326	60.97446908	190.3465694
462	Phenol	mg	14.7157628	8.082056444	1.145139811	5.488566588
463	Phenol, 2,4-dichloro-	ng	999.261512	499.6589345	0.045008628	499.5575686
464	Phenol, pentachloro-	µg	22.1492887	11.6733408	0.841101658	9.634846265
465	Phosphate	g	13.5288988	7.310956799	0.722956357	5.494985667
466	Phosphine	ng	4.735476	2.375131966	0.010981462	2.349362571
467	Phosphorus	µg	723.653554	388.3872338	35.64043085	299.6258891
468	Phosphorus	mg	59.7641896	29.96565034	0.100737131	29.69780209
469	Phosphorus	mg	3.82827469	2.094460032	0.279778839	1.454035817
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	g	2.43272409	1.217539404	0.001528707	1.213655982
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	74.5367106	39.02336593	2.247182168	33.26616253
472	Pirimicarb	µg	421.911643	210.9579912	0.00324929	210.950403
473	Platinum	ng	1.80188769	1.044504063	0.224489291	0.532894338
474	Plutonium-238	nBq	16.0005016	9.173175339	1.825611779	5.001714492
475	Plutonium-alpha	nBq	36.6790836	21.02832221	4.184982933	11.46577848
476	Polonium-210	Bq	693.556353	692.9460362	0.056700728	0.553615717
477	Polonium-210	Bq	10.880493	5.453447251	0.017691263	5.40935449
478	Polychlorinated biphenyls	µg	2.62343419	1.781306527	0.164844812	0.67728285
479	Potassium	mg	37.604351	20.655829	2.741448122	14.20707392
480	Potassium	mg	25.2513582	13.82316783	1.861739295	9.566451101
481	Potassium-40	mBq	167.709178	87.5697697	4.560876887	75.57853099
482	Potassium-40	Bq	552.546416	552.009368	0.010523569	0.526524328
483	Potassium, ion	g	26.8411458	14.58936406	1.608691423	10.64309034

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
484	Propanal	µg	23.0696207	11.96048304	0.723606206	10.38553149
485	Propanal	µg	577.475732	576.899302	0.000347713	0.576082018
486	Propane	mg	255.046622	138.7184284	17.2388822	99.08931185
487	Propene	mg	14.2532994	7.687741417	0.813729323	5.751828631
488	Propene	mg	11.7046848	5.89015137	0.055551639	5.758981789
489	Propionic acid	µg	892.094582	455.0708503	11.27587146	425.7478599
490	Propionic acid	µg	5.66397262	2.832072966	0.000136453	2.8317632
491	Propylamine	ng	192.265288	96.17178215	0.0579629	96.03554281
492	Propylamine	ng	461.443032	230.8154466	0.139109441	230.4884758
493	Propylene oxide	µg	111.088454	57.29939413	2.656194115	51.13286539
494	Propylene oxide	µg	267.123288	137.7845956	6.390834754	122.9478575
495	Protactinium-234	mBq	18.3458319	10.7494002	2.474916882	5.121514778
496	Protactinium-234	mBq	337.943829	198.0074731	45.58117256	94.35518382
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	260.485153	136.9562379	10.46949302	113.059422
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	933.813713	490.974768	37.53225122	405.3066943
499	Radioactive species, alpha emitters	mBq	9.04297121	4.542898793	0.02950024	4.470572176
500	Radioactive species, Nuclides, unspecified	Bq	114.231114	65.48715384	13.02987619	35.71408428
501	Radioactive species, other beta emitters	mBq	917.220443	506.1559777	74.29752088	336.7669443
502	Radium-224	Bq	5.35225856	3.079748807	0.638541439	1.633968312
503	Radium-226	mBq	801.944631	457.7466215	87.96774182	256.2302674
504	Radium-226	Bq	226.771587	132.1008201	29.38533586	65.28543061
505	Radium-228	mBq	374.437621	193.0520474	4.910654295	176.4749194
506	Radium-228	Bq	10.7055706	6.160067683	1.277154255	3.268348661
507	Radon-220	Bq	4.46877811	2.358512013	0.175358253	1.934907849
508	Radon-222	kBq	2422.14082	1419.174364	326.6896191	676.276839
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	133.234164	69.06638227	3.841980418	60.32580181
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	417.304852	216.3239086	12.03351399	188.9474294
511	Rhenium, in crude ore, in ground	ng	75.3488665	42.00304493	6.867163882	26.47865764
512	Rubidium	mg	616.403308	615.9488067	0.127708288	0.326792708
513	Ruthenium-103	nBq	174.294033	115.0954258	44.87192174	14.32668516
514	Ruthenium-103	µBq	169.342129	111.8254303	43.59706317	13.91963577
515	Sand, unspecified, in ground	mg	57.1067801	28.91956802	0.539081512	27.64813061
516	Scandium	µg	228.544956	133.4612619	29.99335848	65.09033538
517	Scandium	mg	11.6268865	6.381040119	0.809230371	4.436615975
518	Selenium	µg	643.062703	349.5445136	42.21504905	251.3031402
519	Selenium	mg	17.4991142	9.509044439	1.051269995	6.938799765
520	Shale, in ground	mg	11.0268264	5.528126578	0.022888131	5.475811709
521	Silicon	mg	99.1387792	52.24556327	2.88736151	44.0058544
522	Silicon	g	153.043586	80.83633519	3.46876447	68.73848663
523	Silicon	mg	20.2281707	10.77333887	1.005006596	8.449825217
524	Silicon tetrafluoride	ng	545.818689	286.136076	16.92869085	242.753922
525	Silver	µg	9.80198939	5.732155809	1.304000207	2.765833379
526	Silver-110	µBq	1.72738694	1.140683608	0.444715102	0.14198823
527	Silver-110	mBq	675.863761	436.4476669	157.7637549	81.65233917
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	432.523984	217.1180259	1.282862821	214.1230953
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	308.566944	154.8967578	0.919205367	152.7509807
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	28.4868466	14.29984735	0.084559709	14.10243958
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	65.060459	32.65909548	0.193124619	32.20823889
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	63.770229	32.01142476	0.189294488	31.56950977
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	42.0793543	21.12302351	0.124906813	20.83142402
534	Silver, ion	µg	769.211402	422.5249264	55.40898796	291.2774878

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
535	Sodium	mg	11.8931695	6.521401852	0.840809644	4.530958011
536	Sodium	mg	115.067936	63.04649674	8.659556394	43.36188251
537	Sodium-24	mBq	6.07219437	4.009786301	1.563284021	0.499124044
538	Sodium chlorate	µg	7.32541843	3.921623308	0.402569472	3.00122565
539	Sodium chloride, in ground	g	696.164088	348.5178776	0.589574394	347.0566363
540	Sodium dichromate	µg	12.4968262	7.043253389	1.237576015	4.215996826
541	Sodium formate	µg	3.02387945	1.549677749	0.05401154	1.420190166
542	Sodium formate	µg	7.26458666	3.722956626	0.12975943	3.411870606
543	Sodium hydroxide	µg	54.9525145	27.56269277	0.12841353	27.26140823
544	Sodium nitrate, in ground	ng	16.7125624	8.919170218	0.883546693	6.909845528
545	Sodium sulphate, various forms, in ground	mg	142.990191	74.38062254	4.438067593	64.17150069
546	Sodium, ion	g	76.8876228	42.47964892	6.030666105	28.37730777
547	Solids, inorganic	g	4.94701785	2.593932095	0.161573085	2.191512673
548	Solved solids	g	958.931246	958.0439491	0.057385144	0.829911524
549	Stibnite, in ground	ng	59.3954231	32.77697766	4.811934802	21.80651067
550	Strontium	mg	858.577156	857.8121696	0.056587952	0.708398917
551	Strontium	g	798.963194	798.3013369	0.096334515	0.565522654
552	Strontium	µg	553.590067	304.1577195	42.99009064	206.4422567
553	Strontium-89	mBq	14.6659166	9.533659451	3.527272926	1.604984244
554	Strontium-90	Bq	113.887157	60.14272255	4.519055304	49.22537904
555	Styrene	µg	64.1973698	37.49945278	8.954104755	17.74381224
556	Sulfate	g	5.96269828	2.988127131	0.010261037	2.964310117
557	Sulfate	g	461.974919	244.3966332	18.26104629	199.3172397
558	Sulfide	µg	746.239104	389.6209654	25.42371585	331.1944227
559	Sulfite	mg	5.27616828	2.805710798	0.241726013	2.228731473
560	Sulfur	mg	78.864563	40.13092913	1.100424066	37.63320985
561	Sulfur	mg	36.9838338	20.16183404	2.619524085	14.20247566
562	Sulfur dioxide	g	54.6326231	29.46379706	3.247917313	21.92090871
563	Sulfur hexafluoride	µg	487.359163	267.0716011	35.75849454	184.5290671
564	Sulfur trioxide	µg	49.1825084	24.59555421	0.006590365	24.58036384
565	Sulfur, in ground	mg	52.8499245	26.60214267	0.269761916	25.9780199
566	Sulfuric acid	µg	11.5072552	5.77224058	0.027684933	5.707329714
567	Sulfuric acid	ng	7.1031599	3.562670901	0.016472193	3.524016809
568	Suspended solids, unspecified	g	4.02689267	2.094073764	0.109621993	1.823196911
569	Sylvite, 25 % in sylvinite, in ground	g	9.33024446	4.665726327	0.000952357	4.663565775
570	t-Butyl methyl ether	µg	16.7398124	10.45545546	3.42897158	2.855385358
571	t-Butyl methyl ether	µg	211.831173	113.3424234	11.70637721	86.78237198
572	t-Butylamine	µg	4.3690682	2.184570113	5.46586E-05	2.184443431
573	t-Butylamine	µg	10.4859191	5.243045993	0.000131183	5.242741953
574	Talc, in ground	mg	8.73553798	4.862996906	0.719379628	3.153161444
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	341.02603	171.1606078	0.969118001	168.8963042
576	Tebutam	mg	623.704472	623.08141	1.44983E-05	0.623047475
577	Technetium-99m	mBq	18.4511581	12.18255279	4.747430773	1.5211745
578	Teflubenzuron	ng	52.7661252	31.76893326	7.973877373	13.02331458
579	Tellurium-123m	mBq	3.63154001	2.105860469	0.453758796	1.071920746
580	Tellurium-132	µBq	46.4683595	30.68547993	11.9632625	3.819617067
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	46.2859391	23.23496398	0.137883106	22.91309204
582	Terpenes	µg	3.18805448	1.793416172	0.322932709	1.0717056
583	Thallium	µg	278.448472	191.0743604	82.36362552	5.010485919
584	Thallium	mg	631.463818	630.9246841	0.06293673	0.476197582
585	Thiram	ng	14.5143273	8.164925965	1.470222741	4.879178604
586	Thorium	µg	10.1056378	5.235651427	0.116834437	4.753151892
587	Thorium-228	mBq	48.4522975	25.18014758	1.065216558	22.20693333
588	Thorium-228	Bq	21.494907	12.36199372	2.554245574	6.578667725
589	Thorium-230	mBq	92.7063605	52.19462734	9.163198851	31.34853428
590	Thorium-230	Bq	46.109617	27.01642707	6.219106131	12.87408383
591	Thorium-232	mBq	49.6170591	25.92309925	1.39339376	22.30056607
592	Thorium-232	mBq	45.2286093	23.89488283	1.815314659	19.51841177
593	Thorium-234	mBq	18.3496657	10.75165706	2.475452013	5.122556652
594	Thorium-234	mBq	337.987753	198.0330685	45.58689296	94.36779138
595	Tin	µg	596.103631	364.1290831	83.83657422	148.1379734
596	Tin	µg	3.81343888	1.912637331	0.008533523	1.892268025
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	23.064859	13.03331997	2.427858876	7.603680191

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
598	Tin, ion	mg	11.43683	6.155533518	0.624430486	4.656865951
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	oz	757.773165	731.9549705	0.000576651	25.81761813
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	3.10515161	1.591062773	0.06149287	1.452595964
601	Titanium	mg	6.06345097	3.414164958	0.568257607	2.081028401
602	Titanium	µg	151.368102	82.0232612	9.465500086	59.87934023
603	Titanium, ion	g	27.5179211	13.77297409	0.019652055	13.72529497
604	TOC, Total Organic Carbon	g	147.400704	74.07483641	0.518163253	72.80770422
605	Toluene	mg	32.4351374	17.99769589	2.745955714	11.69148579
606	Toluene	mg	14.1960648	8.088244054	1.566657031	4.54116372
607	Toluene, 2-chloro-	µg	2.80123215	1.400779535	0.000250321	1.400202289
608	Toluene, 2-chloro-	µg	4.74998078	2.375326924	0.000515543	2.374138309
609	Transformation, from arable	mm2	6.45369286	3.699870818	0.719889211	2.033932836
610	Transformation, from arable, non-irrigated	dm2	406.260647	203.1334917	0.00472678	203.1224283
611	Transformation, from arable, non-irrigated, fallow	mm2	1.09021571	0.631794693	0.130027161	0.328393861
612	Transformation, from dump site, inert material landfill	mm2	33.0036966	18.70753022	3.348391332	10.94777504
613	Transformation, from dump site, residual material landfill	mm2	95.9129413	49.20747996	0.580377641	46.12508367
614	Transformation, from dump site, sanitary landfill	mm2	0.65435429	0.378944425	0.068555258	0.206854611
615	Transformation, from dump site, slag compartment	mm2	0.13895003	0.083671083	0.023450035	0.031828915
616	Transformation, from forest	cm2	26.380976	14.68324495	2.348422152	9.349308896
617	Transformation, from forest, extensive	cm2	20.9992822	11.97722344	2.221389042	6.800669762
618	Transformation, from forest, intensive, clear-cutting	mm2	3.51882254	1.979487353	0.356437869	1.182897317
619	Transformation, from industrial area	mm2	21.2024129	11.43846372	1.289706134	8.474243065
620	Transformation, from industrial area, benthos	mm2	0.07574653	0.038416967	0.000690654	0.036638906
621	Transformation, from industrial area, built up	mm2	0.02577465	0.013511919	0.00079941	0.011463318
622	Transformation, from industrial area, vegetation	mm2	0.04396882	0.023049895	0.0013637	0.019555221
623	Transformation, from mineral extraction site	cm2	949.640099	945.0798225	4.147419523	0.412857324
624	Transformation, from pasture and meadow	mm2	306.28522	163.5150069	13.59480525	129.1754081
625	Transformation, from pasture and meadow, intensive	cm2	33.154809	16.57766304	0.00038574	16.57676018
626	Transformation, from sea and ocean	cm2	544.577924	539.6549241	0.360848252	4.562151605
627	Transformation, from shrub land, sclerophyllous	mm2	167.276417	91.49309342	10.59414157	65.18918168
628	Transformation, from tropical rain forest	mm2	3.51882254	1.979487353	0.356437869	1.182897317
629	Transformation, from unknown	cm2	55.1634304	36.63093413	15.45300375	3.079492565
630	Transformation, to arable	mm2	290.444304	169.39116	37.7330478	83.32009591
631	Transformation, to arable, non-irrigated	dm2	406.592174	203.299258	0.004730639	203.2881856
632	Transformation, to arable, non-irrigated, fallow	mm2	36.1244514	24.74220161	10.6171172	0.765132547
633	Transformation, to dump site	mm2	96.5608342	58.21902768	13.80668614	24.53512035
634	Transformation, to dump site, benthos	cm2	543.73441	538.8180069	0.359422737	4.556980327
635	Transformation, to dump site, inert material landfill	mm2	33.0036966	18.70753022	3.348391332	10.94777504
636	Transformation, to dump site, residual material landfill	mm2	95.9137475	49.20789528	0.580396729	46.12545548
637	Transformation, to dump site, sanitary landfill	mm2	0.65435429	0.378944425	0.068555258	0.206854611
638	Transformation, to dump site, slag compartment	mm2	0.13895003	0.083671083	0.023450035	0.031828915
639	Transformation, to forest	cm2	874.285014	869.9370487	3.708433036	0.639532652
640	Transformation, to forest, intensive	mm2	92.4063494	48.01295461	2.744139377	41.64925537
641	Transformation, to forest, intensive, clear-cutting	mm2	3.51882254	1.979487353	0.356437869	1.182897317

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
642	Transformation, to forest, intensive, normal	cm2	19.8403142	11.36321225	2.16909798	6.308003988
643	Transformation, to forest, intensive, short-cycle	mm2	3.51882254	1.979487353	0.356437869	1.182897317
644	Transformation, to heterogeneous, agricultural	mm2	121.735188	68.03763654	11.27697901	42.42057243
645	Transformation, to industrial area	mm2	165.224223	99.5382813	23.98711958	41.69882208
646	Transformation, to industrial area, benthos	mm2	1.50058044	0.838909216	0.142551499	0.519119726
647	Transformation, to industrial area, built up	mm2	265.65432	148.3278951	22.88031247	94.44611199
648	Transformation, to industrial area, vegetation	mm2	367.735364	241.059574	96.69569028	29.98009944
649	Transformation, to mineral extraction site	cm2	60.1070977	37.86039127	13.25453601	8.992170453
650	Transformation, to pasture and meadow	mm2	16.236307	8.207748413	0.113936903	7.914621699
651	Transformation, to permanent crop, fruit, intensive	mm2	1.51550931	0.882860567	0.202944603	0.429704144
652	Transformation, to sea and ocean	mm2	0.07574653	0.038416967	0.000690654	0.036638906
653	Transformation, to shrub land, sclerophyllous	mm2	129.710266	68.37778766	4.020774269	57.3117042
654	Transformation, to traffic area, rail embankment	mm2	7.44535536	3.991557471	0.384289498	3.069508387
655	Transformation, to traffic area, rail network	mm2	8.1837239	4.387408236	0.422401573	3.37391409
656	Transformation, to traffic area, road embankment	mm2	22.8461627	12.94407042	2.290413798	7.611678432
657	Transformation, to traffic area, road network	mm2	284.425068	177.1118716	56.63229275	50.68090338
658	Transformation, to unknown	mm2	185.433393	123.7345163	49.18809353	12.5107835
659	Transformation, to urban, discontinuously built	mm2	30.2167692	15.10908826	0.001076551	15.10660434
660	Transformation, to water bodies, artificial	mm2	797.209752	532.3283585	231.9800849	32.90130862
661	Transformation, to water courses, artificial	mm2	106.363779	63.29922911	15.36855971	27.69599068
662	Tributyltin compounds	µg	602.058151	311.4185401	13.97565589	276.6639554
663	Triethylene glycol	mg	703.167537	702.4845695	0.012356698	0.670610332
664	Trimethylamine	ng	413.657188	206.8307488	0.003229046	206.8232103
665	Trimethylamine	ng	992.777253	496.3937977	0.007749712	496.3757053
666	Tungsten	µg	25.0626694	14.68466978	3.380390921	6.997608699
667	Tungsten	mg	13.4482099	7.254577657	0.734690218	5.45894202
668	Ulexite, in ground	mg	528.821441	528.3390358	0.032305468	0.450100057
669	Uranium	µg	13.2599877	6.838954693	0.143205831	6.277827147
670	Uranium-234	mBq	238.100683	137.3839592	28.77398915	71.94273496
671	Uranium-234	mBq	405.535268	237.6103043	54.69740712	113.227557
672	Uranium-235	mBq	10.3411738	6.05907501	1.394783882	2.887314955
673	Uranium-235	mBq	669.132906	392.0568588	90.25072174	186.8253259
674	Uranium-238	mBq	367.12762	204.8212741	32.40419882	129.9021472
675	Uranium-238	Bq	4.70802866	2.446977711	0.144790751	2.116260197
676	Uranium alpha	mBq	996.005717	583.5638102	134.3157283	278.1261781
677	Uranium alpha	Bq	19.4695941	11.40755708	2.62596327	5.436073718
678	Uranium, in ground	mg	76.063242	44.43886412	10.05824967	21.56612822
679	Urea	µg	926.220165	925.295415	0.000403653	0.924346711
680	Vanadium	mg	9.64542321	5.245656504	0.634120076	3.765646632
681	Vanadium	µg	4.33265843	2.347777372	0.270932396	1.71394866
682	Vanadium, ion	mg	140.093951	72.66973843	2.588087916	64.8361251
683	Vermiculite, in ground	mg	5.98753943	4.251744492	1.653336347	0.08245859
684	VOC, volatile organic compounds, unspecified origin	mg	38.2885376	22.03830878	4.577490798	11.67273803
685	Volume occupied, final repository for low-active radioactive waste	mm3	153.540822	89.94317288	20.6775258	42.92012374
686	Volume occupied, final repository for radioactive waste	mm3	36.1290847	20.93868011	4.494093479	10.69631107
687	Volume occupied, reservoir	m3day	49.2857266	29.87870192	8.309309651	11.09771505
688	Volume occupied, underground deposit	mm3	205.189629	109.6027631	7.629003132	87.9578623
689	Water	mg	809.465673	512.4578091	159.1654739	137.8423902

No	Substance	Unit	Total	280mm double brick cavity components	Building in component - Plaster	Building in components - paint
690	Water, cooling, unspecified natural origin/m3	dm3	218.45496	112.9017005	5.335173353	100.2180865
691	Water, lake	cu.in	384.847014	273.2672909	106.2503564	5.329366544
692	Water, river	dm3	49.9404263	30.77730835	8.214323367	10.94879455
693	Water, salt, ocean	cu.in	366.329103	198.2260263	22.96379184	145.1392851
694	Water, salt, sole	cu.in	286.118624	148.5127838	8.622203476	128.9836367
695	Water, turbine use, unspecified natural origin	m3	62.0662183	38.18814515	10.68607157	13.19200161
696	Water, unspecified natural origin/m3	dm3	277.075791	174.6671078	61.16567976	41.2430038
697	Water, well, in ground	dm3	811.896965	805.0615442	4.263485777	2.571934561
698	Wood, hard, standing	cm3	42.4117481	24.55747417	4.944673738	12.9096002
699	Wood, primary forest, standing	mm3	36.4341392	20.49573738	3.690557695	12.24784414
700	Wood, soft, standing	cm3	132.62013	71.86997017	8.460329926	52.28983003
701	Wood, unspecified, standing/m3	mm3	5.42950415	2.752753013	0.059265218	2.617485918
702	Xenon-131m	Bq	15.7484017	10.17824482	3.690139381	1.880017495
703	Xenon-133	Bq	564.01866	366.2006972	134.9154074	62.90255535
704	Xenon-133m	mBq	832.994472	503.4527885	137.699431	191.8422523
705	Xenon-135	Bq	226.438354	146.9062117	53.97797197	25.55416998
706	Xenon-135m	Bq	141.365629	91.90255313	34.00950924	15.45356657
707	Xenon-137	Bq	4.21157694	2.77166749	1.068699218	0.371210235
708	Xenon-138	Bq	31.9564849	20.95377671	7.982258527	3.020449693
709	Xylene	mg	33.8269376	18.49160014	2.393992066	12.94134539
710	Xylene	mg	10.7938193	6.19069229	1.255632658	3.347494309
711	Zinc	mg	20.2665813	11.57471972	1.552824737	7.139036879
712	Zinc	mg	13.02659	6.640800031	0.196610976	6.189179041
713	Zinc-65	µBq	33.3687178	22.03510362	8.590764291	2.742849905
714	Zinc-65	mBq	82.3252103	54.36362685	21.19459478	6.766988631
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	g	2.14070512	1.167078676	0.159796551	0.813829894
716	Zinc, ion	mg	886.226995	481.8181288	53.20710239	351.2017639
717	Zirconium	µg	2.94169557	1.987239249	0.185263904	0.769192417
718	Zirconium-95	µBq	32.6166466	21.53847314	8.397145953	2.681027545
719	Zirconium-95	µBq	953.348942	629.5459958	245.439337	78.36360948
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	466.856819	234.1734433	1.10754019	231.5758359

Appendix 7.6: Inventory of emitted substances for 1m² of a 280mm double brick insulated cavity wall with face brick externally

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
1	1-Butanol	ng	331.898753	331.8977384	0.000767187	0.000247668
2	1-Butanol	µg	18.790407	18.77830202	0.008198574	0.003906369
3	1-Pentanol	ng	166.047941	166.0379761	0.009750101	0.000214483
4	1-Pentanol	ng	398.520621	398.4967061	0.02340025	0.000514761
5	1-Pentene	ng	125.478934	125.4714044	0.007367963	0.000162081
6	1-Pentene	ng	301.1558	301.1377279	0.01768307	0.000388994
7	1-Propanol	µg	16.4603349	16.45954077	0.000663845	0.000130296
8	1-Propanol	µg	3.96610582	3.966068337	3.59514E-05	1.52656E-06
9	1,4-Butanediol	µg	1.03008949	1.030046164	2.96706E-05	1.36578E-05
10	1,4-Butanediol	ng	412.038787	412.0214553	0.011868336	0.005463179
11	2-Aminopropanol	ng	279.48741	279.4868977	0.00044215	6.97666E-05
12	2-Aminopropanol	ng	703.264675	703.2633952	0.001104766	0.000175357
13	2-Butene, 2-methyl-	pg	27.832861	27.83119079	0.001634301	3.59521E-05
14	2-Methyl-1-propanol	ng	569.646858	569.6289414	0.017367621	0.000548979
15	2-Methyl-1-propanol	µg	1.36713044	1.367087439	4.16814E-05	1.31753E-06
16	2-Methyl-2-butene	pg	66.7998635	66.79585481	0.003922382	8.62863E-05
17	2-Nitrobenzoic acid	ng	504.772637	504.7718304	0.000682069	0.000124161
18	2-Propanol	mg	1.06265562	1.061950668	0.000475402	0.000229546
19	2-Propanol	µg	1.98258779	1.982578661	8.41324E-06	7.11675E-07
20	2,4-D	ng	728.158041	723.4274656	3.074020157	1.656554785
21	4-Methyl-2-pentanone	ng	1.30496956	1.300531261	0.003846829	0.000591468
22	Acenaphthene	ng	4.38959697	4.332964758	0.052045795	0.004586415
23	Acenaphthene	ng	383.358789	381.7858108	1.336161798	0.236816137
24	Acenaphthylene	ng	23.9751507	23.87677634	0.083563816	0.014810527
25	Acetaldehyde	mg	1.96115448	1.940767278	0.010236354	0.010150843
26	Acetaldehyde	µg	206.494245	206.4691196	0.017790318	0.007335387
27	Acetic acid	mg	28.0871064	27.93639933	0.082702516	0.068004566
28	Acetic acid	mg	4.29383273	4.291787922	0.001939894	0.000104913
29	Acetone	mg	2.04326265	2.03433156	0.008015568	0.000915525
30	Acetone	µg	236.044369	236.0439534	0.000355881	5.9464E-05
31	Acetonitrile	µg	2.15703477	2.14294165	0.009157758	0.004935367
32	Acetonitrile	µg	2.39229664	2.392292795	3.26405E-06	5.84376E-07
33	Acetyl chloride	ng	313.065021	313.0462342	0.01838251	0.00040438
34	Acidity, unspecified	µg	608.997945	383.1569223	0.290986935	225.5500358
35	Aclonifen	mg	4.36982037	4.369813442	5.8644E-06	1.06461E-06
36	Acrolein	µg	7.11084193	7.078520559	0.007636493	0.024684878
37	Acrylate, ion	µg	6.50465915	6.500336209	0.002916273	0.001406669
38	Acrylic acid	µg	2.74836875	2.746542221	0.001232184	0.000594346
39	Actinides, radioactive, unspecified	µBq	944.217999	936.7028636	5.25875161	2.256384254
40	Actinides, radioactive, unspecified	mBq	109.447437	108.3365598	0.886326138	0.224551077
41	Aerosols, radioactive, unspecified	mBq	13.9533019	13.79794301	0.131608196	0.023750666
42	Aldehydes, unspecified	µg	245.240556	244.5946671	0.53732122	0.10856787
43	Aldrin	ng	70.6865163	70.63939544	0.031810324	0.015310553
44	Aluminium	mg	397.935249	386.1100021	11.62213622	0.203110477
45	Aluminium	g	5.75301899	5.625959078	0.102713801	0.024346107
46	Aluminium	mg	32.97856	32.76099147	0.139900673	0.077667834
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	g	5.21635273	5.117023122	0.092432802	0.006896802
48	Ammonia	g	1.34503484	1.339882839	0.005052916	9.90821E-05
49	Ammonium carbonate	µg	22.2191778	22.19721377	0.009119656	0.012844366
50	Ammonium, ion	mg	90.3127957	89.08969528	0.356548333	0.866552104
51	Anhydrite, in ground	mg	2.19554798	1.952306795	0.000405164	0.242836025
52	Aniline	µg	1.7424944	1.742449131	4.12071E-05	4.0669E-06
53	Aniline	µg	4.38496015	4.384851166	9.91761E-05	9.81062E-06
54	Anthranilic acid	ng	367.831645	367.8310576	0.000497265	9.05369E-05
55	Antimony	µg	174.478855	173.5524484	0.782371631	0.144034654
56	Antimony	mg	13.8162203	13.2565231	0.087693902	0.472003292
57	Antimony	ng	9.01716036	8.987381909	0.027906325	0.001872128
58	Antimony-122	µBq	330.739299	329.1198774	0.330225723	1.289195858
59	Antimony-124	nBq	820.362032	816.3452343	0.81908864	3.197708754
60	Antimony-124	mBq	28.8300981	28.60206804	0.146296823	0.081733248
61	Antimony-125	µBq	8.56116519	8.519246536	0.008547878	0.033370778
62	Antimony-125	mBq	27.2644643	27.0525114	0.133569538	0.078383375

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
63	AOX, Adsorbable Organic Halogen as Cl	µg	280.593106	278.1880459	0.585165686	1.819894344
64	Argon-41	Bq	5.75605835	5.680568939	0.069618293	0.005871113
65	Arsenic	mg	1.51553423	1.481460563	0.032295948	0.001777718
66	Arsenic	µg	13.1455972	13.05977199	0.054876684	0.030948546
67	Arsenic, ion	mg	19.057365	18.52462322	0.502574954	0.030166866
68	Arsine	pg	32.0354945	32.01420389	0.014362728	0.006927888
69	Atrazine	ng	18.5440736	18.53171183	0.008345146	0.004016583
70	Barite	mg	337.850842	334.0125822	1.712336996	2.125923269
71	Barite, 15% in crude ore, in ground	g	6.33135378	6.291325726	0.023374646	0.016653407
72	Barium	µg	769.81773	751.3099617	17.76786467	0.739904007
73	Barium	mg	138.535237	136.449093	1.851702907	0.234440933
74	Barium	mg	15.1583226	15.05761005	0.062821679	0.037890825
75	Barium-140	µBq	556.891003	554.1642569	0.556026758	2.170719438
76	Barium-140	mBq	1.44881191	1.441717984	0.001446564	0.005647362
77	Basalt, in ground	g	1.49222882	1.482340967	0.009644105	0.000243748
78	Benomyl	ng	4.61280374	4.58266574	0.019583768	0.010554229
79	Bentazone	mg	2.23015433	2.230150792	2.99292E-06	5.43327E-07
80	Benzal chloride	pg	0.21988662	0.21913877	0.000648187	9.96618E-05
81	Benzaldehyde	µg	3.54767591	3.532614301	0.002426205	0.012635408
82	Benzene	mg	36.5644233	35.4133884	0.440465255	0.710569658
83	Benzene	mg	19.9677213	19.88254418	0.034862189	0.050314969
84	Benzene, 1-methyl-2-nitro-	ng	435.899088	435.8983915	0.000589004	0.00010722
85	Benzene, 1,2-dichloro-	µg	9.06478586	9.064755178	2.81724E-05	2.50971E-06
86	Benzene, 1,2-dichloro-	µg	55.408496	55.40302038	0.003773457	0.001702135
87	Benzene, chloro-	µg	724.521347	724.4097155	0.076600935	0.03503056
88	Benzene, ethyl-	mg	1.8647909	1.705858613	0.005101982	0.153830309
89	Benzene, ethyl-	mg	1.47939314	1.473323082	0.005156198	0.000913859
90	Benzene, hexachloro-	µg	627.021707	626.5899395	0.429683403	0.00208409
91	Benzene, pentachloro-	ng	61.3493701	58.95490547	0.340175199	2.054289468
92	Benzo(a)pyrene	µg	40.9519666	39.34112688	1.575260485	0.035579276
93	Beryllium	µg	51.8881104	51.64985167	0.22594575	0.012312958
94	Beryllium	mg	3.61951384	3.532990724	0.083245919	0.003277195
95	BOD5, Biological Oxygen Demand	g	25.8782356	25.70626815	0.129320545	0.042646856
96	Borate	µg	58.6218789	58.62001736	0.001815489	4.60692E-05
97	Borax, in ground	µg	79.3390418	78.8033713	0.446784699	0.088885848
98	Boron	mg	16.5220638	16.27679478	0.231343513	0.013925501
99	Boron	mg	244.456935	239.3998463	4.756814292	0.300274096
100	Boron	µg	479.551832	474.5633483	2.39301065	2.595473356
101	Boron trifluoride	pg	0.43842699	0.438135821	0.000196321	9.48437E-05
102	Bromate	mg	52.7138958	52.69197712	0.011502834	0.010415818
103	Bromide	mg	3.68407105	3.683969202	9.75305E-05	4.32152E-06
104	Bromine	mg	1.73012506	1.706488191	0.022160283	0.001476588
105	Bromine	mg	51.2654119	50.61372564	0.213738384	0.437947902
106	Bromine, 0.0023% in water	mg	4.24741113	4.247291666	0.000114902	4.56533E-06
107	Butadiene	ng	138.977832	138.9473242	0.023057504	0.007450012
108	Butane	mg	96.8281656	95.93518663	0.438737464	0.454241484
109	Butene	mg	1.53903063	1.533245881	0.004883982	0.000900767
110	Butene	µg	6.29379407	6.287262585	0.005360768	0.001170713
111	Butyl acetate	µg	23.3292355	23.31350213	0.010655823	0.005077564
112	Butyrolactone	ng	16.4596009	16.44822579	0.007741959	0.003633153
113	Butyrolactone	ng	39.5035373	39.47623656	0.018581039	0.008719726
114	Cadmium	µg	485.213422	481.2729925	3.52854419	0.411884881
115	Cadmium	µg	221.398935	221.3823774	0.012112371	0.004445083
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	µg	906.651777	897.5993695	4.369545432	4.682862049
117	Cadmium, ion	mg	6.3044762	6.14260526	0.153482951	0.008387994
118	Calcite, in ground	oz	615.314123	614.7173464	0.583733561	0.013042842
119	Calcium	mg	18.3521476	18.06020516	0.24889482	0.043047607
120	Calcium	mg	142.99146	141.9780149	0.68801648	0.325428194
121	Calcium, ion	g	53.0254103	51.83596832	1.124571929	0.064870031
122	Carbetamide	µg	789.321122	789.3196064	0.001318511	0.000197024
123	Carbofuran	µg	2.52890874	2.512385941	0.010736567	0.00578623
124	Carbon	mg	108.437332	107.8084603	0.396531739	0.232339467

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
125	Carbon-14	Bq	81.8403736	81.09885976	0.542274108	0.199239708
126	Carbon dioxide, biogenic	g	305.283391	303.6899467	0.791762157	0.801682058
127	Carbon dioxide, fossil	oz	24.8111868	17.89486844	3.223515036	3.692803356
128	Carbon dioxide, in air	g	512.755458	511.509632	1.156165979	0.089659669
129	Carbon dioxide, land transformation	mg	151.641063	149.8644609	1.603380874	0.173220711
130	Carbon disulfide	mg	22.392826	21.84999734	0.520463829	0.022364873
131	Carbon disulfide	ng	869.791881	868.6595641	1.111529512	0.020787547
132	Carbon monoxide, biogenic	mg	36.9969869	36.50519598	0.15187954	0.339911374
133	Carbon monoxide, fossil	g	17.514018	16.07230157	1.32271686	0.118999612
134	Carbon, in organic matter, in soil	mg	3.19433856	3.173468131	0.013561675	0.007308758
135	Carbonate	mg	33.9576154	30.62540335	0.017655056	3.314556996
136	Carboxylic acids, unspecified	mg	256.933658	255.8285986	0.922745257	0.18231413
137	Cerium-141	µBq	135.003157	134.3421323	0.134793464	0.526231495
138	Cerium-141	µBq	579.259082	576.4228145	0.578359933	2.257907791
139	Cerium-144	µBq	176.345426	175.4819738	0.176071679	0.687380978
140	Cesium	µg	61.6329541	61.38006371	0.214817009	0.038073334
141	Cesium-134	µBq	6.46577571	6.434116866	0.00645574	0.025203105
142	Cesium-134	mBq	14.8626688	14.71133268	0.121337396	0.029998694
143	Cesium-136	µBq	102.807167	102.3037852	0.102647597	0.400734553
144	Cesium-137	µBq	114.61721	114.0560015	0.114439286	0.446769113
145	Cesium-137	Bq	12.7383463	12.6099187	0.101989371	0.026438211
146	Chloramine	µg	1.16505273	1.165016807	3.50275E-05	8.96263E-07
147	Chloramine	µg	10.7051605	10.70483949	0.000312968	8.07278E-06
148	Chlorate	mg	402.952726	402.7669694	0.088997721	0.096759003
149	Chloride	g	60.9303074	60.1711013	0.66638489	0.092821163
150	Chloride	mg	531.525517	525.8584488	2.629803321	3.037264851
151	Chlorinated solvents, unspecified	µg	131.056675	130.0050689	0.056816233	0.994789707
152	Chlorine	mg	8.3445648	8.213768231	0.09803464	0.032761934
153	Chlorine	mg	2.1910478	2.188906191	0.001481094	0.000660511
154	Chloroacetic acid	µg	191.260518	191.2580459	0.00231461	0.000157098
155	Chloroacetic acid	mg	48.2809569	48.28087259	7.22646E-05	1.20813E-05
156	Chloroacetyl chloride	ng	937.923729	937.9220213	0.001473401	0.000233868
157	Chloroform	µg	10.6972283	10.68544503	0.007436435	0.004346805
158	Chloroform	µg	1.01912022	1.018867734	0.000173507	7.89768E-05
159	Chlorosilane, trimethyl-	ng	786.565981	781.6483813	4.786506591	0.131093331
160	Chlorosulfonic acid	µg	3.48845333	3.488447715	4.75964E-06	8.52139E-07
161	Chlorosulfonic acid	µg	8.69932721	8.699313215	1.18694E-05	2.12502E-06
162	Chlorothalonil	µg	10.4249469	10.16472883	0.25555912	0.004658931
163	Chromium	mg	13.2676295	9.331707902	3.852149859	0.083771784
164	Chromium	mg	1.93111392	1.929903813	0.000799797	0.000410314
165	Chromium-51	µBq	8.65097042	8.608612055	0.008637541	0.033720821
166	Chromium-51	mBq	111.957311	111.3660058	0.170370442	0.42093438
167	Chromium VI	µg	338.344097	243.0542291	95.18445973	0.105407797
168	Chromium VI	mg	43.5354571	35.21328287	8.014913311	0.307260884
169	Chromium VI	µg	995.121782	978.3158025	6.412958575	10.39302139
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	g	3.57276309	2.460404362	1.111751443	0.000607288
171	Chromium, ion	mg	3.65724781	3.626540212	0.030183836	0.000523758
172	Chrysotile, in ground	mg	19.300004	19.29587091	0.002185143	0.001947952
173	Cinnabar, in ground	µg	658.301875	657.6601468	0.202058288	0.439670174
174	Clay, bentonite, in ground	g	1.87396588	1.297756013	0.570769573	0.005440294
175	Clay, unspecified, in ground	oz	231.010643	230.966762	0.039864655	0.004016524
176	Coal, brown, in ground	g	591.975021	584.0079748	7.469230783	0.497815067
177	Coal, hard, unspecified, in ground	oz	47.0653293	45.41294568	1.489123301	0.163260288
178	Cobalt	µg	414.959643	362.7363606	51.99285294	0.230429449
179	Cobalt	mg	69.321545	64.15206227	5.093642682	0.075840086
180	Cobalt	µg	1.83301538	1.819473894	0.0120236	0.00151789
181	Cobalt-57	mBq	3.26348645	3.247507197	0.003258422	0.012720826
182	Cobalt-58	µBq	12.046831	11.98784522	0.012028133	0.046957637
183	Cobalt-58	mBq	518.301334	515.2477157	1.216330814	1.837287784
184	Cobalt-60	µBq	106.422554	105.9014698	0.106257366	0.41482703
185	Cobalt-60	mBq	452.750645	450.1585875	0.960530395	1.631527581
186	Cobalt, in ground	µg	10.7930332	10.74311298	0.035821183	0.014099014

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
187	COD, Chemical Oxygen Demand	g	58.297671	57.86119822	0.294116395	0.142356362
188	Colemanite, in ground	mg	14.9885168	14.93854654	0.033285895	0.016684369
189	Copper	mg	7.92346786	7.715098685	0.199354883	0.009014291
190	Copper	µg	-638.214403	-649.361534	4.433232502	6.713898161
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	238.240122	231.5818141	0.963129949	5.695177606
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	g	1.27958414	1.272894099	0.00533118	0.001358856
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	339.427597	337.6529693	1.414171692	0.360456099
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	g	1.6961852	1.687378558	0.007016774	0.001789865
195	Copper, ion	mg	78.630194	75.33626426	2.188051952	1.105877798
196	Cumene	mg	6.01596123	6.006811307	0.008789668	0.000360251
197	Cumene	mg	14.4562577	14.43427067	0.021121408	0.000865663
198	Cyanide	µg	234.361763	187.0220232	42.49813073	4.841608587
199	Cyanide	mg	2.36902069	2.260337891	0.107317539	0.001365263
200	Cyanoacetic acid	µg	2.85691165	2.856907055	3.89797E-06	6.9787E-07
201	Cypermethrin	µg	17.5062825	17.50390885	0.001552212	0.000821441
202	Diatomite, in ground	ng	316.829291	313.9052969	1.49317466	1.430819502
203	Dichromate	µg	25.9595893	25.52080469	0.167355022	0.271429623
204	Diethylamine	ng	928.928913	928.9085278	0.018542448	0.00184278
205	Diethylamine	µg	2.22943826	2.229389332	4.45026E-05	4.42274E-06
206	Dimethyl malonate	µg	3.58256007	3.582554304	4.88804E-06	8.75127E-07
207	Dimethylamine	µg	23.307801	23.30774517	4.85734E-05	7.28156E-06
208	Dinitrogen monoxide	g	1.16807551	1.166551052	0.001116824	0.000407634
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	15.3479953	14.95446738	0.384528585	0.008999351
210	Dipropylamine	ng	426.729483	426.7167586	0.011588019	0.001136074
211	Dipropylamine	µg	1.02417	1.024139461	2.78114E-05	2.7266E-06
212	DOC, Dissolved Organic Carbon	g	74.0921401	73.95098501	0.107173666	0.033981434
213	Dolomite, in ground	mg	448.852905	330.5491213	117.862426	0.441357327
214	Energy, gross calorific value, in biomass	MJ	6.88811238	6.870346447	0.011440675	0.006325261
215	Energy, gross calorific value, in biomass, primary forest	J	221.461117	220.0141851	0.940220868	0.506710791
216	Energy, kinetic (in wind), converted	kJ	242.352933	239.0730618	3.068447974	0.211423143
217	Energy, potential (in hydropower reservoir), converted	MJ	4.92374281	4.837254208	0.069019781	0.017468818
218	Energy, solar, converted	kJ	5.22766553	5.17284129	0.044650544	0.010173694
219	Ethane	mg	249.274173	245.3140911	1.756597142	2.203484921
220	Ethane, 1,1-difluoro-, HFC-152a	µg	1.88336312	1.863349513	0.016436989	0.003576622
221	Ethane, 1,1,1-trichloro-, HCFC-140	ng	9.11859901	9.046043015	0.050761538	0.021794454
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	476.000941	469.95572	2.514335146	3.530885394
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	130.435591	130.3489046	0.058478951	0.028207426
224	Ethane, 1,2-dichloro-	µg	443.065744	441.8838176	0.864903515	0.317022881
225	Ethane, 1,2-dichloro-	µg	33.3855018	33.30910777	0.063442943	0.012951064
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	37.3956864	37.07603611	0.222287495	0.097362778
227	Ethane, hexafluoro-, HFC-116	µg	101.242427	100.6277521	0.570024119	0.044650603
228	Ethanol	mg	1.08315752	1.070994299	0.011347766	0.000815456
229	Ethanol	µg	640.007445	639.9783845	0.019902005	0.009158547
230	Ethene	mg	18.5827947	17.34726852	1.038321069	0.197205147
231	Ethene	mg	6.00551974	5.996886834	0.008304968	0.00032794
232	Ethene, chloro-	µg	131.730049	131.1585854	0.369280179	0.202183856
233	Ethene, chloro-	µg	1.13314654	1.126015164	0.004235374	0.002896006
234	Ethene, tetrachloro-	ng	21.6096834	21.43659379	0.123155101	0.049934537
235	Ethyl acetate	mg	4.93396615	4.930631025	0.002258757	0.001076368
236	Ethyl acetate	µg	1.6391807	1.639126292	4.91806E-05	5.22663E-06
237	Ethyl cellulose	µg	9.97755274	9.970923866	0.004471531	0.002157345
238	Ethylamine	ng	719.306354	719.2932322	0.012663178	0.00045885
239	Ethylamine	µg	1.72634589	1.726314395	3.03918E-05	1.10125E-06
240	Ethylene diamine	ng	145.675701	145.4282838	0.237220154	0.010197022
241	Ethylene diamine	ng	349.686413	349.0911327	0.570643064	0.02463709

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
242	Ethylene oxide	µg	122.981158	122.8684105	0.105690271	0.007057677
243	Ethylene oxide	µg	141.665282	141.6627198	0.001842708	0.000719373
244	Ethyne	mg	1.41606171	1.349798958	0.066083365	0.000179386
245	Feldspar, in ground	µg	2.37361207	2.363899817	0.0062436	0.003468653
246	Fenpiclonil	µg	151.09298	151.0824992	0.010260827	0.000220082
247	Fluoride	mg	955.474414	942.1954076	10.73075288	2.548253773
248	Fluoride	mg	2.18940415	2.167966062	0.010623664	0.010814426
249	Fluorine	mg	2.37961199	2.339486465	0.033740138	0.006385389
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	9.76766167	9.575894762	0.179946727	0.011820177
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	mg	305.260337	305.1755082	0.079520322	0.00530808
252	Fluorspar, 92%, in ground	mg	324.753652	322.5812641	1.291029769	0.881357669
253	Fluosilicic acid	µg	107.764626	107.053795	0.661021529	0.049809643
254	Fluosilicic acid	µg	193.976773	192.6972765	1.189838753	0.089657357
255	Formaldehyde	mg	16.657614	16.52808506	0.067119121	0.062409792
256	Formaldehyde	mg	19.2942699	19.29303923	0.001165062	6.56211E-05
257	Formamide	ng	303.685038	303.6668138	0.017832152	0.000392272
258	Formamide	ng	728.852089	728.8083492	0.042798403	0.000941477
259	Formate	µg	673.329701	673.3282329	0.001288674	0.000179073
260	Formic acid	µg	20.6893983	20.59103545	0.064018899	0.034343906
261	Formic acid	ng	211.577795	211.5650983	0.012423628	0.000273295
262	Furan	µg	4.09663752	4.069871969	0.01739234	0.009373207
263	Gallium, 0.014% in bauxite, in ground	ng	14.5333827	14.37912605	0.126591727	0.027664922
264	Gas, mine, off-gas, process, coal mining/m3	dm3	18.0002022	17.58770034	0.408434344	0.004067544
265	Gas, natural, in ground	gal*	412.149493	399.7572074	1.972655416	10.41963017
266	Glutaraldehyde	µg	41.7098273	41.23596805	0.211399629	0.262459663
267	Glyphosate	µg	130.568736	128.7899579	1.67983698	0.09894093
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	µg	9.77348035	9.7669856	0.004381286	0.002113465
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	17.9224731	17.91056314	0.00803433	0.003875636
270	Gold, Au 1.4E-4%, in ore, in ground	µg	21.4592365	21.44497624	0.009619793	0.00464044
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	32.7764408	32.75465983	0.014693219	0.007087781
272	Gold, Au 4.3E-4%, in ore, in ground	µg	8.12338554	8.117987328	0.003641575	0.001756639
273	Gold, Au 4.9E-5%, in ore, in ground	µg	19.4564538	19.44352442	0.008722037	0.004207375
274	Gold, Au 6.7E-4%, in ore, in ground	µg	30.1217106	30.10169376	0.01350313	0.006513701
275	Gold, Au 7.1E-4%, in ore, in ground	µg	33.9654929	33.94292183	0.015226179	0.007344873
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	2.03527837	2.033925863	0.000912385	0.00044012
277	Granite, in ground	ng	17.782307	17.64895161	0.112203655	0.02115173
278	Gravel, in ground	lb	180.112766	180.0757361	0.030237647	0.006792225
279	Gypsum, in ground	µg	379.977217	370.3667494	8.916849153	0.693618019
280	Heat, waste	MJ	160.329728	157.0807099	1.41345185	1.835566305
281	Heat, waste	Wh	857.231397	847.7264985	7.991085015	1.513813576
282	Heat, waste	kJ	114.519599	111.5684599	0.712425962	2.238713483
283	Helium	mg	6.25190498	6.233498503	0.014753838	0.003652637
284	Heptane	mg	15.3409227	15.28310143	0.048818078	0.00900315
285	Hexane	mg	253.482829	253.296865	0.160728504	0.025235068
286	Hydrocarbons, aliphatic, alkanes, cyclic	mg	2.02312478	1.86198319	0.000134717	0.161006875
287	Hydrocarbons, aliphatic, alkanes, unspecified	mg	655.470016	649.6883994	5.627544033	0.154072713
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	8.01229135	7.979415602	0.027926211	0.004949533
289	Hydrocarbons, aliphatic, unsaturated	mg	5.24227627	5.127516994	0.110823765	0.003935507
290	Hydrocarbons, aliphatic, unsaturated	µg	746.634323	743.5996172	2.577822762	0.456882573
291	Hydrocarbons, aromatic	mg	18.7184858	16.13774653	1.695159216	0.885580005
292	Hydrocarbons, aromatic	mg	33.1532139	33.01394486	0.116038682	0.023230332
293	Hydrocarbons, chlorinated	µg	168.633074	148.2881569	0.653354543	19.69156209
294	Hydrocarbons, unspecified	mg	20.5504542	15.64151987	0.139689475	4.769244827

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
295	Hydrogen	mg	123.963938	122.1331823	0.065726062	1.765029797
296	Hydrogen-3, Tritium	Bq	367.095242	363.2635866	3.116198334	0.71545695
297	Hydrogen-3, Tritium	Bq	322.037071	28.69067865	233.5965534	59.74983856
298	Hydrogen chloride	mg	377.880515	369.3724856	6.679850955	1.828177947
299	Hydrogen fluoride	mg	30.334381	29.42807438	0.821411864	0.084894723
300	Hydrogen peroxide	µg	7.39338557	7.388435867	0.003344744	0.001604963
301	Hydrogen peroxide	µg	73.3981682	73.30391695	0.050044356	0.044206943
302	Hydrogen sulfide	mg	33.979916	32.37213614	1.276517409	0.331262499
303	Hydrogen sulfide	mg	2.7264083	2.668250696	0.053433208	0.004724398
304	Hydroxide	µg	206.94001	206.7852141	0.107247414	0.047548823
305	Hypochlorite	mg	1.03485288	1.021351405	0.012494034	0.001007445
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	15.8296151	15.67108318	0.079110565	0.079421381
307	Iodide	mg	6.75929127	6.73176673	0.023615626	0.003908918
308	Iodine	µg	924.432431	911.4958001	12.18480629	0.751824422
309	Iodine-129	mBq	67.3820328	66.69811199	0.545674099	0.138246748
310	Iodine-131	Bq	2.17853167	2.149084427	0.027532036	0.001915207
311	Iodine-131	mBq	6.56810566	6.520986263	0.026810705	0.020308688
312	Iodine-133	µBq	778.233283	774.0571098	1.301969801	2.874203332
313	Iodine-133	µBq	909.532277	905.0788673	0.908120736	3.54528861
314	Iodine-135	µBq	243.708952	241.7225818	1.381895323	0.604474897
315	Iodine, 0.03% in water	µg	988.517476	988.4905554	0.025593346	0.001327422
316	Iron	mg	53.1685299	51.9365898	1.13662093	0.09531917
317	Iron	mg	272.222715	268.6970044	3.329129307	0.196581408
318	Iron-59	µBq	250.049951	248.825614	0.249661804	0.97467563
319	Iron, 46% in ore, 25% in crude ore, in ground	g	112.182861	65.87466566	46.15510196	0.153092973
320	Iron, ion	g	7.89055952	7.6938676	0.181502536	0.015189386
321	Isocyanic acid	µg	35.8072407	35.33228816	0.433343278	0.041609301
322	Isoprene	ng	190.0995	188.8574716	0.807073828	0.434954162
323	Isopropylamine	ng	358.078901	358.0772529	0.00151954	0.000128537
324	Isopropylamine	ng	859.391557	859.3876014	0.003646963	0.000308493
325	Kaolinite, 24% in crude ore, in ground	mg	23.694165	23.1177358	0.549872777	0.026556407
326	Kieserite, 25% in crude ore, in ground	µg	132.524817	130.4717525	1.672319367	0.380745272
327	Krypton-85	Bq	18.3914378	18.15352268	0.218005491	0.019909645
328	Krypton-85m	Bq	8.28563036	8.242674086	0.011495311	0.031460965
329	Krypton-87	Bq	1.98614768	1.974612104	0.004427791	0.007107789
330	Krypton-88	Bq	2.51558226	2.501848622	0.004424097	0.00930954
331	Krypton-89	Bq	1.01634459	1.01125026	0.001173989	0.003920338
332	Lactic acid	ng	334.282416	334.2724486	0.00907737	0.000889934
333	Lactic acid	ng	802.276975	802.2530533	0.021785836	0.002135856
334	Lanthanum-140	µBq	47.5953054	47.36226109	0.047521421	0.185522855
335	Lanthanum-140	mBq	1.54310421	1.535548596	0.00154071	0.006014908
336	Lead	mg	5.58140925	5.234268984	0.334666971	0.01247329
337	Lead	mg	14.5038781	14.01639451	0.250233006	0.237250588
338	Lead	µg	361.589645	361.2671306	0.188103831	0.134410656
339	Lead-210	mBq	397.322385	390.2962467	6.677400852	0.348737745
340	Lead-210	Bq	3.60899563	3.60544976	0.003320009	0.000225863
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	64.6546605	63.94033795	0.303696667	0.410625855
342	Linuron	mg	33.6659113	33.66585791	4.51874E-05	8.20529E-06
343	Lithium, 0.15% in brine, in ground	µg	8.78578098	8.785253745	0.000515887	1.13486E-05
344	Lithium, ion	µg	348.484326	347.3455525	0.987108563	0.151665132
345	m-Xylene	µg	56.6888599	56.02440297	0.596553571	0.06790335
346	m-Xylene	ng	683.597754	683.5186908	0.073802085	0.00526128
347	Magnesite, 60% in crude ore, in ground	g	7.39470441	6.766304026	0.626460956	0.001939429
348	Magnesium	mg	14.2016834	13.751788	0.437652496	0.012242947
349	Magnesium	g	23.6084064	23.05875455	0.526168564	0.023483269
350	Magnesium	mg	26.7017888	26.51718944	0.121457277	0.063142073
351	Magnesium, 0.13% in water	µg	62.892909	62.48489541	0.350390316	0.057623268
352	Mancozeb	µg	13.5398393	13.20186963	0.331918642	0.006050991
353	Manganese	mg	1.59279689	1.513459645	0.076699864	0.002637381
354	Manganese	g	1.93086679	1.884184591	0.044771572	0.001910625

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
355	Manganese	mg	2.42880655	2.406401041	0.017879167	0.004526342
356	Manganese-54	µBq	4.43025532	4.408563147	0.004423378	0.017268794
357	Manganese-54	mBq	31.3587171	31.17314438	0.074728729	0.11084397
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	g	401.596318	400.8036921	0.792500963	0.000125037
359	Mercury	µg	855.701999	803.4000188	51.94170075	0.360279537
360	Mercury	µg	597.526451	572.8804585	22.02169288	2.624299681
361	Mercury	µg	28.8351012	28.8348079	0.000246794	4.65031E-05
362	Metaldehyde	µg	148.627117	148.6267646	0.000313698	3.82912E-05
363	Metamorphous rock, graphite containing, in ground	mg	5.77984011	5.741552941	0.035477903	0.002809267
364	Methane, biogenic	mg	143.341952	140.3895315	0.971782022	1.980638315
365	Methane, bromo-, Halon 1001	pg	0.05029863	0.050127564	0.000148271	2.27975E-05
366	Methane, bromochlorodifluoro-, Halon 1211	µg	62.899555	61.84760972	0.370120385	0.681824932
367	Methane, bromotrifluoro-, Halon 1301	µg	48.9292632	48.75834406	0.142211397	0.02870774
368	Methane, chlorodifluoro-, HCFC-22	µg	263.99827	227.833869	1.416056159	34.74834529
369	Methane, dichloro-, HCC-30	µg	5.52103749	5.432371095	0.001253621	0.08741277
370	Methane, dichloro-, HCC-30	µg	778.68958	773.5903057	3.180769569	1.91850476
371	Methane, dichlorodifluoro-, CFC-12	ng	738.176023	734.1247227	1.637538803	2.41376165
372	Methane, dichlorofluoro-, HCFC-21	pg	883.954604	883.1103156	0.611411233	0.232877671
373	Methane, fossil	g	27.3924069	26.13792877	0.280831802	0.973646311
374	Methane, monochloro-, R-40	ng	253.755514	251.7579169	1.416145059	0.581451638
375	Methane, tetrachloro-, CFC-10	µg	191.84519	191.7216137	0.117851609	0.005724795
376	Methane, tetrafluoro-, CFC-14	µg	829.96579	824.4908497	5.091186813	0.383753953
377	Methane, trichlorofluoro-, CFC-11	ng	1.43505345	1.433682797	0.000992593	0.000378064
378	Methane, trifluoro-, HFC-23	ng	281.25756	280.9889227	0.194539937	0.074097441
379	Methanesulfonic acid	µg	2.88699226	2.886987613	3.93901E-06	7.05218E-07
380	Methanol	mg	119.420689	119.3852237	0.033512231	0.001952764
381	Methanol	mg	7.13799876	7.12343802	0.005356203	0.009204539
382	Methyl acetate	ng	116.886449	116.8862627	0.000157942	2.8751E-05
383	Methyl acetate	ng	280.522345	280.5218971	0.000379053	6.90011E-05
384	Methyl acrylate	µg	3.11825194	3.116179578	0.001398025	0.00067434
385	Methyl acrylate	µg	60.9160327	60.87554844	0.027310837	0.013173431
386	Methyl amine	ng	970.19871	970.1916557	0.005017507	0.002036974
387	Methyl amine	µg	2.32853269	2.328515756	1.20419E-05	4.88864E-06
388	Methyl borate	ng	81.6940097	81.69028576	0.003639167	8.48195E-05
389	Methyl ethyl ketone	mg	4.93302682	4.92969173	0.00225873	0.001076364
390	Methyl formate	ng	92.3896779	92.37683369	0.010127145	0.002717053
391	Methyl formate	ng	36.8858989	36.88077096	0.004043186	0.001084763
392	Methyl lactate	ng	366.974893	366.9639506	0.009965442	0.000976998
393	Metolachlor	mg	243.671054	243.6706679	0.000327012	5.9365E-05
394	Metribuzin	ng	476.745468	464.8453406	11.68706799	0.213059271
395	Molybdenum	µg	135.279582	133.6974501	1.392590037	0.189541487
396	Molybdenum	mg	16.124597	15.79131058	0.308656776	0.024629632
397	Molybdenum	ng	671.053014	668.0177993	2.65430796	0.380906542
398	Molybdenum-99	µBq	532.029447	529.4244325	0.531203806	2.073811037
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	31.5212144	31.35755441	0.130397646	0.033262322
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	mg	4.4583994	4.435089529	0.018575256	0.004734619
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	14.4264921	5.811680674	8.613579527	0.001231898
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	mg	16.3370389	16.25162437	0.068065469	0.017349105
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	29.050421	11.66381159	17.38413772	0.002471704
404	Monoethanolamine	µg	210.35132	210.066402	0.240766649	0.044151466

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
405	Napropamide	µg	262.95512	262.9544976	0.000555003	6.77459E-05
406	Nickel	mg	7.28177486	7.005817579	0.124275192	0.151682088
407	Nickel	µg	-253.685822	-253.836108	0.103801663	0.046484727
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	mg	14.987034	14.97016079	0.014740724	0.002132517
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	g	8.72577894	5.83917289	2.883516216	0.003089836
410	Nickel, ion	mg	222.228794	200.5654797	21.31699032	0.346323941
411	Niobium-95	nBq	525.909729	523.3346797	0.525093435	2.049956246
412	Niobium-95	mBq	2.65431744	2.635014017	0.011253673	0.008049754
413	Nitrate	µg	433.806639	429.456948	3.358013039	0.991678424
414	Nitrate	g	35.865626	35.82053315	0.042906527	0.002186329
415	Nitrite	mg	1.19261267	1.189684404	0.002266065	0.000662204
416	Nitrobenzene	µg	2.77064133	2.770580164	5.56254E-05	5.54435E-06
417	Nitrobenzene	µg	11.1033192	11.10307409	0.000222918	2.22189E-05
418	Nitrogen	mg	19.6339689	19.36378823	0.162807442	0.107373282
419	Nitrogen oxides	g	34.116458	33.73402775	0.212848229	0.169582028
420	Nitrogen, organic bound	mg	17.1837579	16.72000726	0.453947411	0.009803185
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	6.56310535	6.361574373	0.043138543	0.158392431
422	Noble gases, radioactive, unspecified	kBq	647.460752	640.8887725	5.24371738	1.328262153
423	o-Xylene	ng	6.86825078	6.844891322	0.020246467	0.003112992
424	Occupation, arable, non-irrigated	m2a	1.0990835	1.099080891	2.32604E-06	2.8333E-07
425	Occupation, construction site	cm2a	14.2020526	14.06837215	0.113973169	0.019707254
426	Occupation, dump site	cm2a	87.4072249	83.6194104	3.730248925	0.057565531
427	Occupation, dump site, benthos	mm2a	542.229983	536.0698121	2.748195179	3.411975617
428	Occupation, forest, intensive	cm2a	72.1121122	71.64216039	0.45614023	0.013811603
429	Occupation, forest, intensive, normal	m2a	0.14994962	0.147491233	0.002416156	4.22301E-05
430	Occupation, forest, intensive, short-cycle	mm2a	55.5526387	55.18968271	0.235849955	0.127106004
431	Occupation, industrial area	cm2a	62.093858	60.48715306	1.546597029	0.06010796
432	Occupation, industrial area, benthos	mm2a	5.10376644	5.045143245	0.025362389	0.03326081
433	Occupation, industrial area, built up	cm2a	180.328802	178.85952	1.457741769	0.011540359
434	Occupation, industrial area, vegetation	cm2a	119.219828	118.820144	0.393077266	0.006606407
435	Occupation, mineral extraction site	cm2a	296.258664	295.2114386	1.017342716	0.029882272
436	Occupation, permanent crop, fruit, intensive	mm2a	62.8999671	62.398923	0.316883018	0.184161041
437	Occupation, shrub land, sclerophyllous	mm2a	342.764402	331.6844376	10.59992538	0.480038882
438	Occupation, traffic area, rail embankment	cm2a	17.1568994	16.91504263	0.238669185	0.003187633
439	Occupation, traffic area, rail network	cm2a	18.9716953	18.7042575	0.263913039	0.003524787
440	Occupation, traffic area, road embankment	cm2a	19.6959752	19.40365688	0.263538318	0.028780044
441	Occupation, traffic area, road network	cm2a	118.22	116.966841	1.091520461	0.161638357
442	Occupation, urban, discontinuously built	mm2a	758.513491	758.5093471	0.003585539	0.000558494
443	Occupation, water bodies, artificial	cm2a	103.407394	102.8097887	0.516905105	0.080700046
444	Occupation, water courses, artificial	cm2a	57.7121461	56.75789351	0.883708105	0.070544492
445	Oil, crude, in ground	oz	47.2598032	46.04607243	0.129501847	1.084228963
446	Oils, biogenic	mg	2.84150882	2.806340427	0.034525931	0.00064246
447	Oils, unspecified	g	3.12792251	3.109573771	0.015037752	0.00331099
448	Oils, unspecified	g	3.07790606	3.062793406	0.013157524	0.001955129
449	Olivine, in ground	µg	746.360007	652.2308554	0.152120253	93.97703109
450	Orbencarb	µg	2.57447976	2.510217886	0.063111328	0.001150541
451	Ozone	mg	22.1204959	21.89109638	0.187410938	0.041988617
452	PAH, polycyclic aromatic hydrocarbons	µg	979.719356	940.3944998	34.60739041	4.717465461
453	PAH, polycyclic aromatic hydrocarbons	µg	397.728654	359.835184	37.67082818	0.222641628
454	Particulates, < 2.5 um	g	1.91570082	1.814855963	0.093223864	0.007620992
455	Particulates, > 10 um	g	5.02709695	4.76116916	0.25572124	0.010206549
456	Particulates, > 2.5 um, and < 10um	g	4.11640948	3.934355358	0.170231823	0.0118223
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	µg	4.7583629	4.752578416	0.004760611	0.001023872

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	11.4352202	11.42131904	0.011440603	0.002460548
459	Peat, in ground	g	2.84991561	2.825031999	0.00018484	0.024698774
460	Pentane	mg	496.804282	120.9006375	0.590659039	375.3129859
461	Phenol	µg	326.007158	324.1742192	1.77110682	0.061832068
462	Phenol	mg	8.09749134	8.061263268	0.020793181	0.015434893
463	Phenol, 2,4-dichloro-	ng	499.659532	499.6573792	0.00155526	0.000597188
464	Phenol, pentachloro-	µg	11.6834618	11.52532591	0.148014898	0.010121034
465	Phosphate	g	7.32023502	7.120733343	0.190223461	0.009278216
466	Phosphine	ng	2.37564571	2.374066883	0.001065082	0.000513744
467	Phosphorus	µg	389.953937	379.5846264	8.802607769	1.566702893
468	Phosphorus	mg	31.7795012	29.92303774	0.042612597	1.813850858
469	Phosphorus	mg	2.09897837	2.081889584	0.012570449	0.004518337
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	g	1.21756088	1.217220823	0.000318581	2.14737E-05
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	39.0706467	38.30357904	0.719786908	0.047280708
472	Pirimicarb	µg	210.958043	210.957708	0.000283111	5.13952E-05
473	Platinum	ng	1.04683924	1.0366372	0.007866863	0.002335177
474	Plutonium-238	nBq	9.19203444	9.098736564	0.074438779	0.018859094
475	Plutonium-alpha	nBq	21.0715543	20.85768077	0.170641438	0.043232076
476	Polonium-210	mBq	693.521105	680.9291789	12.01685814	0.575068403
477	Polonium-210	Bq	5.45374459	5.449049772	0.004397479	0.000297339
478	Polychlorinated biphenyls	µg	1.78352153	1.042584635	0.738721899	0.002214997
479	Potassium	mg	20.6887964	20.36012687	0.295702137	0.032967363
480	Potassium	mg	13.8537469	13.74422249	0.078945343	0.030579056
481	Potassium-40	mBq	87.6153077	85.82502945	1.744740373	0.045537901
482	Potassium-40	mBq	552.138628	550.1660649	1.843303242	0.129260273
483	Potassium, ion	g	14.6255427	14.26146004	0.327904026	0.036178624
484	Propanal	µg	11.9731869	11.95769179	0.002791256	0.012703811
485	Propanal	ng	576.900047	576.8654258	0.033876173	0.000745204
486	Propane	mg	139.501067	137.8629347	0.855493742	0.782638635
487	Propene	mg	7.83255673	7.580841951	0.106899471	0.144815304
488	Propene	mg	5.89089037	5.881942384	0.008208986	0.000739002
489	Propionic acid	µg	463.75227	451.0699595	4.000890908	8.681419531
490	Propionic acid	µg	2.8320748	2.832066696	6.26939E-06	1.83418E-06
491	Propylamine	ng	96.1719064	96.16613507	0.005647081	0.000124225
492	Propylamine	ng	230.815745	230.8018938	0.013552845	0.000298137
493	Propylene oxide	µg	57.5185967	57.11026528	0.189128854	0.219202584
494	Propylene oxide	µg	138.31203	137.3295547	0.455040902	0.527434802
495	Protactinium-234	mBq	10.7747885	10.67491081	0.074489386	0.025388304
496	Protactinium-234	mBq	198.475099	196.6339269	1.373546273	0.467626287
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	137.046682	136.530302	0.425935979	0.090444012
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	491.299002	489.4478235	1.526944632	0.324234168
499	Radioactive species, alpha emitters	mBq	4.54340587	4.536716515	0.006182278	0.000507074
500	Radioactive species, Nuclides, unspecified	Bq	65.6217709	64.95563051	0.531523359	0.134617034
501	Radioactive species, other beta emitters	mBq	508.451248	503.7578452	2.398144733	2.295257897
502	Radium-224	Bq	3.08165248	3.069007959	0.01074085	0.001903667
503	Radium-226	mBq	458.648504	453.6311789	4.115442777	0.901882577
504	Radium-226	Bq	132.394938	131.2261962	0.874623961	0.294118275
505	Radium-228	mBq	193.07688	187.4987568	5.553290885	0.024832413
506	Radium-228	Bq	6.16387528	6.138584278	0.02148341	0.003807596
507	Radon-220	Bq	2.36053698	2.328966109	0.029545906	0.002024967
508	Radon-222	kBq	1422.52588	1409.329692	9.844672403	3.351516777
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	69.0887483	68.92843932	0.137942968	0.022366022

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	216.393962	215.8918558	0.432052864	0.070052892
511	Rhenium, in crude ore, in ground	ng	42.026357	41.87636674	0.126678224	0.023312001
512	Rubidium	µg	616.329541	613.8006371	2.148170088	0.380733337
513	Ruthenium-103	nBq	115.545815	114.9800594	0.115366468	0.450388819
514	Ruthenium-103	µBq	112.263023	111.7133416	0.112088785	0.437592798
515	Sand, unspecified, in ground	mg	45.1851844	28.85270092	0.066867103	16.26561639
516	Scandium	µg	133.768492	132.3914231	1.069838806	0.3072303
517	Scandium	mg	6.38825435	6.254692501	0.126347624	0.007214223
518	Selenium	µg	349.81558	346.2327845	3.31172942	0.271065832
519	Selenium	mg	9.52495008	9.301631221	0.207413228	0.01590563
520	Shale, in ground	mg	6.21560507	5.526979554	0.001147023	0.687478489
521	Silicon	mg	52.3612298	50.48131087	1.764252472	0.115666504
522	Silicon	g	80.9546032	76.51783361	4.318501775	0.118267815
523	Silicon	mg	10.7877504	10.70590401	0.067434861	0.014411564
524	Silicon tetrafluoride	ng	286.492789	280.7016858	5.434390333	0.356712901
525	Silver	µg	5.77504803	5.691868762	0.040287049	0.042892223
526	Silver-110	µBq	1.14514731	1.139540238	0.00114337	0.004463698
527	Silver-110	mBq	438.034965	435.5498267	0.897840257	1.587298293
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	217.167668	217.0075426	0.110483244	0.049642008
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	154.932203	154.8177483	0.079009523	0.035444761
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	14.3031167	14.29256732	0.007280029	0.003269359
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	32.6665623	32.64246873	0.016626746	0.007466839
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	32.0187435	31.99512776	0.016296998	0.007318753
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	21.1278528	21.11226987	0.010753645	0.004829311
534	Silver, ion	µg	423.635592	415.66613	6.858796909	1.110664725
535	Sodium	mg	6.53603438	6.418227079	0.103174777	0.014632524
536	Sodium	mg	63.2042829	62.79058093	0.255915677	0.157786275
537	Sodium-24	mBq	4.02547731	4.005767072	0.00401923	0.015691007
538	Sodium chlorate	µg	3.92771284	3.904491433	0.017131876	0.006089528
539	Sodium chloride, in ground	g	348.660796	348.3720973	0.14578034	0.142918001
540	Sodium dichromate	µg	7.11644926	6.998086538	0.045166864	0.07319586
541	Sodium formate	µg	1.54984541	1.539947404	0.009730345	0.000167658
542	Sodium formate	µg	3.72335941	3.699580067	0.02337656	0.000402787
543	Sodium hydroxide	µg	27.568664	27.55028681	0.012405958	0.005971229
544	Sodium nitrate, in ground	ng	30.1162436	8.879849246	0.039320975	21.19707335
545	Sodium sulphate, various forms, in ground	mg	74.4754359	74.12467932	0.25594325	0.094813368
546	Sodium, ion	g	42.5364353	41.9362973	0.543351656	0.056786395
547	Solids, inorganic	g	2.59601446	2.554472024	0.039460072	0.002082366
548	Solved solids	g	958.078029	957.8285491	0.215399948	0.034079923
549	Stibnite, in ground	ng	32.9256715	32.62180539	0.155173053	0.148693007
550	Strontium	µg	858.334316	835.4053401	22.40683056	0.522145552
551	Strontium	mg	798.981153	782.1866541	16.11468345	0.679815588
552	Strontium	µg	304.917105	302.8936797	1.264039998	0.759384843
553	Strontium-89	mBq	9.56913449	9.517268066	0.016391385	0.035475035
554	Strontium-90	Bq	60.1955927	59.38181121	0.760911372	0.052870079
555	Styrene	mg	38.603875	37.30417069	0.000195282	1.299508995
556	Sulfate	g	2.98823805	2.987356203	0.000770927	0.000110916
557	Sulfate	g	244.646756	240.3859346	4.010698741	0.250122264
558	Sulfide	µg	395.040827	388.31888	1.302085588	5.419861638
559	Sulfite	mg	2.80862106	2.771772572	0.033938229	0.002910258
560	Sulfur	mg	40.1398585	40.09486771	0.036061438	0.008929308
561	Sulfur	mg	20.2083317	20.07963362	0.082200443	0.0464976
562	Sulfur dioxide	g	29.6823424	29.2362127	0.227584374	0.2185453

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
563	Sulfur hexafluoride	µg	267.489928	264.8087378	2.262863426	0.418327205
564	Sulfur trioxide	µg	24.5955993	24.59510384	0.000450372	4.50949E-05
565	Sulfur, in ground	mg	32.3058285	26.58100047	0.021142203	5.703685856
566	Sulfuric acid	µg	5.77349865	5.769605324	0.002635256	0.001258075
567	Sulfuric acid	ng	3.56344152	3.561073277	0.001597623	0.000770616
568	Suspended solids, unspecified	g	2.15225284	2.068436497	0.025637268	0.058179077
569	Sylvite, 25 % in sylvinite, in ground	g	4.66592128	4.665686703	3.96242E-05	0.000194952
570	t-Butyl methyl ether	µg	10.4575478	10.40890809	0.046547364	0.002092298
571	t-Butyl methyl ether	µg	113.401643	112.9411697	0.401253836	0.059219176
572	t-Butylamine	µg	2.18457069	2.184565932	4.18099E-06	5.80989E-07
573	t-Butylamine	µg	5.24304739	5.243035959	1.00345E-05	1.39439E-06
574	Talc, in ground	mg	4.86401202	4.791940458	0.07105645	0.001015116
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	171.199329	171.0754953	0.085112551	0.038721289
576	Tebutam	µg	623.08157	623.0800949	0.001315099	0.000160526
577	Technetium-99m	mBq	12.2302046	12.17026211	0.012290676	0.047651805
578	Teflubenzuron	ng	31.7831373	30.98979544	0.779137866	0.014203951
579	Tellurium-123m	mBq	2.11052978	2.090150774	0.015709696	0.004669308
580	Tellurium-132	µBq	30.8055577	30.65472219	0.03075775	0.120077756
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	23.2402808	23.22311236	0.011851626	0.005316803
582	Terpenes	µg	1.79752898	1.785784708	0.007631465	0.004112805
583	Thallium	µg	191.077663	190.9138681	0.160492239	0.003303067
584	Thallium	µg	631.513372	617.5101107	13.41457429	0.588687349
585	Thiram	ng	8.18365043	8.130182035	0.034743935	0.018724459
586	Thorium	µg	5.23610431	5.014865689	0.220785746	0.000452876
587	Thorium-228	mBq	25.1896719	24.59974149	0.58040612	0.009524326
588	Thorium-228	Bq	12.3696101	12.31900521	0.042988519	0.007616333
589	Thorium-230	mBq	52.288968	51.90956929	0.28505806	0.09434062
590	Thorium-230	Bq	27.0802301	26.8290201	0.187406984	0.063803043
591	Thorium-232	mBq	25.9373457	25.43124032	0.491858965	0.014246451
592	Thorium-232	mBq	23.9159187	23.59738211	0.297500739	0.021035878
593	Thorium-234	mBq	10.7770509	10.67715338	0.074503683	0.025393804
594	Thorium-234	mBq	198.500754	196.6593695	1.373699106	0.467685076
595	Tin	µg	364.357676	336.7662365	27.36284803	0.228591304
596	Tin	µg	1.91308469	1.911405807	0.001231524	0.000447357
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	13.0353711	12.98762345	0.045696513	0.002051141
598	Tin, ion	mg	6.21407526	6.051314329	0.104219196	0.058541739
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	g	731.955331	731.9536456	0.001324944	0.000360253
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	1.59365758	1.588196998	0.002865776	0.002594804
601	Titanium	mg	3.41992474	3.356045441	0.058119519	0.005759777
602	Titanium	µg	82.1259588	81.13773091	0.88553029	0.10269758
603	Titanium, ion	g	13.7731418	13.76937115	0.003602941	0.000167755
604	TOC, Total Organic Carbon	g	74.1099265	73.96761547	0.107220939	0.035090074
605	Toluene	mg	18.1681088	17.8648507	0.132845199	0.170412922
606	Toluene	mg	8.09302335	8.061542215	0.026701845	0.004779294
607	Toluene, 2-chloro-	µg	1.40078131	1.40076226	1.72749E-05	1.77809E-06
608	Toluene, 2-chloro-	µg	2.37533051	2.375291492	3.54327E-05	3.5851E-06
609	Transformation, from arable	mm2	3.70561712	3.650717732	0.049153127	0.005746262
610	Transformation, from arable, non-irrigated	dm2	203.133544	203.133063	0.000428754	5.23403E-05
611	Transformation, from arable, non-irrigated, fallow	mm2	0.6320189	0.620578573	0.011216132	0.000224192
612	Transformation, from dump site, inert material landfill	mm2	18.7264383	18.3815884	0.32594187	0.018908015
613	Transformation, from dump site, residual material landfill	mm2	49.2773826	47.41816747	1.789312567	0.06990258
614	Transformation, from dump site, sanitary landfill	mm2	0.37941988	0.377484606	0.001459819	0.00047546

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
615	Transformation, from dump site, slag compartment	mm2	0.09028096	0.083263164	0.00040792	0.006609877
616	Transformation, from forest	cm2	14.7212899	14.6246346	0.058610361	0.038044928
617	Transformation, from forest, extensive	cm2	11.9805123	11.80349128	0.173732157	0.003288861
618	Transformation, from forest, intensive, clear-cutting	mm2	1.98402687	1.971064104	0.00842325	0.00453952
619	Transformation, from industrial area	mm2	11.5122288	11.36866182	0.069804153	0.073762796
620	Transformation, from industrial area, benthos	mm2	0.03884035	0.038189943	0.000227024	0.000423379
621	Transformation, from industrial area, built up	mm2	0.01352876	0.013255296	0.000256624	1.68448E-05
622	Transformation, from industrial area, vegetation	mm2	0.02307863	0.022612124	0.00043777	2.87352E-05
623	Transformation, from mineral extraction site	mm2	945.120342	944.1038521	0.97597184	0.040517825
624	Transformation, from pasture and meadow	mm2	163.772106	159.5945925	3.920414645	0.257099136
625	Transformation, from pasture and meadow, intensive	cm2	16.5776673	16.57762805	3.49894E-05	4.27095E-06
626	Transformation, from sea and ocean	mm2	543.067926	536.9035865	2.751337974	3.413001261
627	Transformation, from shrub land, sclerophyllous	mm2	91.6287615	88.91906659	2.574026991	0.135667917
628	Transformation, from tropical rain forest	mm2	1.98402687	1.971064104	0.00842325	0.00453952
629	Transformation, from unknown	cm2	36.6344104	36.47359435	0.157339821	0.003476183
630	Transformation, to arable	mm2	170.101685	168.4458143	0.945345742	0.710525372
631	Transformation, to arable, non-irrigated	dm2	203.29931	203.2988289	0.000429104	5.23831E-05
632	Transformation, to arable, non-irrigated, fallow	mm2	24.7428617	24.72596467	0.01623696	0.000660042
633	Transformation, to dump site	mm2	58.2460508	55.65386492	2.565162829	0.027023037
634	Transformation, to dump site, benthos	mm2	542.229983	536.0698121	2.748195179	3.411975617
635	Transformation, to dump site, inert material landfill	mm2	18.7264383	18.3815884	0.32594187	0.018908015
636	Transformation, to dump site, residual material landfill	mm2	49.277798	47.41858199	1.78931336	0.069902652
637	Transformation, to dump site, sanitary landfill	mm2	0.37941988	0.377484606	0.001459819	0.00047546
638	Transformation, to dump site, slag compartment	mm2	0.09028096	0.083263164	0.00040792	0.006609877
639	Transformation, to forest	mm2	870.047013	867.6127618	2.324287099	0.109963856
640	Transformation, to forest, intensive	mm2	48.0221565	47.70918712	0.303767523	0.009201885
641	Transformation, to forest, intensive, clear-cutting	mm2	1.98402687	1.971064104	0.00842325	0.00453952
642	Transformation, to forest, intensive, normal	cm2	11.366349	11.19435844	0.168853809	0.003136722
643	Transformation, to forest, intensive, short-cycle	mm2	1.98402687	1.971064104	0.00842325	0.00453952
644	Transformation, to heterogeneous, agricultural	mm2	68.2255334	67.75698475	0.280652011	0.187896646
645	Transformation, to industrial area	mm2	99.637444	96.19836435	3.339917322	0.099162355
646	Transformation, to industrial area, benthos	mm2	0.83993486	0.835766417	0.003142799	0.001025645
647	Transformation, to industrial area, built up	mm2	148.355359	145.3862097	2.94168675	0.027462722
648	Transformation, to industrial area, vegetation	mm2	241.074667	240.2631628	0.796412024	0.015091706
649	Transformation, to mineral extraction site	cm2	37.8910847	37.75505325	0.105338042	0.030693416
650	Transformation, to pasture and meadow	mm2	8.26998097	8.170446337	0.037302077	0.062232554
651	Transformation, to permanent crop, fruit, intensive	mm2	0.88545303	0.878399763	0.004460805	0.00259246
652	Transformation, to sea and ocean	mm2	0.03884035	0.038189943	0.000227024	0.000423379
653	Transformation, to shrub land, sclerophyllous	mm2	68.4736837	66.26066561	2.117122176	0.095895932

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
654	Transformation, to traffic area, rail embankment	mm2	3.99229921	3.936020988	0.055536484	0.000741738
655	Transformation, to traffic area, rail network	mm2	4.38822354	4.326364006	0.061044233	0.000815299
656	Transformation, to traffic area, road embankment	mm2	12.953363	12.76836819	0.175702232	0.009292592
657	Transformation, to traffic area, road network	mm2	177.195151	175.6501912	1.461680494	0.083279099
658	Transformation, to unknown	mm2	123.750556	123.4888879	0.245631935	0.016036292
659	Transformation, to urban, discontinuously built	mm2	15.1090994	15.10901683	7.14216E-05	1.11248E-05
660	Transformation, to water bodies, artificial	mm2	532.398998	531.863447	0.464911585	0.070639747
661	Transformation, to water courses, artificial	mm2	63.3838736	62.26470378	1.034525409	0.084644371
662	Tributyltin compounds	µg	311.471927	308.051934	3.366606218	0.053387048
663	Triethylene glycol	µg	710.092185	698.3598792	4.124690434	7.607615778
664	Trimethylamine	ng	206.8308	206.8304689	0.000279839	5.09669E-05
665	Trimethylamine	ng	496.39392	496.3931261	0.000671615	0.000122321
666	Tungsten	µg	14.7193499	14.58280485	0.101864939	0.034680101
667	Tungsten	mg	7.26114	7.106730843	0.147846825	0.00656233
668	Ulexite, in ground	µg	528.744898	522.7113878	5.62764841	0.405861348
669	Uranium	µg	6.83938962	6.598938707	0.240015995	0.000434916
670	Uranium-234	mBq	137.679489	136.5080339	0.875925332	0.29552936
671	Uranium-234	mBq	238.171456	235.9620488	1.64825553	0.561151545
672	Uranium-235	mBq	6.07338438	6.017044496	0.042030516	0.014309364
673	Uranium-235	mBq	392.982759	389.3372373	2.719621624	0.925900049
674	Uranium-238	mBq	205.153251	202.6230931	2.198181043	0.331977119
675	Uranium-238	Bq	2.44850367	2.441156532	0.005821179	0.00152596
676	Uranium alpha	mBq	584.941766	579.514816	4.048994401	1.377955641
677	Uranium alpha	Bq	11.4344973	11.32842384	0.079133242	0.02694026
678	Uranium, in ground	mg	44.7306163	44.13557081	0.303293318	0.291752197
679	Urea	ng	925.296336	925.2561329	0.039282123	0.00092097
680	Vanadium	mg	5.24893746	5.192089386	0.053567122	0.003280949
681	Vanadium	µg	2.3507169	2.322430691	0.025346681	0.002939528
682	Vanadium, ion	mg	72.7315781	70.64032066	2.029417846	0.061839592
683	Vermiculite, in ground	mg	4.25181188	4.248925249	0.002819243	6.73915E-05
684	VOC, volatile organic compounds, unspecified origin	mg	22.0527409	21.95968842	0.078620378	0.014432076
685	Volume occupied, final repository for low-active radioactive waste	mm3	90.1553207	89.31811144	0.625061469	0.212147837
686	Volume occupied, final repository for radioactive waste	mm3	20.9849396	20.7811594	0.157520714	0.046259444
687	Volume occupied, reservoir	m3day	29.9691753	29.74146762	0.137234314	0.090473345
688	Volume occupied, underground deposit	mm3	109.962849	105.0184599	4.584303229	0.360085333
689	Water	mg	512.621157	496.7631917	15.6946178	0.163347989
690	Water, cooling, unspecified natural origin/m3	dm3	117.718415	112.2011679	0.700532674	4.816714693
691	Water, lake	cu.in	273.271628	273.0862425	0.181048458	0.00433673
692	Water, river	dm3	30.8361823	30.58341322	0.193895144	0.05887389
693	Water, salt, ocean	cu.in	199.965767	196.6699066	1.556119781	1.739740214
694	Water, salt, sole	cu.in	148.541277	148.3508883	0.161895459	0.028493652
695	Water, turbine use, unspecified natural origin	cu.yd	38.2737749	37.22014535	0.967999877	0.08562969
696	Water, unspecified natural origin/m3	dm3	174.814444	173.8774348	0.789673069	0.147335825
697	Water, well, in ground	cu.in	805.315747	799.892447	5.169097299	0.254202551
698	Wood, hard, standing	cm3	24.5776613	24.09303196	0.464442206	0.020187143
699	Wood, primary forest, standing	mm3	20.5427396	20.40852306	0.087214333	0.047002194
700	Wood, soft, standing	cm3	71.9226843	71.2781064	0.591863786	0.052714081
701	Wood, unspecified, standing/m3	mm3	5.13746122	2.749312153	0.00344086	2.384708206
702	Xenon-131m	Bq	10.2153942	10.15775298	0.020491845	0.037149383
703	Xenon-133	Bq	367.557998	365.5429466	0.657750607	1.357300969
704	Xenon-133m	mBq	504.858228	500.7800887	2.672699963	1.405439826
705	Xenon-135	Bq	147.449312	146.6369753	0.269236395	0.543100331

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation
706	Xenon-135m	Bq	92.2446383	91.74306588	0.15948726	0.342085208
707	Xenon-137	Bq	2.78239898	2.768449538	0.003217952	0.010731487
708	Xenon-138	Bq	21.0339707	20.9258549	0.027921816	0.080194015
709	Xylene	mg	18.535901	18.32120224	0.170397913	0.044300837
710	Xylene	mg	6.19455278	6.168880207	0.021812088	0.003860487
711	Zinc	mg	11.5824196	10.61091978	0.963799971	0.007699849
712	Zinc	mg	6.6508042	6.631426013	0.009374018	0.01000417
713	Zinc-65	µBq	22.1213309	22.01301662	0.022087	0.086227289
714	Zinc-65	mBq	54.5763614	54.30913519	0.054491661	0.212734559
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	g	1.16811941	1.163387367	0.00369131	0.001040733
716	Zinc, ion	mg	483.071009	470.7449289	11.07320054	1.25287973
717	Zirconium	µg	1.98975589	1.17932995	0.807909306	0.002516635
718	Zirconium-95	µBq	21.622757	21.51688394	0.021589204	0.084283902
719	Zirconium-95	µBq	632.009522	628.9149671	0.631028678	2.463525714
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	234.224333	234.0672642	0.106179107	0.050889907

Appendix 7.7: Inventory of emitted substances for 1m² of a 280mm double brick insulated cavity wall with both sides plastered and painted

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
1	1-Butanol	ng	663.776834	331.8977384	0.000767187	0.000247668	0.016044974	331.8620353
2	1-Butanol	µg	37.4607345	18.77830202	0.008198574	0.003906369	0.086421295	18.58390621
3	1-Pentanol	ng	331.960517	166.0379761	0.009750101	0.000214483	0.100077221	165.8124989
4	1-Pentanol	ng	796.716367	398.4967061	0.02340025	0.000514761	0.240185418	397.9555607
5	1-Pentene	ng	250.855577	125.4714044	0.007367963	0.000162081	0.075626425	125.3010156
6	1-Pentene	ng	602.066099	301.1377279	0.01768307	0.000388994	0.181502996	300.7287959
7	1-Propanol	µg	32.9038926	16.45954077	0.000663845	0.000130296	0.012839401	16.43071825
8	1-Propanol	µg	7.931705	3.966068337	3.59514E-05	1.52656E-06	0.00037462	3.965224563
9	1,4-Butanediol	µg	2.05967293	1.030046164	2.96706E-05	1.36578E-05	0.000372499	1.029210942
10	1,4-Butanediol	ng	823.875152	412.0214553	0.011868336	0.005463179	0.149000571	411.6873641
11	2-Aminopropanol	ng	558.968054	279.4868977	0.00044215	6.97666E-05	0.005008263	279.4756356
12	2-Aminopropanol	µg	703.966644	703.2633952	1.10477E-06	1.75357E-07	1.25203E-05	0.703235241
13	2-Butene, 2-methyl-	pg	55.6430308	27.83119079	0.001634301	3.59521E-05	0.016773826	27.79339591
14	2-Methyl-1-propanol	µg	570.198356	569.6289414	1.73676E-05	5.48979E-07	0.000185294	0.569211852
15	2-Methyl-1-propanol	µg	2.73366158	1.367087439	4.16814E-05	1.31753E-06	0.000444697	1.366086444
16	2-Methyl-2-butene	pg	133.545267	66.79585481	0.003922382	8.62863E-05	0.040257784	66.70514574
17	2-Nitrobenzoic acid	µg	505.276593	504.7718304	6.82069E-07	1.24161E-07	7.86367E-06	0.504754153
18	2-Propanol	mg	2.11849254	1.061950668	0.000475402	0.000229546	0.004892336	1.050944586
19	2-Propanol	µg	3.96500771	1.982578661	8.41324E-06	7.11675E-07	0.000128642	1.982291285
20	2,4-D	µg	723.998146	723.4274656	0.00307402	0.001656555	0.130014125	0.435935264
21	4-Methyl-2-pentanone	ng	2.41433544	1.300531261	0.003846829	0.000591468	0.160630056	0.948735825
22	Acenaphthene	ng	8.22715235	4.332964758	0.052045795	0.004586415	0.397565867	3.439989514
23	Acenaphthene	ng	666.060222	381.7858108	1.336161798	0.236816137	79.43455477	203.2668787
24	Acenaphthylene	ng	41.6551709	23.87677634	0.083563816	0.014810527	4.967852376	12.71216789
25	Acetaldehyde	mg	3.23209594	1.940767278	0.010236354	0.010150843	0.535615974	0.735325492
26	Acetaldehyde	µg	412.735349	206.4691196	0.017790318	0.007335387	0.182526534	206.0585774
27	Acetic acid	mg	55.4406715	27.93639933	0.082702516	0.068004566	0.473466359	26.88009872
28	Acetic acid	mg	8.56328958	4.291787922	0.001939894	0.000104913	0.018568198	4.250888652
29	Acetone	mg	3.98575255	2.03433156	0.008015568	0.000915525	0.073962495	1.868527406
30	Acetone	µg	472.082944	236.0439534	0.000355881	5.9464E-05	0.00432499	236.0342507
31	Acetonitrile	µg	3.83060074	2.14294165	0.009157758	0.004935367	0.38751925	1.28604672
32	Acetonitrile	µg	4.78454274	2.392292795	3.26405E-06	5.84376E-07	3.74088E-05	2.392208691
33	Acetyl chloride	ng	625.87483	313.0462342	0.01838251	0.00040438	0.188682204	312.6211272
34	Acidity, unspecified	µg	980.357414	383.1569223	0.290986935	225.5500358	9.723859775	361.635609
35	Aclonifen	mg	8.7395498	4.369813442	5.8644E-06	1.06461E-06	6.73063E-05	4.369662124
36	Acrolein	µg	12.5243555	7.078520559	0.007636493	0.024684878	1.417976987	3.995536594
37	Acrylate, ion	µg	12.9674212	6.500336209	0.002916273	0.001406669	0.030068049	6.432693991
38	Acrylic acid	µg	5.47903513	2.746542221	0.001232184	0.000594346	0.012704353	2.717962029
39	Actinides, radioactive, unspecified	mBq	937.369177	936.7028636	0.005258752	0.002256384	0.223733766	0.435064026
40	Actinides, radioactive, unspecified	mBq	190.738815	108.3365598	0.886326138	0.224551077	21.73715716	59.5542207
41	Aerosols, radioactive, unspecified	mBq	24.9231864	13.79794301	0.131608196	0.023750666	2.272135976	8.697748557
42	Aldehydes, unspecified	µg	477.60932	244.5946671	0.53732122	0.10856787	9.839630855	222.5291327
43	Aldrin	ng	140.914443	70.63939544	0.031810324	0.015310553	0.329281088	69.89864607
44	Aluminium	mg	642.867654	386.1100021	11.62213622	0.203110477	112.5718541	132.3605508
45	Aluminium	g	10.7886443	5.625959078	0.102713801	0.024346107	0.468143829	4.567481464
46	Aluminium	mg	60.265713	32.76099147	0.139900673	0.077667834	4.401534571	22.88561848
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	g	8.99697353	5.117023122	0.092432802	0.006896802	1.071605308	2.709015495
48	Ammonia	g	2.42474339	1.339882839	0.005052916	9.90821E-05	0.208269484	0.87143907
49	Ammonium carbonate	µg	44.1407419	22.19721377	0.009119656	0.012844366	0.221800199	21.69976389
50	Ammonium, ion	mg	176.539522	89.08969528	0.356548333	0.866552104	2.301259452	83.92546684
51	Anhydrite, in ground	mg	4.13786626	1.952306795	0.000405164	0.242836025	0.00808418	1.934234092
52	Aniline	µg	3.48419506	1.742449131	4.12071E-05	4.0669E-06	0.000605353	1.741095299
53	Aniline	µg	8.76801095	4.384851166	9.91761E-05	9.81062E-06	0.001456071	4.381594723
54	Anthranilic acid	ng	735.655546	367.8310576	0.000497265	9.05369E-05	0.005734819	367.818166
55	Antimony	µg	312.6772	173.5524484	0.782371631	0.144034654	28.28144314	109.916902
56	Antimony	mg	26.5721748	13.2565231	0.087693902	0.472003292	0.402999794	12.3529547
57	Antimony	ng	17.2481183	8.987381909	0.027906325	0.001872128	0.604454818	7.626503106
58	Antimony-122	µBq	500.189987	329.1198774	0.330225723	1.289195858	128.4416781	41.00901009
59	Antimony-124	µBq	816.769554	816.3452343	0.000819089	0.003197709	0.318585478	0.101717867
60	Antimony-124	mBq	47.4274731	28.60206804	0.146296823	0.081733248	8.045243841	10.55213112
61	Antimony-125	µBq	12.9473818	8.519246536	0.008547878	0.033370778	3.324707154	1.061509484
62	Antimony-125	mBq	44.7210612	27.0525114	0.133569538	0.078383375	7.71677112	9.739825742
63	AOX, Adsorbable Organic Halogen as Cl	µg	547.204856	278.1880459	0.585165686	1.819894344	9.308373572	257.3033767
64	Argon-41	Bq	10.792765	5.680568939	0.069618293	0.005871113	0.516500815	4.52020587
65	Arsenic	mg	2.69325823	1.481460563	0.032295948	0.001777718	0.24348517	0.934238832
66	Arsenic	µg	24.0297331	13.05977199	0.054876684	0.030948546	1.749445456	9.134690396
67	Arsenic, ion	mg	34.7320096	18.52462322	0.502574954	0.030166866	2.285400567	13.38924398
68	Arsine	pg	63.8646445	32.01420389	0.014362728	0.006927888	0.148085997	31.68106404
69	Atrazine	ng	36.9678405	18.53171183	0.008345146	0.004016583	0.086383866	18.33738304
70	Barite	mg	644.180425	334.0125822	1.712336996	2.125923269	22.39480114	283.9347812

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
71	Barite, 15% in crude ore, in ground	g	11.7465441	6.291325726	0.023374646	0.016653407	0.704852293	4.710338032
72	Barium	mg	751.990788	751.3099617	0.017767865	0.000739904	0.071520115	0.590798476
73	Barium	mg	245.869359	136.449093	1.851702907	0.234440933	23.30049398	84.03362843
74	Barium	mg	27.5724714	15.05761005	0.062821679	0.037890825	2.125743559	10.28840527
75	Barium-140	µBq	842.207815	554.1642569	0.556026758	2.170719438	216.2672534	69.04955845
76	Barium-140	mBq	2.19109406	1.441717984	0.001446564	0.005647362	0.562642749	0.179639406
77	Basalt, in ground	g	2.52838805	1.482340967	0.009644105	0.000243748	0.374283503	0.661875732
78	Benomyl	ng	8.19171457	4.58266574	0.019583768	0.010554229	0.828705801	2.75020503
79	Bentazone	mg	4.46026224	2.230150792	2.99292E-06	5.43327E-07	3.435E-05	2.230073566
80	Benzal chloride	pg	0.40681422	0.21913877	0.000648187	9.96618E-05	0.027066001	0.159861597
81	Benzaldehyde	µg	6.24033118	3.532614301	0.002426205	0.012635408	0.716701004	1.975954268
82	Benzene	mg	68.7765476	35.4133884	0.440465255	0.710569658	2.570429071	29.64169523
83	Benzene	mg	38.7141888	19.88254418	0.034862189	0.050314969	0.913947514	17.8325199
84	Benzene, 1-methyl-2-nitro-	ng	871.789005	435.8983915	0.000589004	0.00010722	0.006790714	435.8831262
85	Benzene, 1,2-dichloro-	µg	18.1291609	9.064755178	2.81724E-05	2.50971E-06	0.000303906	9.064071144
86	Benzene, 1,2-dichloro-	µg	110.760524	55.40302038	0.003773457	0.001702135	0.040819338	55.31120837
87	Benzene, chloro-	mg	725.133202	724.4097155	7.66009E-05	3.50306E-05	0.000828695	0.722545815
88	Benzene, ethyl-	mg	3.10868966	1.705858613	0.005101982	0.153830309	0.36971829	0.874180464
89	Benzene, ethyl-	mg	2.57035181	1.473323082	0.005156198	0.000913859	0.306536305	0.784422371
90	Benzene, hexachloro-	µg	627.526388	626.5899395	0.429683403	0.00208409	0.100165109	0.404516368
91	Benzene, pentachloro-	ng	108.113811	58.95490547	0.340175199	2.054289468	9.964283531	36.80015701
92	Benzo(a)pyrene	µg	75.1085908	39.34112688	1.575260485	0.035579276	4.201137893	29.95548622
93	Beryllium	µg	78.1962675	51.64985167	0.22594575	0.012312958	20.17134047	6.1368166
94	Beryllium	mg	6.62190164	3.532990724	0.083245919	0.003277195	0.424756913	2.577630885
95	BOD5, Biological Oxygen Demand	g	49.7930124	25.70626815	0.129320545	0.042646856	1.447283588	22.46749327
96	Borate	µg	117.218488	58.62001736	0.001815489	4.60692E-05	0.018683052	58.57792608
97	Borax, in ground	µg	132.875107	78.8033713	0.446784699	0.088885848	20.83759356	32.69847166
98	Boron	mg	31.3738386	16.27679478	0.231343513	0.013925501	1.142501379	13.70927345
99	Boron	mg	454.766407	239.3998463	4.756814292	0.300274096	23.40616342	186.903309
100	Boron	µg	862.924464	474.5633483	2.39301065	2.595473356	73.31866683	310.0539651
101	Boron trifluoride	pg	0.87401193	0.438135821	0.000196321	9.48437E-05	0.002002808	0.433582137
102	Bromate	mg	105.361375	52.69197712	0.011502834	0.010415818	0.03614984	52.611329
103	Bromide	mg	7.36665405	3.683969202	9.75305E-05	4.32152E-06	0.001111103	3.681471889
104	Bromine	mg	3.27662765	1.706488191	0.022160283	0.001476588	0.128459912	1.418042679
105	Bromine	mg	89.104306	50.61372564	0.213738384	0.437947902	10.30618527	27.53270881
106	Bromine, 0.0023% in water	mg	8.49310718	4.247291666	0.000114902	4.56533E-06	0.001277707	4.24441834
107	Butadiene	ng	277.580888	138.9473242	0.023057504	0.007450012	0.275732074	138.3273245
108	Butane	mg	171.892934	95.93518663	0.438737464	0.454241484	16.70241096	58.36235752
109	Butene	mg	2.61534641	1.533245881	0.004883982	0.000900767	0.365578123	0.710737658
110	Butene	µg	12.4698384	6.287262585	0.005360768	0.001170713	0.088151675	6.087892616
111	Butyl acetate	µg	46.5024307	23.31350213	0.010655823	0.005077564	0.112298769	23.06089641
112	Butyrolactone	ng	32.8031555	16.44822579	0.007741959	0.003633153	0.083795033	16.25975956
113	Butyrolactone	ng	78.7285584	39.47623656	0.018581039	0.008719726	0.201111742	39.02390936
114	Cadmium	µg	852.248819	481.2729925	3.52854419	0.411884881	91.3596383	275.6757593
115	Cadmium	µg	442.593831	221.3823774	0.012112371	0.004445083	0.150223434	221.0446726
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	mg	898.391458	897.5993695	0.004369545	0.004682862	0.09554333	0.687492246
117	Cadmium, ion	mg	11.5767008	6.14260526	0.153482951	0.008387994	0.698947463	4.573277136
118	Calcite, in ground	oz	894.227601	614.7173464	0.583733561	0.013042842	267.1264421	11.78703559
119	Calcium	mg	32.5067274	18.06020516	0.24889482	0.043047607	3.139675472	11.0149043
120	Calcium	mg	261.352969	141.9780149	0.68801648	0.325428194	18.98759841	99.37391115
121	Calcium, ion	g	98.2186995	51.83596832	1.124571929	0.064870031	5.280013737	39.9132755
122	Carbetamide	mg	790.108909	789.3196064	1.31851E-06	1.97024E-07	1.48105E-05	0.789286296
123	Carbofuran	µg	4.49099802	2.512385941	0.010736567	0.00578623	0.454328073	1.50776121
124	Carbon	mg	200.140362	107.8084603	0.396531739	0.232339467	12.9510634	78.75196718
125	Carbon-14	Bq	138.717236	81.09885976	0.542274108	0.199239708	19.47370961	37.40315284
126	Carbon dioxide, biogenic	g	474.912857	303.6899467	0.791762157	0.801682058	106.7465288	62.88293764
127	Carbon dioxide, fossil	lb	41.9618597	17.89486844	0.201469654	0.230800169	12.59605668	11.03866473
128	Carbon dioxide, in air	oz	528.940438	511.509632	0.040782559	0.003162652	0.5244059	16.86245479
129	Carbon dioxide, land transformation	mg	284.399199	149.8644609	1.603380874	0.173220711	13.87150325	118.886633
130	Carbon disulfide	mg	40.9355227	21.84999734	0.520463829	0.022364873	2.665624275	15.87707238
131	Carbon disulfide	µg	869.514961	868.6595641	0.00111153	2.07875E-05	0.011492597	0.842771734
132	Carbon monoxide, biogenic	mg	60.1634787	36.50519598	0.15187954	0.339911374	9.242513856	13.92397792
133	Carbon monoxide, fossil	g	28.6862286	16.07230157	1.32271686	0.118999612	3.923192512	7.249018087
134	Carbon, in organic matter, in soil	mg	5.67271073	3.173468131	0.013561675	0.007308758	0.573875205	1.904496965
135	Carbonate	mg	63.8935187	30.62540335	0.017655056	3.314556996	0.557921377	29.3779819
136	Carboxylic acids, unspecified	mg	449.78552	255.8285986	0.922745257	0.18231413	50.52319152	142.3286705
137	Cerium-141	µBq	204.170587	134.3421323	0.134793464	0.526231495	52.42807436	16.73935569
138	Cerium-141	µBq	876.03602	576.4228145	0.578359933	2.257907791	224.9537677	71.82317003
139	Cerium-144	µBq	266.694049	175.4819738	0.176071679	0.687380978	68.48328412	21.86533876
140	Cesium	µg	107.083054	61.38006371	0.214817009	0.038073334	12.77082873	32.67927079

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
141	Cesium-134	µBq	9.77844342	6.434116866	0.00645574	0.025203105	2.510967641	0.801700072
142	Cesium-134	mBq	25.9708485	14.71133268	0.121337396	0.029998694	2.896050242	8.212129508
143	Cesium-136	µBq	155.479269	102.3037852	0.102647597	0.400734553	39.92490215	12.74719919
144	Cesium-137	µBq	173.340066	114.0560015	0.114439286	0.446769113	44.51129305	14.21156293
145	Cesium-137	Bq	22.1618516	12.6099187	0.101989371	0.026438211	2.561086703	6.862418628
146	Chloramine	µg	2.32961784	1.165016807	3.50275E-05	8.96263E-07	0.00036052	1.164204589
147	Chloramine	µg	21.4059635	10.70483949	0.000312968	8.07278E-06	0.003221716	10.69758129
148	Chlorate	mg	805.350265	402.7669694	0.088997721	0.096759003	0.299828007	402.0977105
149	Chloride	g	107.121991	60.1711013	0.66638489	0.092821163	11.17031112	35.021373
150	Chloride	mg	977.690162	525.8584488	2.629803321	3.037264851	64.01665342	382.1479915
151	Chlorinated solvents, unspecified	µg	259.865784	130.0050689	0.056816233	0.994789707	0.975842229	127.8332674
152	Chlorine	mg	16.1817515	8.213768231	0.09803464	0.032761934	0.307784659	7.529402013
153	Chlorine	mg	3.08886239	2.188906191	0.001481094	0.000660511	0.849577009	0.048237585
154	Chloroacetic acid	µg	382.495544	191.2580459	0.00231461	0.000157098	0.018378256	191.216648
155	Chloroacetic acid	mg	96.5608231	48.28087259	7.22646E-05	1.20813E-05	0.000806033	48.27906014
156	Chloroacetyl chloride	µg	938.859924	937.9220213	1.4734E-06	2.33868E-07	1.6698E-05	0.937884473
157	Chloroform	µg	20.8897019	10.68544503	0.007436435	0.004346805	0.395444796	9.797028881
158	Chloroform	µg	2.03574404	1.018867734	0.000173507	7.89768E-05	0.001794726	1.014829098
159	Chlorosilane, trimethyl-	µg	782.21424	781.6483813	0.004786507	0.000131093	0.185131383	0.375809552
160	Chlorosulfonic acid	µg	6.97683295	3.488447715	4.75964E-06	8.52139E-07	5.45496E-05	3.488325073
161	Chlorosulfonic acid	µg	17.3984706	8.699313215	1.18694E-05	2.12502E-06	0.000136033	8.699007377
162	Chlorothalonil	µg	17.3120774	10.16472883	0.25555912	0.004658931	2.615451217	4.2716793
163	Chromium	mg	21.5337332	9.331707902	3.852149859	0.083771784	0.868883359	7.397220343
164	Chromium	mg	3.83256184	1.929903813	0.000799797	0.000410314	0.022878912	1.878569008
165	Chromium-51	µBq	13.0831991	8.608612055	0.008637541	0.033720821	3.359581705	1.072646992
166	Chromium-51	mBq	171.256272	111.3660058	0.170370442	0.42093438	41.88270462	17.41625699
167	Chromium VI	µg	544.187894	243.0542291	95.18445973	0.105407797	30.17567255	175.6681245
168	Chromium VI	mg	73.7573495	35.21328287	8.014913311	0.307260884	4.043003213	26.1788892
169	Chromium VI	mg	979.094825	978.3158025	0.006412959	0.010393021	0.173706447	0.588510119
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	g	5.67412535	2.460404362	1.111751443	0.000607288	0.29168607	1.809676185
171	Chromium, ion	mg	7.21148701	3.626540212	0.030183836	0.000523758	0.058171264	3.496067939
172	Chrysotile, in ground	mg	38.5874149	19.29587091	0.002185143	0.001947952	0.006872158	19.28053877
173	Cinnabar, in ground	mg	658.317648	657.6601468	0.000202058	0.00043967	0.000649599	0.656209929
174	Clay, bentonite, in ground	g	2.92435281	1.297756013	0.570769573	0.005440294	0.201875274	0.848511657
175	Clay, unspecified, in ground	oz	335.542235	230.966762	0.039864655	0.004016524	100.5895599	3.942031463
176	Coal, brown, in ground	oz	603.004493	584.0079748	0.263469391	0.017559912	1.510869665	17.20461884
177	Coal, hard, unspecified, in ground	oz	75.7427278	45.41294568	1.489123301	0.163260288	13.33004144	15.34735712
178	Cobalt	µg	703.42699	362.7363606	51.99285294	0.230429449	59.56398414	228.9033632
179	Cobalt	mg	125.79739	64.15206227	5.093642682	0.075840086	6.165002197	50.3108428
180	Cobalt	µg	3.49500715	1.819473894	0.0120236	0.00151789	0.126413223	1.535578545
181	Cobalt-57	mBq	4.93549678	3.247507197	0.003258422	0.012720826	1.267367001	0.404643329
182	Cobalt-58	µBq	18.2188898	11.98784522	0.012028133	0.046957637	4.678356376	1.493702411
183	Cobalt-58	mBq	806.719757	515.2477157	1.216330814	1.837287784	182.450828	105.9675946
184	Cobalt-60	µBq	160.946962	105.9014698	0.106257366	0.41482703	41.32892572	13.1954821
185	Cobalt-60	mBq	701.376851	450.1585875	0.960530395	1.631527581	162.1058553	86.52034994
186	Cobalt, in ground	µg	19.8280602	10.74311298	0.035821183	0.014099014	1.399175475	7.635851524
187	COD, Chemical Oxygen Demand	g	114.197948	57.86119822	0.294116395	0.142356362	1.584256341	54.31602096
188	Colemanite, in ground	mg	29.4324924	14.93854654	0.033285895	0.016684369	0.390584277	14.05339135
189	Copper	mg	14.3978227	7.715098685	0.199354883	0.009014291	0.994775928	5.479578885
190	Copper	mg	-650.140081	-649.3615339	0.004433233	0.006713898	0.112780368	-0.902474692
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	435.075214	231.5818141	0.963129949	5.695177606	27.92845938	168.9066329
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	g	2.36003785	1.272894099	0.00533118	0.001358856	0.154668412	0.925785304
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	626.033005	337.6529693	1.414171692	0.360456099	41.02800641	245.5774014
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	g	3.13042057	1.687378558	0.007016774	0.001789865	0.203456264	1.230779114
195	Copper, ion	mg	141.464373	75.33626426	2.188051952	1.105877798	10.14540228	52.68877639
196	Cumene	mg	11.9573979	6.006811307	0.008789668	0.000360251	0.054014528	5.887422119
197	Cumene	mg	28.7334358	14.43427067	0.021121408	0.000865663	0.129794691	14.1473834
198	Cyanide	µg	400.802168	187.0220232	42.49813073	4.841608587	16.70869803	149.7317069
199	Cyanide	mg	4.17183707	2.260337891	0.107317539	0.001365263	0.366143734	1.436672639
200	Cyanoacetic acid	µg	5.71376294	2.856907055	3.89797E-06	6.9787E-07	4.46741E-05	2.856806616
201	Cypermethrin	µg	34.93199	17.50390885	0.001552212	0.000821441	0.064550732	17.36115678
202	Diatomite, in ground	ng	572.966429	313.9052969	1.49317466	1.430819502	46.30353785	209.8335997
203	Dichromate	µg	45.8468229	25.52080469	0.167355022	0.271429623	4.528419038	15.35881457
204	Diethylamine	µg	929.837121	928.9085278	1.85424E-05	1.84278E-06	0.000271467	0.928301371

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
205	Diethylamine	µg	4.45802192	2.229389332	4.45026E-05	4.42274E-06	0.000651532	2.227932131
206	Dimethyl malonate	µg	7.16504444	3.582554304	4.88804E-06	8.75127E-07	5.60211E-05	3.582428354
207	Dimethylamine	µg	46.6147818	23.30774517	4.85734E-05	7.28156E-06	0.000614891	23.30636587
208	Dinitrogen monoxide	g	2.31697114	1.166551052	0.001116824	0.000407634	0.01427073	1.134624902
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	ng	22.4871354	14.95446738	0.384528585	0.008999351	6.22120175	0.917938346
210	Dipropylamine	ng	853.235417	426.7167586	0.011588019	0.001136074	0.170519442	426.3354151
211	Dipropylamine	µg	2.04780348	1.024139461	2.78114E-05	2.7266E-06	0.000409249	1.023224231
212	DOC, Dissolved Organic Carbon	g	147.40389	73.95098501	0.107173666	0.033981434	0.516151228	72.79559889
213	Dolomite, in ground	mg	698.024998	330.5491213	117.862426	0.441357327	67.86004367	181.3120493
214	Energy, gross calorific value, in biomass	MJ	13.5806706	6.870346447	0.011440675	0.006325261	0.142001543	6.550556677
215	Energy, gross calorific value, in biomass, primary forest	J	393.284814	220.0141851	0.940220868	0.506710791	39.7863427	132.0373546
216	Energy, kinetic (in wind), converted	kJ	459.718931	239.0730618	3.068447974	0.211423143	17.39829487	199.9677032
217	Energy, potential (in hydropower reservoir), converted	MJ	8.02353883	4.837254208	0.069019781	0.017468818	1.393523037	1.706272988
218	Energy, solar, converted	kJ	9.19300566	5.17284129	0.044650544	0.010173694	0.970472109	2.994868025
219	Ethane	mg	483.14319	245.3140911	1.756597142	2.203484921	9.126389299	224.7426277
220	Ethane, 1,1-difluoro-, HFC-152a	µg	3.32316397	1.863349513	0.016436989	0.003576622	0.340390747	1.099410102
221	Ethane, 1,1,1-trichloro-, HCFC-140	ng	15.4802974	9.046043015	0.050761538	0.021794454	2.161094908	4.200603531
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	µg	877.736978	469.95572	2.514335146	3.530885394	54.43138194	347.3046557
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	260.031035	130.3489046	0.058478951	0.028207426	0.602943526	128.9925001
224	Ethane, 1,2-dichloro-	µg	869.294652	441.8838176	0.864903515	0.317022881	12.55256129	413.6763468
225	Ethane, 1,2-dichloro-	µg	65.3750528	33.30910777	0.063442943	0.012951064	1.060967607	30.92858344
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	62.6520821	37.07603611	0.222287495	0.097362778	9.50400305	15.75239266
227	Ethane, hexafluoro-, HFC-116	µg	184.755045	100.6277521	0.570024119	0.044650603	13.82601094	69.68660694
228	Ethanol	mg	2.02470226	1.070994299	0.011347766	0.000815456	0.10367162	0.837873116
229	Ethanol	mg	640.618127	639.9783845	1.9902E-05	9.15855E-06	0.000211774	0.639502093
230	Ethene	mg	34.12302	17.34726852	1.038321069	0.197205147	1.434033772	14.10619149
231	Ethene	mg	11.9293207	5.996886834	0.008304968	0.00032794	0.060906401	5.862894567
232	Ethene, chloro-	µg	252.863177	131.1585854	0.369280179	0.202183856	8.033756894	113.0993707
233	Ethene, chloro-	µg	2.12116922	1.126015164	0.004235374	0.002896006	0.110685242	0.877337435
234	Ethene, tetrachloro-	ng	36.9163251	21.43659379	0.123155101	0.049934537	4.93468847	10.3719532
235	Ethyl acetate	mg	9.83485561	4.930631025	0.002258757	0.001076368	0.023804541	4.877084915
236	Ethyl acetate	µg	3.27743276	1.639126292	4.91806E-05	5.22663E-06	0.000706796	1.637545269
237	Ethyl cellulose	µg	19.890888	9.970923866	0.004471531	0.002157345	0.046084041	9.867251261
238	Ethylamine	µg	720.012348	719.2932322	1.26632E-05	4.5885E-07	0.000153358	0.718949084
239	Ethylamine	µg	3.45220238	1.726314395	3.03918E-05	1.10125E-06	0.000368061	1.725488433
240	Ethylene diamine	ng	287.95196	145.4282838	0.237220154	0.010197022	2.515543383	139.7607153
241	Ethylene diamine	ng	691.193724	349.0911327	0.570643064	0.02463709	6.0524202	335.4548905
242	Ethylene oxide	µg	221.220578	122.8684105	0.105690271	0.007057677	19.59781119	78.64160826
243	Ethylene oxide	µg	283.295639	141.6627198	0.001842708	0.000719373	0.026267825	141.6040892
244	Ethyne	mg	2.72136661	1.349798958	0.066083365	0.000179386	0.036036806	1.269268096
245	Feldspar, in ground	µg	3.89935725	2.363899817	0.0062436	0.003468653	0.579448063	0.946297118
246	Fenpiclonil	µg	302.043579	151.0824992	0.010260827	0.000220082	0.105263009	150.8453355
247	Fluoride	g	943.075756	942.1954076	0.010730753	0.002548254	0.06043155	0.806637715
248	Fluoride	mg	3.94674167	2.167966062	0.010623664	0.010814426	0.330160155	1.427177366
249	Fluorine	mg	4.06551584	2.339486465	0.033740138	0.006385389	0.525496185	1.160407666
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	18.6459978	9.575894762	0.179946727	0.011820177	0.561795534	8.316540634
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	mg	610.11838	305.1755082	0.079520322	0.00530808	0.255726131	304.6023169
252	Fluorspar, 92%, in ground	mg	612.328665	322.5812641	1.291029769	0.881357669	28.15424353	259.4207703
253	Fluosilicic acid	µg	194.888306	107.053795	0.661021529	0.049809643	16.10053108	71.02314831
254	Fluosilicic acid	µg	350.799841	192.6972765	1.189838753	0.089657357	28.98095596	127.8421124
255	Formaldehyde	mg	30.8384097	16.52808506	0.067119121	0.062409792	1.881342515	12.29945321
256	Formaldehyde	mg	38.5777182	19.29303923	0.001165062	6.56211E-05	0.00792425	19.27552407
257	Formamide	ng	607.122505	303.6668138	0.017832152	0.000392272	0.183033197	303.2544341
258	Formamide	µg	729.536651	728.8083492	4.27984E-05	9.41477E-07	0.000439292	0.72781861
259	Formate	mg	674.001542	673.3282329	1.28867E-06	1.79073E-07	1.6847E-05	0.673290475
260	Formic acid	µg	38.1054718	20.59103545	0.064018899	0.034343906	2.620362801	14.79571071
261	Formic acid	ng	422.983108	211.5650983	0.012423628	0.000273295	0.127518897	211.2777942
262	Furan	µg	7.27507494	4.069871969	0.01739234	0.009373207	0.73597345	2.442463975
263	Gallium, 0.014% in bauxite, in ground	ng	25.6356866	14.37912605	0.126591727	0.027664922	2.6334675	8.468836364
264	Gas, mine, off-gas, process, coal mining/m3	dm3	28.0955756	17.58770034	0.408434344	0.004067544	5.964688715	4.130684627

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
265	Gas, natural, in ground	gal*	796.98861	399.7572074	1.972655416	10.41963017	11.9438895	372.8952277
266	Glutaraldehyde	µg	79.5281411	41.23596805	0.211399629	0.262459663	2.764790263	35.05352349
267	Glyphosate	µg	242.8644	128.7899579	1.67983698	0.09894093	13.18470612	99.11095785
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	µg	19.4840231	9.7669856	0.004381286	0.002113465	0.045167351	9.665375365
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	35.7295322	17.91056314	0.00803433	0.003875636	0.082827114	17.724232
270	Gold, Au 1.4E-4%, in ore, in ground	µg	42.7802836	21.44497624	0.009619793	0.00464044	0.099171895	21.22187524
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	65.341812	32.75465983	0.014693219	0.007087781	0.151474646	32.41389656
272	Gold, Au 4.3E-4%, in ore, in ground	µg	16.1944595	8.117987328	0.003641575	0.001756639	0.037541548	8.033532391
273	Gold, Au 4.9E-5%, in ore, in ground	µg	38.7876147	19.44352442	0.008722037	0.004207375	0.089916844	19.24124402
274	Gold, Au 6.7E-4%, in ore, in ground	µg	60.0494473	30.10169376	0.01350313	0.006513701	0.139205813	29.78853091
275	Gold, Au 7.1E-4%, in ore, in ground	µg	67.7122601	33.94292183	0.015226179	0.007344873	0.156969004	33.58979824
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	4.05745024	2.033925863	0.000912385	0.00044012	0.009405911	2.012765958
277	Granite, in ground	ng	29.2951675	17.64895161	0.112203655	0.02115173	5.033086429	6.47977404
278	Gravel, in ground	lb	264.800157	180.0757361	0.030237647	0.006792225	83.02955182	1.657838981
279	Gypsum, in ground	µg	694.450338	370.3667494	8.916849153	0.693618019	45.50980674	268.963315
280	Heat, waste	MJ	275.805498	157.0807099	1.41345185	1.835566305	33.2494608	82.22630942
281	Heat, waste	MJ	850.430863	847.7264985	0.028767906	0.005449729	0.306628801	2.3635182
282	Heat, waste	kJ	202.996314	111.5684599	0.712425962	2.238713483	18.54608465	69.93062995
283	Helium	mg	9.9482118	6.233498503	0.014753838	0.003652637	2.022742052	1.673564774
284	Heptane	mg	26.0551521	15.28310143	0.048818078	0.00900315	3.65544243	7.058786983
285	Hexane	mg	496.395146	253.296865	0.160728504	0.025235068	8.310759082	234.6015581
286	Hydrocarbons, aliphatic, alkanes, cyclic	mg	3.88309886	1.86198319	0.000134717	0.161006875	0.00167578	1.858298302
287	Hydrocarbons, aliphatic, alkanes, unspecified	g	650.340672	649.6883994	0.005627544	0.000154073	0.002596146	0.643895107
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	13.9208116	7.979415602	0.027926211	0.004949533	1.660207736	4.248312521
289	Hydrocarbons, aliphatic, unsaturated	mg	9.89606153	5.127516994	0.110823765	0.003935507	0.380666985	4.273118277
290	Hydrocarbons, aliphatic, unsaturated	mg	744.155092	743.5996172	0.002577823	0.000456883	0.15325019	0.399189553
291	Hydrocarbons, aromatic	mg	34.1312786	16.13774653	1.695159216	0.885580005	0.590950478	14.82184232
292	Hydrocarbons, aromatic	mg	57.6974801	33.01394486	0.116038682	0.023230332	6.790231344	17.75403486
293	Hydrocarbons, chlorinated	µg	273.753051	148.2881569	0.653354543	19.69156209	36.28397006	68.83600694
294	Hydrocarbons, unspecified	mg	35.3967955	15.64151987	0.139689475	4.769244827	0.644761046	14.20158026
295	Hydrogen	mg	244.778772	122.1331823	0.065726062	1.765029797	1.06127867	119.7535552
296	Hydrogen-3, Tritium	Bq	644.479452	363.2635866	3.116198334	0.71545695	69.01775763	208.3664527
297	Hydrogen-3, Tritium	Bq	21814.9968	28.69067865	233.5965534	59.74983856	5785.116214	15707.84356
298	Hydrogen chloride	mg	672.850627	369.3724856	6.679850955	1.828177947	59.83569293	235.1344198
299	Hydrogen fluoride	mg	56.9253304	29.42807438	0.821411864	0.084894723	2.281963158	24.30898627
300	Hydrogen peroxide	µg	14.7383192	7.388435867	0.003344744	0.001604963	0.034814715	7.310118867
301	Hydrogen peroxide	µg	139.330431	73.30391695	0.050044356	0.044206943	4.929760782	61.00250233
302	Hydrogen sulfide	mg	65.0503092	32.37213614	1.276517409	0.331262499	1.051648628	30.01874456
303	Hydrogen sulfide	mg	4.61772905	2.668250696	0.053433208	0.004724398	0.527619747	1.363701005
304	Hydroxide	µg	412.141272	206.7852141	0.107247414	0.047548823	1.268916084	203.9323457
305	Hypochlorite	mg	1.94472313	1.021351405	0.012494034	0.001007445	0.089434479	0.820435764
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	29.4288338	15.67108318	0.079110565	0.079421381	1.722941634	11.87627701
307	Iodide	mg	11.8883619	6.73176673	0.023615626	0.003908918	1.284859792	3.844210824
308	Iodine	mg	912.338434	911.4958001	0.012184806	0.000751824	0.065577394	0.764120208
309	Iodine-129	mBq	117.429552	66.69811199	0.545674099	0.138246748	13.38266259	36.66485699
310	Iodine-131	Bq	4.12347876	2.149084427	0.027532036	0.001915207	0.163642327	1.781304763
311	Iodine-131	mBq	10.5955005	6.520986263	0.026810705	0.020308688	2.0054392	2.021955671
312	Iodine-133	mBq	774.480154	774.0571098	0.00130197	0.002874203	0.285711596	0.133156592
313	Iodine-133	mBq	905.549309	905.0788673	0.000908121	0.003545289	0.353214615	0.112773982
314	Iodine-135	µBq	412.27156	241.7225818	1.381895323	0.604474897	58.82822213	109.7343858
315	Iodine, 0.03% in water	mg	989.478695	988.4905554	2.55933E-05	1.32742E-06	0.000303237	0.987809581
316	Iron	mg	93.3260707	51.9365898	1.13662093	0.09531917	9.472319863	30.68522094
317	Iron	mg	515.449835	268.6970044	3.329129307	0.196581408	20.50066759	222.7264522
318	Iron-59	µBq	378.160263	248.825614	0.249661804	0.97467563	97.10624858	31.00406328
319	Iron, 46% in ore, 25% in crude ore, in ground	g	165.648783	65.87466566	46.15510196	0.153092973	10.21831095	43.24761113
320	Iron, ion	g	14.4993352	7.6938676	0.181502536	0.015189386	0.871067922	5.737707793
321	Isocyanic acid	µg	64.9798298	35.33228816	0.433343278	0.041609301	4.939588239	24.23300084
322	Isoprene	ng	337.59086	188.8574716	0.807073828	0.434954162	34.15209868	113.3392613

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
323	Isopropylamine	ng	716.127485	358.0772529	0.00151954	0.000128537	0.023234505	358.0253491
324	Isopropylamine	µg	860.246924	859.3876014	3.64696E-06	3.08493E-07	5.57639E-05	0.85926303
325	Kaolinite, 24% in crude ore, in ground	mg	39.1241748	23.1177358	0.549872777	0.026556407	6.130926307	9.299083501
326	Kieserite, 25% in crude ore, in ground	µg	230.938286	130.4717525	1.672319367	0.380745272	25.61250974	72.80095927
327	Krypton-85	Bq	34.3394418	18.15352268	0.218005491	0.019909645	1.769679086	14.17832493
328	Krypton-85m	Bq	12.6360103	8.242674086	0.011495311	0.031460965	3.130981078	1.219398888
329	Krypton-87	Bq	3.08363536	1.974612104	0.004427791	0.007107789	0.705524651	0.39196303
330	Krypton-88	Bq	3.86692162	2.501848622	0.004424097	0.00930954	0.92545387	0.42588549
331	Krypton-89	Bq	1.54226161	1.01125026	0.001173989	0.003920338	0.390409971	0.13550705
332	Lactic acid	ng	668.389718	334.2724486	0.00907737	0.000889934	0.133574837	333.9737267
333	Lactic acid	µg	803.054934	802.2530533	2.17858E-05	2.13586E-06	0.000320582	0.801536116
334	Lanthanum-140	µBq	71.9802324	47.36226109	0.047521421	0.185522855	18.4835118	5.901415237
335	Lanthanum-140	mBq	2.33369585	1.535548596	0.00154071	0.006014908	0.599261027	0.191330607
336	Lead	mg	9.52048075	5.234268984	0.334666971	0.01247329	1.037660495	2.901411009
337	Lead	mg	26.2988212	14.01639451	0.250233006	0.237250588	1.782223808	10.01271928
338	Lead	µg	720.021691	361.2671306	0.188103831	0.134410656	2.266237062	356.1658087
339	Lead-210	mBq	744.859458	390.2962467	6.677400852	0.348737745	34.33879167	313.1982808
340	Lead-210	Bq	7.19667937	3.60544976	0.003320009	0.000225863	0.014277508	3.573406234
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	118.889216	63.94033795	0.303696667	0.410625855	7.814647605	46.41990837
342	Linuron	mg	67.3311219	33.66585791	4.51874E-05	8.20529E-06	0.000518612	33.66469197
343	Lithium, 0.15% in brine, in ground	µg	17.5643997	8.785253745	0.000515887	1.13486E-05	0.005294734	8.773323977
344	Lithium, ion	µg	646.806301	347.3455525	0.987108563	0.151665132	41.19247646	257.129498
345	m-Xylene	µg	104.824356	56.02440297	0.596553571	0.06790335	6.334592443	41.80090362
346	m-Xylene	µg	684.200316	683.5186908	7.38021E-05	5.26128E-06	0.001632663	0.679913284
347	Magnesite, 60% in crude ore, in ground	g	10.7305523	6.766304026	0.626460956	0.001939429	2.733313516	0.602534348
348	Magnesium	mg	26.6074373	13.751788	0.437652496	0.012242947	1.082660787	11.32309308
349	Magnesium	g	43.5980494	23.05875455	0.526168564	0.023483269	2.457903261	17.5317398
350	Magnesium	mg	48.7115934	26.51718944	0.121457277	0.063142073	3.624209796	18.38559478
351	Magnesium, 0.13% in water	µg	117.481793	62.48489541	0.350390316	0.057623268	6.337896282	48.2509882
352	Mancozeb	µg	22.484784	13.20186963	0.331918642	0.006050991	3.396932247	5.548012479
353	Manganese	mg	2.77955733	1.513459645	0.076699864	0.002637381	0.262923119	0.923837321
354	Manganese	g	3.55636201	1.884184591	0.044771572	0.001910625	0.207227427	1.418267799
355	Manganese	mg	4.4523733	2.406401041	0.017879167	0.004526342	0.307598918	1.715967834
356	Manganese-54	µBq	6.70004775	4.408563147	0.004423378	0.017268794	1.720477828	0.549314603
357	Manganese-54	mBq	48.8493497	31.17314438	0.074728729	0.11084397	11.00555364	6.485078937
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	g	401.891436	400.8036921	0.792500963	0.000125037	0.088206273	0.206911572
359	Mercury	mg	803.967205	803.4000188	0.051941701	0.00036028	0.229962183	0.28492256
360	Mercury	mg	573.396088	572.8804585	0.022021693	0.0026243	0.065608998	0.425374799
361	Mercury	µg	57.6670721	28.8348079	0.000246794	4.65031E-05	0.002274477	28.82969643
362	Metaldehyde	µg	297.249559	148.6267646	0.000313698	3.82912E-05	0.003458352	148.6189837
363	Metamorphous rock, graphite containing, in ground	mg	10.4536338	5.741552941	0.035477903	0.002809267	0.862578145	3.811215498
364	Methane, biogenic	mg	262.124178	140.3895315	0.971782022	1.980638315	17.04542131	101.7368053
365	Methane, bromo-, Halon 1001	pg	0.09305795	0.050127564	0.000148271	2.27975E-05	0.006191295	0.036568025
366	Methane, bromochlorodifluoro-, Halon 1211	µg	123.311973	61.84760972	0.370120385	0.681824932	1.152285554	59.26013193
367	Methane, bromotrifluoro-, Halon 1301	µg	81.3280453	48.75834406	0.142211397	0.02870774	13.07018032	19.32860175
368	Methane, chlorodifluoro-, HCFC-22	µg	485.615433	227.833869	1.416056159	34.74834529	4.997146965	216.6200155
369	Methane, dichloro-, HCC-30	µg	10.8930925	5.432371095	0.001253621	0.08741277	0.048493718	5.323561306
370	Methane, dichloro-, HCC-30	mg	774.235157	773.5903057	0.00318077	0.001918505	0.107626167	0.532125997
371	Methane, dichlorodifluoro-, CFC-12	µg	734.849704	734.1247227	0.001637539	0.002413762	0.010457934	0.710472119
372	Methane, dichlorofluoro-, HCFC-21	ng	883.978772	883.1103156	0.000611411	0.000232878	0.011739459	0.855872674
373	Methane, fossil	g	47.6934126	26.13792877	0.280831802	0.973646311	4.650398242	15.65060746
374	Methane, monochloro-, R-40	ng	431.397579	251.7579169	1.416145059	0.581451638	59.76006497	117.8820003
375	Methane, tetrachloro-, CFC-10	µg	383.183265	191.7216137	0.117851609	0.005724795	0.313867441	191.0242075
376	Methane, tetrafluoro-, CFC-14	mg	825.167317	824.4908497	0.005091187	0.000383754	0.124003173	0.546989672
377	Methane, trichlorofluoro-, CFC-11	ng	2.84357578	1.433682797	0.000992593	0.000378064	0.019058384	1.389463942
378	Methane, trifluoro-, HFC-23	ng	557.315243	280.9889227	0.194539937	0.074097441	3.735282255	272.3224004
379	Methanesulfonic acid	µg	5.77392352	2.886987613	3.93901E-06	7.05218E-07	4.51444E-05	2.886886117
380	Methanol	mg	238.081855	119.3852237	0.033512231	0.001952764	0.581294425	118.0798718
381	Methanol	mg	14.2391946	7.12343802	0.005356203	0.009204539	0.017918727	7.08327716
382	Methyl acetate	ng	233.77044	116.8862627	0.000157942	2.8751E-05	0.001820931	116.8821693
383	Methyl acetate	ng	561.038788	280.5218971	0.000379053	6.90011E-05	0.004370156	280.5120731
384	Methyl acrylate	µg	6.21641893	3.116179578	0.001398025	0.00067434	0.014414253	3.08375273

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
385	Methyl acrylate	µg	121.4397	60.87554844	0.027310837	0.013173431	0.281586655	60.24208047
386	Methyl amine	µg	971.161751	970.1916557	5.01751E-06	2.03697E-06	8.38849E-05	0.970004464
387	Methyl amine	µg	4.65680051	2.328515756	1.20419E-05	4.88864E-06	0.000201319	2.328066507
388	Methyl borate	ng	163.337449	81.69028576	0.003639167	8.48195E-05	0.037387774	81.60605153
389	Methyl ethyl ketone	mg	9.83297742	4.92969173	0.00225873	0.001076364	0.023804189	4.876146409
390	Methyl formate	ng	184.636269	92.37683369	0.010127145	0.002717053	0.104091919	92.14249922
391	Methyl formate	ng	73.7146715	36.88077096	0.004043186	0.001084763	0.041557911	36.7872147
392	Methyl lactate	ng	733.75754	366.9639506	0.009965442	0.000976998	0.146642998	366.6360036
393	Metolachlor	mg	487.337037	243.6706679	0.000327012	5.9365E-05	0.003753153	243.66223
394	Metribuzin	ng	791.701756	464.8453406	11.68706799	0.213059271	119.6081603	195.3481279
395	Molybdenum	µg	243.199458	133.6974501	1.392590037	0.189541487	20.71076023	87.20911636
396	Molybdenum	mg	29.7599802	15.79131058	0.308656776	0.024629632	1.728136183	11.90724701
397	Molybdenum	µg	668.655066	668.0177993	0.002654308	0.000380907	0.027124582	0.607107348
398	Molybdenum-99	µBq	804.608712	529.4244325	0.531203806	2.073811037	206.6123374	65.96692712
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	58.1744309	31.35755441	0.130397646	0.033262322	3.780970914	22.87224565
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	mg	8.22297521	4.435089529	0.018575256	0.004734619	0.538906085	3.225669717
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	19.0884115	5.811680674	8.613579527	0.001231898	0.959604246	3.702315192
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	mg	30.1316942	16.25162437	0.068065469	0.017349105	1.974718134	11.8199371
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	38.3941796	11.66381159	17.38413772	0.002471704	1.936358066	7.407400485
404	Monoethanolamine	µg	411.654633	210.066402	0.240766649	0.044151466	7.262247506	194.0410651
405	Napropamide	µg	525.90197	262.9544976	0.000555003	6.77459E-05	0.00611861	262.9407314
406	Nickel	mg	13.6729822	7.005817579	0.124275192	0.151682088	0.493466147	5.897741146
407	Nickel	µg	-508.769801	-253.8361084	0.103801663	0.046484727	0.998658797	-256.0826383
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	mg	26.9469405	14.97016079	0.014740724	0.002132517	2.397989044	9.561917415
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	g	13.789341	5.83917289	2.883516216	0.003089836	0.633558214	4.430003854
410	Nickel, ion	mg	394.053632	200.5654797	21.31699032	0.346323941	23.08309903	148.7417387
411	Niobium-95	nBq	795.353699	523.3346797	0.525093435	2.049956246	204.2357013	65.20826838
412	Niobium-95	mBq	4.30321912	2.635014017	0.011253673	0.008049754	0.793084002	0.855817679
413	Nitrate	µg	737.758726	429.456948	3.358013039	0.991678424	100.8560615	203.0960254
414	Nitrate	g	71.4382806	35.82053315	0.042906527	0.002186329	0.198317964	35.37433666
415	Nitrite	mg	2.33130467	1.189684404	0.002266065	0.000662204	0.040991392	1.097700603
416	Nitrobenzene	µg	5.54021305	2.770580164	5.56254E-05	5.54435E-06	0.00081555	2.768756171
417	Nitrobenzene	µg	22.202352	11.10307409	0.000222918	2.22189E-05	0.003268311	11.09576445
418	Nitrogen	mg	36.457618	19.36378823	0.162807442	0.107373282	2.035634808	14.78801428
419	Nitrogen oxides	g	56.6999605	33.73402775	0.212848229	0.169582028	8.924851762	13.65865074
420	Nitrogen, organic bound	mg	30.2328268	16.72000726	0.453947411	0.009803185	2.938249668	10.11081931
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	11.4667575	6.361574373	0.043138543	0.158392431	1.168249448	3.735402699
422	Noble gases, radioactive, unspecified	kBq	1128.37291	640.8887725	5.24371738	1.328262153	128.5787745	352.3333791
423	o-Xylene	ng	12.7070085	6.844891322	0.020246467	0.003112992	0.845421349	4.993336398
424	Occupation, arable, non-irrigated	m2a	2.19813235	1.099080891	2.32604E-06	2.8333E-07	2.56385E-05	1.099023207
425	Occupation, construction site	cm2a	27.834953	14.06837215	0.113973169	0.019707254	0.350006651	13.2828938
426	Occupation, dump site	cm2a	149.546191	83.6194104	3.730248925	0.057565531	17.14073619	44.99822987
427	Occupation, dump site, benthos	cm2a	541.047817	536.0698121	0.027481952	0.034119756	0.359422734	4.556980327
428	Occupation, forest, intensive	cm2a	138.776977	71.64216039	0.45614023	0.013811603	4.119184846	62.5456801
429	Occupation, forest, intensive, normal	m2a	0.25987295	0.147491233	0.002416156	4.22301E-05	0.029974351	0.079948978
430	Occupation, forest, intensive, short-cycle	mm2a	98.6539656	55.18968271	0.235849955	0.127106004	9.980215782	33.12111111
431	Occupation, industrial area	cm2a	108.189203	60.48715306	1.546597029	0.06010796	11.28375605	34.81158912
432	Occupation, industrial area, benthos	mm2a	9.64120682	5.045143245	0.025362389	0.03326081	0.408606151	4.12883422
433	Occupation, industrial area, built up	cm2a	345.423321	178.85952	1.457741769	0.011540359	11.22956146	153.8649572
434	Occupation, industrial area, vegetation	cm2a	181.537587	118.820144	0.393077266	0.006606407	48.10680826	14.21095078
435	Occupation, mineral extraction site	cm2a	443.391172	295.2114386	1.017342716	0.029882272	126.7962689	20.33623971

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
436	Occupation, permanent crop, fruit, intensive	mm2a	107.84143	62.398923	0.316883018	0.184161041	14.41661267	30.52485069
437	Occupation, shrub land, sclerophyllous	mm2a	649.802201	331.6844376	10.59992538	0.480038882	20.10851331	286.9292859
438	Occupation, traffic area, rail embankment	cm2a	31.9995783	16.91504263	0.238669185	0.003187633	1.651492049	13.19118683
439	Occupation, traffic area, rail network	cm2a	35.3843933	18.7042575	0.263913039	0.003524787	1.826170073	14.58652795
440	Occupation, traffic area, road embankment	cm2a	34.7886143	19.40365688	0.263538318	0.028780044	3.444977471	11.64766157
441	Occupation, traffic area, road network	cm2a	197.757637	116.966841	1.091520461	0.161638357	30.91280594	48.62483169
442	Occupation, urban, discontinuously built	cm2a	766.093811	758.5093471	3.58554E-05	5.58494E-06	0.000540455	7.583882342
443	Occupation, water bodies, artificial	cm2a	171.0154	102.8097887	0.516905105	0.080700046	30.02989725	37.57810921
444	Occupation, water courses, artificial	cm2a	97.8682347	56.75789351	0.883708105	0.070544492	13.28600005	26.87008851
445	Oil, crude, in ground	oz	81.843798	46.04607243	0.129501847	1.084228963	9.174253361	25.40974139
446	Oils, biogenic	mg	5.17610574	2.806340427	0.034525931	0.00064246	0.376910026	1.957686894
447	Oils, unspecified	g	5.69118916	3.109573771	0.015037752	0.00331099	0.4411006	2.122166049
448	Oils, unspecified	g	5.66462122	3.062793406	0.013157524	0.001955129	0.38555995	2.201155209
449	Olivine, in ground	mg	652.973395	652.2308554	0.00015212	0.093977031	0.003095754	0.645314752
450	Orbencarb	µg	4.27528187	2.510217886	0.063111328	0.001150541	0.645895949	1.054906162
451	Ozone	mg	38.9567673	21.89109638	0.187410938	0.041988617	4.049752038	12.78651934
452	PAH, polycyclic aromatic hydrocarbons	mg	941.212324	940.3944998	0.03460739	0.004717465	0.133459589	0.645039573
453	PAH, polycyclic aromatic hydrocarbons	µg	668.82764	359.835184	37.67082818	0.222641628	71.35215564	199.7468304
454	Particulates, < 2.5 um	g	3.22203524	1.814855963	0.093223864	0.007620992	0.41020347	0.896130949
455	Particulates, > 10 um	g	8.04241623	4.76116916	0.25572124	0.010206549	1.392204184	1.623115096
456	Particulates, > 2.5 um, and < 10um	g	7.42076962	3.934355358	0.170231823	0.0118223	0.503281319	2.801078815
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	µg	9.33541003	4.752578416	0.004760611	0.001023872	0.141739992	4.435307136
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	22.434706	11.42131904	0.011440603	0.002460548	0.340626646	10.65885919
459	Peat, in ground	g	5.67275156	2.825031999	0.00018484	0.024698774	0.001784447	2.821051496
460	Pentane	mg	588.5745	120.9006375	0.590659039	375.3129859	23.45786236	68.31235539
461	Phenol	µg	577.328196	324.1742192	1.77110682	0.061832068	60.97446873	190.3465694
462	Phenol	mg	14.7311977	8.061263268	0.020793181	0.015434893	1.145139807	5.488566588
463	Phenol, 2,4-dichloro-	ng	999.262109	499.6573792	0.00155526	0.000597188	0.045008628	499.5575686
464	Phenol, pentachloro-	µg	22.1594098	11.52532591	0.148014898	0.010121034	0.841101654	9.634846265
465	Phosphate	g	13.538177	7.120733343	0.190223461	0.009278216	0.722956349	5.494985668
466	Phosphine	ng	4.73598974	2.374066883	0.001065082	0.000513744	0.010981463	2.349362571
467	Phosphorus	µg	725.220257	379.5846264	8.802607769	1.566702893	35.6404305	299.6258891
468	Phosphorus	mg	61.5780404	29.92303774	0.042612597	1.813850858	0.10073713	29.69780209
469	Phosphorus	mg	3.83279302	2.081889584	0.012570449	0.004518337	0.279778837	1.454035817
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	g	2.43274557	1.217220823	0.000318581	2.14737E-05	0.001528707	1.213655982
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	74.5839913	38.30357904	0.719786908	0.047280708	2.247182134	33.26616253
472	Pirimicarb	µg	421.911695	210.957708	0.000283111	5.13952E-05	0.00324929	210.950403
473	Platinum	ng	1.80422287	1.0366372	0.007866863	0.002335177	0.224489291	0.532894338
474	Plutonium-238	nBq	16.0193607	9.098736564	0.074438779	0.018859094	1.825611776	5.001714492
475	Plutonium-alpha	nBq	36.7223157	20.85768077	0.170641438	0.043232076	4.184982927	11.46577848
476	Polonium-210	Bq	681.552087	680.9291789	0.012016858	0.000575068	0.056700727	0.553615717
477	Polonium-210	Bq	10.8807903	5.449049772	0.004397479	0.000297339	0.017691263	5.40935449
478	Polychlorinated biphenyls	µg	2.62564918	1.042584635	0.738721899	0.002214997	0.164844803	0.677282851
479	Potassium	mg	37.6373184	20.36012687	0.295702137	0.032967363	2.741448111	14.20707392
480	Potassium	mg	25.2819373	13.74422249	0.078945343	0.030579056	1.861739286	9.566451102
481	Potassium-40	mBq	167.754715	85.82502945	1.744740373	0.045537901	4.56087675	75.578531
482	Potassium-40	Bq	550.705085	550.1660649	0.001843303	0.00012926	0.010523569	0.526524328
483	Potassium, ion	g	26.8773244	14.26146004	0.327904026	0.036178624	1.608691406	10.64309034
484	Propanal	µg	23.0823246	11.95769179	0.002791256	0.012703811	0.723606206	10.38553149
485	Propanal	µg	577.44189	576.8654258	3.38762E-05	7.45204E-07	0.000347713	0.576082018
486	Propane	mg	255.829261	137.8629347	0.855493742	0.782638635	17.23888214	99.08931186
487	Propene	mg	14.3981147	7.580841951	0.106899471	0.144815304	0.813729318	5.751828632
488	Propene	mg	11.7054238	5.881942384	0.008208986	0.000739002	0.055551638	5.758981789
489	Propionic acid	µg	900.776001	451.0699595	4.000890908	8.681419531	11.27587134	425.7478599
490	Propionic acid	µg	5.66397445	2.832066696	6.26939E-06	1.83418E-06	0.000136453	2.8317632
491	Propylamine	ng	192.265412	96.16613507	0.005647081	0.000124225	0.0579629	96.03554281
492	Propylamine	ng	461.44333	230.8018938	0.013552845	0.000298137	0.139109441	230.4884758
493	Propylene oxide	µg	111.307656	57.11026528	0.189128854	0.219202584	2.656194104	51.13286539

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
494	Propylene oxide	µg	267.650723	137.3295547	0.455040902	0.527434802	6.390834727	122.9478575
495	Protactinium-234	mBq	18.3712202	10.67491081	0.074489386	0.025388304	2.474916882	5.121514779
496	Protactinium-234	mBq	338.411456	196.6339269	1.373546273	0.467626287	45.58117256	94.35518383
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	260.575597	136.530302	0.425935979	0.090444012	10.46949299	113.059422
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	934.137948	489.4478235	1.526944632	0.324234168	37.53225112	405.3066943
499	Radioactive species, alpha emitters	mBq	9.04347828	4.536716515	0.006182278	0.000507074	0.02950024	4.470572176
500	Radioactive species, Nuclides, unspecified	Bq	114.365731	64.95563051	0.531523359	0.134617034	13.02987617	35.71408429
501	Radioactive species, other beta emitters	mBq	919.515747	503.7578452	2.398144733	2.295257897	74.2975439	336.7669549
502	Radium-224	Bq	5.35416223	3.069007959	0.01074085	0.001903667	0.638541437	1.633968312
503	Radium-226	mBq	802.846513	453.6311789	4.115442777	0.901882577	87.96774169	256.2302674
504	Radium-226	Bq	227.065705	131.2261962	0.874623961	0.294118275	29.38533585	65.28543061
505	Radium-228	mBq	374.462453	187.4987568	5.553290885	0.024832413	4.910654015	176.4749194
506	Radium-228	Bq	10.7093782	6.138584278	0.02148341	0.003807596	1.277154251	3.268348661
507	Radon-220	Bq	4.47080308	2.328966109	0.029545906	0.002024967	0.17535825	1.934907849
508	Radon-222	kBq	2425.49234	1409.329692	9.844672403	3.351516777	326.6896191	676.2768391
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	133.256531	68.92843932	0.137942968	0.022366022	3.8419804	60.32580181
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	417.374905	215.8918558	0.432052864	0.070052892	12.03351393	188.9474294
511	Rhenium, in crude ore, in ground	ng	75.3721785	41.87636674	0.126678224	0.023312001	6.867163856	26.47865764
512	Rubidium	mg	614.257667	613.8006371	0.00214817	0.000380733	0.127708287	0.326792708
513	Ruthenium-103	nBq	174.744422	114.9800594	0.115366468	0.450388819	44.87192173	14.32668516
514	Ruthenium-103	µBq	169.779722	111.7133416	0.112088785	0.437592798	43.59706316	13.91963578
515	Sand, unspecified, in ground	mg	73.3723966	28.85270092	0.066867103	16.26561639	0.539081559	27.64813061
516	Scandium	µg	228.852186	132.3914231	1.069838806	0.3072303	29.99335847	65.09033539
517	Scandium	mg	11.6341007	6.254692501	0.126347624	0.007214223	0.809230362	4.436615976
518	Selenium	µg	643.333769	346.2327845	3.31172942	0.271065832	42.21504849	251.3031403
519	Selenium	mg	17.5150198	9.301631221	0.207413228	0.01590563	1.051269977	6.938799767
520	Shale, in ground	mg	11.7143049	5.526979554	0.001147023	0.687478489	0.022888131	5.475811709
521	Silicon	mg	99.2544457	50.48131087	1.764252472	0.115666504	2.887361436	44.00585441
522	Silicon	g	153.161854	76.51783361	4.318501775	0.118267815	3.46876427	68.73848665
523	Silicon	mg	20.2425822	10.70590401	0.067434861	0.014411564	1.005006591	8.449825218
524	Silicon tetrafluoride	ng	546.175402	280.7016858	5.434390333	0.356712901	16.92869059	242.753922
525	Silver	µg	9.84488162	5.691868762	0.040287049	0.042892223	1.304000211	2.765833379
526	Silver-110	µBq	1.73185064	1.139540238	0.00114337	0.004463698	0.444715102	0.14198823
527	Silver-110	mBq	677.451059	435.5498267	0.897840257	1.587298293	157.7637548	81.65233919
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	432.573626	217.0075426	0.110483244	0.049642008	1.282862406	214.1230954
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	308.602389	154.8177483	0.079009523	0.035444761	0.919205608	152.7509806
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	28.490116	14.29256732	0.007280029	0.003269359	0.084559717	14.10243958
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	65.0679259	32.64246873	0.016626746	0.007466839	0.193124646	32.2082389
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	63.7775478	31.99512776	0.016296998	0.007318753	0.18929451	31.56950977
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	42.0841836	21.11226987	0.010753645	0.004829311	0.124906803	20.83142402
534	Silver, ion	µg	770.322066	415.66613	6.858796909	1.110664725	55.40898695	291.277488
535	Sodium	mg	11.907802	6.418227079	0.103174777	0.014632524	0.84080964	4.530958012
536	Sodium	mg	115.225722	62.79058093	0.255915677	0.157786275	8.65955621	43.3618825
537	Sodium-24	mBq	6.08788537	4.005767072	0.00401923	0.015691007	1.56328402	0.499124044
538	Sodium chlorate	µg	7.33150796	3.904491433	0.017131876	0.006089528	0.40256947	3.001225651
539	Sodium chloride, in ground	g	696.307006	348.3720973	0.14578034	0.142918001	0.589574379	347.0566363
540	Sodium dichromate	µg	12.5700221	6.998086538	0.045166864	0.07319586	1.237576001	4.215996826
541	Sodium formate	µg	3.02404711	1.539947404	0.009730345	0.000167658	0.054011539	1.420190166
542	Sodium formate	µg	7.26498945	3.699580067	0.02337656	0.000402787	0.129759428	3.411870606
543	Sodium hydroxide	µg	54.9584858	27.55028681	0.012405958	0.005971229	0.128413531	27.26140823
544	Sodium nitrate, in ground	ng	37.9096358	8.879849246	0.039320975	21.19707335	0.883546679	6.909845529
545	Sodium sulphate, various forms, in ground	mg	143.085004	74.12467932	0.25594325	0.094813368	4.438067536	64.17150069
546	Sodium, ion	g	76.9444092	41.9362973	0.543351656	0.056786395	6.030666064	28.37730777
547	Solids, inorganic	g	4.94910022	2.554472024	0.039460072	0.002082366	0.161573084	2.191512674

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
548	Solved solids	g	958.965326	957.8285491	0.215399948	0.034079923	0.057385142	0.829911524
549	Stibnite, in ground	ng	59.5441191	32.62180539	0.155173053	0.148693007	4.811936293	21.80651136
550	Strontium	mg	836.193256	835.4053401	0.022406831	0.000522146	0.05658795	0.708398917
551	Strontium	g	782.865306	782.1866541	0.016114683	0.000679816	0.096334515	0.565522654
552	Strontium	µg	554.349452	302.8936797	1.264039998	0.759384843	42.99009044	206.4422568
553	Strontium-89	mBq	14.7013917	9.517268066	0.016391385	0.035475035	3.527272925	1.604984244
554	Strontium-90	Bq	113.940027	59.38181121	0.760911372	0.052870079	4.519055286	49.22537904
555	Styrene	mg	38.6305729	37.30417069	0.000195282	1.299508995	0.008954105	0.017743812
556	Sulfate	g	5.9628092	2.987356203	0.000770927	0.000110916	0.010261037	2.964310117
557	Sulfate	g	462.225041	240.3859346	4.010698741	0.250122264	18.26104608	199.3172398
558	Sulfide	µg	751.658966	388.31888	1.302085588	5.419861638	25.42371575	331.1944227
559	Sulfite	mg	5.27907854	2.771772572	0.033938229	0.002910258	0.241726011	2.228731474
560	Sulfur	mg	78.8734924	40.09486771	0.036061438	0.008929308	1.100424058	37.63320985
561	Sulfur	mg	37.0303314	20.07963362	0.082200443	0.0464976	2.619524072	14.20247566
562	Sulfur dioxide	g	54.8511684	29.2362127	0.227584374	0.2185453	3.247917298	21.92090871
563	Sulfur hexafluoride	µg	487.77749	264.8087378	2.262863426	0.418327205	35.75849445	184.5290671
564	Sulfur trioxide	µg	49.1825535	24.59510384	0.000450372	4.50949E-05	0.006590365	24.58036384
565	Sulfur, in ground	mg	58.5536103	26.58100047	0.021142203	5.703685856	0.269761895	25.97801991
566	Sulfuric acid	µg	11.5085133	5.769605324	0.002635256	0.001258075	0.027684933	5.707329715
567	Sulfuric acid	ng	7.10393052	3.561073277	0.001597623	0.000770616	0.016472193	3.524016809
568	Suspended solids, unspecified	g	4.08507175	2.068436497	0.025637268	0.058179077	0.109621992	1.823196911
569	Sylvite, 25 % in sylvinite, in ground	g	9.33043941	4.665686703	3.96242E-05	0.000194952	0.000952357	4.663565775
570	t-Butyl methyl ether	µg	16.7419047	10.40890809	0.046547364	0.002092298	3.428971573	2.855385359
571	t-Butyl methyl ether	µg	211.890392	112.9411697	0.401253836	0.059219176	11.70637712	86.78237199
572	t-Butylamine	µg	4.36906878	2.184565932	4.18099E-06	5.80989E-07	5.46586E-05	2.184443431
573	t-Butylamine	µg	10.4859205	5.243035959	1.00345E-05	1.39439E-06	0.000131183	5.242741953
574	Talc, in ground	mg	8.73655309	4.791940458	0.07105645	0.001015116	0.719379625	3.153161444
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	341.064751	171.0754953	0.085112551	0.038721289	0.969118028	168.8963041
576	Tebutam	mg	623.703158	623.0800949	1.3151E-06	1.60526E-07	1.44983E-05	0.623047475
577	Technetium-99m	mBq	18.4988099	12.17026211	0.012290676	0.047651805	4.747430772	1.521174501
578	Teflubenzuron	ng	52.7803292	30.98979544	0.779137866	0.014203951	7.973877352	13.02331459
579	Tellurium-123m	mBq	3.63620932	2.090150774	0.015709696	0.004669308	0.453758795	1.071920746
580	Tellurium-132	µBq	46.5884373	30.65472219	0.03075775	0.120077756	11.96326249	3.819617069
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	46.291256	23.22311236	0.011851626	0.005316803	0.137883142	22.91309203
582	Terpenes	µg	3.19216729	1.785784708	0.007631465	0.004112805	0.322932708	1.0717056
583	Thallium	µg	278.451775	190.9138681	0.160492239	0.003303067	82.36362551	5.01048592
584	Thallium	mg	618.063248	617.5101107	0.013414574	0.000588687	0.062936728	0.476197582
585	Thiram	ng	14.5330518	8.130182035	0.034743935	0.018724459	1.470222737	4.879178605
586	Thorium	µg	10.1060906	5.014865689	0.220785746	0.000452876	0.116834428	4.753151893
587	Thorium-228	mBq	48.4618218	24.59974149	0.58040612	0.009524326	1.065216522	22.20693333
588	Thorium-228	Bq	21.5025234	12.31900521	0.042988519	0.007616333	2.554245566	6.578667725
589	Thorium-230	mBq	92.8007011	51.90956929	0.28505806	0.09434062	9.16319885	31.34853429
590	Thorium-230	Bq	46.1734201	26.8290201	0.187406984	0.063803043	6.219106131	12.87408383
591	Thorium-232	mBq	49.6313055	25.43124032	0.491858965	0.014246451	1.393393723	22.30056607
592	Thorium-232	mBq	45.2496451	23.59738211	0.297500739	0.021035878	1.81531464	19.51841177
593	Thorium-234	mBq	18.3750595	10.67715338	0.074503683	0.025393804	2.475452014	5.122556652
594	Thorium-234	mBq	338.455438	196.6593695	1.373699106	0.467685076	45.58689296	94.36779139
595	Tin	µg	596.332222	336.7662365	27.36284803	0.228591304	83.83657243	148.1379735
596	Tin	µg	3.81388624	1.911405807	0.001231524	0.000447357	0.008533522	1.892268025
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	23.0669102	12.98762345	0.045696513	0.002051141	2.427858866	7.603680192
598	Tin, ion	mg	11.4953717	6.051314329	0.104219196	0.058541739	0.624430469	4.656865953
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	oz	757.7719	731.9536456	4.6736E-05	1.27076E-05	0.000576651	25.81761813
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	3.10774641	1.588196998	0.002865776	0.002594804	0.061492869	1.452595964
601	Titanium	mg	6.06921074	3.356045441	0.058119519	0.005759777	0.568257606	2.081028401
602	Titanium	µg	151.470799	81.13773091	0.88553029	0.10269758	9.465500029	59.87934025
603	Titanium, ion	g	27.5180889	13.76937115	0.003602941	0.000167755	0.019652053	13.72529497
604	TOC, Total Organic Carbon	g	147.435794	73.96761547	0.107220939	0.035090074	0.518163247	72.80770422
605	Toluene	mg	32.6055503	17.8648507	0.132845199	0.170412922	2.745955705	11.69148579
606	Toluene	mg	14.2008441	8.061542215	0.026701845	0.004779294	1.566657026	4.541163721
607	Toluene, 2-chloro-	µg	2.80123392	1.40076226	1.72749E-05	1.77809E-06	0.000250321	1.400202289
608	Toluene, 2-chloro-	µg	4.74998436	2.375291492	3.54327E-05	3.5851E-06	0.000515543	2.374138309
609	Transformation, from arable	mm2	6.45943913	3.650717732	0.049153127	0.005746262	0.719889167	2.033932838
610	Transformation, from arable, non-irrigated	dm2	406.260699	203.133063	0.000428754	5.23403E-05	0.00472678	203.1224283
611	Transformation, from arable, non-irrigated, fallow	mm2	1.09043991	0.620578573	0.011216132	0.000224192	0.130027147	0.328393861
612	Transformation, from dump site, inert material landfill	mm2	33.0226046	18.3815884	0.32594187	0.018908015	3.348391242	10.94777506

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
613	Transformation, from dump site, residual material landfill	mm2	95.9828439	47.41816747	1.789312567	0.06990258	0.580377563	46.12508368
614	Transformation, from dump site, sanitary landfill	mm2	0.6548297	0.377484606	0.001459819	0.00047546	0.068555206	0.206854611
615	Transformation, from dump site, slag compartment	mm2	0.14555991	0.083263164	0.00040792	0.006609877	0.023450035	0.031828915
616	Transformation, from forest	cm2	26.4190209	14.6246346	0.058610361	0.038044928	2.348422144	9.349308897
617	Transformation, from forest, extensive	cm2	21.0025711	11.80349128	0.173732157	0.003288861	2.221389017	6.800669767
618	Transformation, from forest, intensive, clear-cutting	mm2	3.52336206	1.971064104	0.00842325	0.00453952	0.356437868	1.182897317
619	Transformation, from industrial area	mm2	21.276176	11.36866182	0.069804153	0.073762796	1.289703768	8.474243473
620	Transformation, from industrial area, benthos	mm2	0.07616991	0.038189943	0.000227024	0.000423379	0.000690654	0.036638906
621	Transformation, from industrial area, built up	mm2	0.02579149	0.013255296	0.000256624	1.68448E-05	0.00079941	0.011463318
622	Transformation, from industrial area, vegetation	mm2	0.04399755	0.022612124	0.00043777	2.87352E-05	0.0013637	0.019555221
623	Transformation, from mineral extraction site	cm2	948.674294	944.1038521	0.009759718	0.000405178	4.147419614	0.41285727
624	Transformation, from pasture and meadow	mm2	306.542319	159.5945925	3.920414645	0.257099136	13.59480392	129.1754083
625	Transformation, from pasture and meadow, intensive	cm2	33.1548132	16.57762805	3.49894E-05	4.27095E-06	0.00038574	16.57676018
626	Transformation, from sea and ocean	cm2	541.88823	536.9035865	0.02751338	0.034130013	0.360848249	4.562151605
627	Transformation, from shrub land, sclerophyllous	mm2	167.412085	88.91906659	2.574026991	0.135667917	10.59414131	65.18918171
628	Transformation, from tropical rain forest	mm2	3.52336206	1.971064104	0.00842325	0.00453952	0.356437868	1.182897317
629	Transformation, from unknown	cm2	55.1669064	36.47359435	0.157339821	0.003476183	15.45300354	3.079492506
630	Transformation, to arable	mm2	291.154829	168.4458143	0.945345742	0.710525372	37.73304773	83.32009591
631	Transformation, to arable, non-irrigated	dm2	406.592227	203.2988289	0.000429104	5.23831E-05	0.004730639	203.2881856
632	Transformation, to arable, non-irrigated, fallow	mm2	36.1251114	24.72596467	0.01623696	0.000660042	10.61711718	0.765132548
633	Transformation, to dump site	mm2	96.5878572	55.65386492	2.565162829	0.027023037	13.80668605	24.53512036
634	Transformation, to dump site, benthos	cm2	541.047817	536.0698121	0.027481952	0.034119756	0.359422734	4.556980327
635	Transformation, to dump site, inert material landfill	mm2	33.0226046	18.3815884	0.32594187	0.018908015	3.348391242	10.94777506
636	Transformation, to dump site, residual material landfill	mm2	95.9836501	47.41858199	1.78931336	0.069902652	0.580396651	46.12545549
637	Transformation, to dump site, sanitary landfill	mm2	0.6548297	0.377484606	0.001459819	0.00047546	0.068555206	0.206854611
638	Transformation, to dump site, slag compartment	mm2	0.14555991	0.083263164	0.00040792	0.006609877	0.023450035	0.031828915
639	Transformation, to forest	cm2	871.98507	867.6127618	0.023242871	0.001099639	3.708433033	0.639532652
640	Transformation, to forest, intensive	mm2	92.4155513	47.70918712	0.303767523	0.009201885	2.744139384	41.64925539
641	Transformation, to forest, intensive, clear-cutting	mm2	3.52336206	1.971064104	0.00842325	0.00453952	0.356437868	1.182897317
642	Transformation, to forest, intensive, normal	cm2	19.8434509	11.19435844	0.168853809	0.003136722	2.169097956	6.308003994
643	Transformation, to forest, intensive, short-cycle	mm2	3.52336206	1.971064104	0.00842325	0.00453952	0.356437868	1.182897317
644	Transformation, to heterogeneous, agricultural	mm2	121.923086	67.75698475	0.280652011	0.187896646	11.27698047	42.42057217
645	Transformation, to industrial area	mm2	165.323385	96.19836435	3.339917322	0.099162355	23.98711893	41.69882245
646	Transformation, to industrial area, benthos	mm2	1.50160609	0.835766417	0.003142799	0.001025645	0.142551499	0.519119726
647	Transformation, to industrial area, built up	mm2	265.681782	145.3862097	2.94168675	0.027462722	22.88031031	94.44611215
648	Transformation, to industrial area, vegetation	mm2	367.750428	240.2631628	0.796412024	0.015091706	96.69566238	29.98009865
649	Transformation, to mineral extraction site	cm2	60.1377912	37.75505325	0.105338042	0.030693416	13.25453609	8.9921704
650	Transformation, to pasture and meadow	mm2	16.2985396	8.170446337	0.037302077	0.062232554	0.1139369	7.914621701
651	Transformation, to permanent crop, fruit, intensive	mm2	1.51810177	0.878399763	0.004460805	0.00259246	0.202944603	0.429704144
652	Transformation, to sea and ocean	mm2	0.07616991	0.038189943	0.000227024	0.000423379	0.000690654	0.036638906

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
653	Transformation, to shrub land, sclerophyllous	mm2	129.806162	66.26066561	2.117122176	0.095895932	4.020774049	57.31170422
654	Transformation, to traffic area, rail embankment	mm2	7.44609709	3.936020988	0.055536484	0.000741738	0.384289497	3.069508388
655	Transformation, to traffic area, rail network	mm2	8.18453896	4.326364006	0.061044233	0.000815299	0.42240134	3.373914084
656	Transformation, to traffic area, road embankment	mm2	22.8554552	12.76836819	0.175702232	0.009292592	2.290413773	7.611678438
657	Transformation, to traffic area, road network	mm2	284.508347	175.6501912	1.461680494	0.083279099	56.63229233	50.68090335
658	Transformation, to unknown	mm2	185.449434	123.4888879	0.245631935	0.016036292	49.18809885	12.51077877
659	Transformation, to urban, discontinuously built	mm2	30.2167803	15.10901683	7.14216E-05	1.11248E-05	0.001076551	15.10660434
660	Transformation, to water bodies, artificial	mm2	797.280392	531.863447	0.464911585	0.070639747	231.9800848	32.9013086
661	Transformation, to water courses, artificial	mm2	106.448424	62.26470378	1.034525409	0.084644371	15.36855963	27.69599068
662	Tributyltin compounds	µg	602.111538	308.051934	3.366606218	0.053387048	13.97565577	276.6639554
663	Triethylene glycol	mg	699.054579	698.3598792	0.00412469	0.007607616	0.012356698	0.670610332
664	Trimethylamine	ng	413.657239	206.8304689	0.000279839	5.09669E-05	0.003229046	206.8232103
665	Trimethylamine	ng	992.777375	496.3931261	0.000671615	0.000122321	0.007749712	496.3757053
666	Tungsten	µg	25.0973495	14.58280485	0.101864939	0.034680101	3.380390921	6.9976087
667	Tungsten	mg	13.4547722	7.106730843	0.147846825	0.00656233	0.734690194	5.458942022
668	Ulexite, in ground	mg	523.199827	522.7113878	0.005627648	0.000405861	0.032305472	0.450100058
669	Uranium	µg	13.2604226	6.598938707	0.240015995	0.000434916	0.143205821	6.277827148
670	Uranium-234	mBq	238.396213	136.5080339	0.875925332	0.29552936	28.77398915	71.94273497
671	Uranium-234	mBq	406.09642	235.9620488	1.64825553	0.561151545	54.69740712	113.227557
672	Uranium-235	mBq	10.3554832	6.017044496	0.042030516	0.014309364	1.394783882	2.887314955
673	Uranium-235	mBq	670.058807	389.3372373	2.719621624	0.925900049	90.25072174	186.8253259
674	Uranium-238	mBq	367.459597	202.6230931	2.198181043	0.331977119	32.40419871	129.9021473
675	Uranium-238	Bq	4.70955462	2.441156532	0.005821179	0.00152596	0.144790751	2.116260197
676	Uranium alpha	mBq	997.383672	579.514816	4.048994401	1.377955641	134.3157283	278.1261781
677	Uranium alpha	Bq	19.4965343	11.32842384	0.079133242	0.02694026	2.62596327	5.436073718
678	Uranium, in ground	mg	76.3549942	44.13557081	0.303293318	0.291752197	10.05824967	21.56612823
679	Urea	µg	926.180923	925.2561329	3.92821E-05	9.2097E-07	0.000403653	0.924346711
680	Vanadium	mg	9.64870416	5.192089386	0.053567122	0.003280949	0.634120073	3.765646632
681	Vanadium	µg	4.33559795	2.322430691	0.025346681	0.002939528	0.270932394	1.713948661
682	Vanadium, ion	mg	140.155791	70.64032066	2.029417846	0.061839592	2.588087816	64.8361251
683	Vermiculite, in ground	mg	5.98760682	4.248925249	0.002819243	6.73915E-05	1.653336346	0.08245859
684	VOC, volatile organic compounds, unspecified origin	mg	38.3029697	21.95968842	0.078620378	0.014432076	4.577490783	11.67273803
685	Volume occupied, final repository for low-active radioactive waste	mm3	153.752971	89.31811144	0.625061469	0.212147837	20.67752703	42.92012367
686	Volume occupied, final repository for radioactive waste	mm3	36.1753441	20.7811594	0.157520714	0.046259444	4.494093467	10.69631108
687	Volume occupied, reservoir	m3day	49.3762	29.74146762	0.137234314	0.090473345	8.309309637	11.09771505
688	Volume occupied, underground deposit	mm3	205.549714	105.0184599	4.584303229	0.360085333	7.629003005	87.95786232
689	Water	mg	809.629021	496.7631917	15.6946178	0.163347989	159.1654733	137.8423902
690	Water, cooling, unspecified natural origin/m3	dm3	223.271675	112.2011679	0.700532674	4.816714693	5.335173307	100.2180865
691	Water, lake	cu.in	384.851351	273.0862425	0.181048458	0.00433673	106.2503564	5.329366544
692	Water, river	dm3	49.9993002	30.58341322	0.193895144	0.05887389	8.214323358	10.94879455
693	Water, salt, ocean	cu.in	368.068843	196.6699066	1.556119781	1.739740214	22.96379177	145.1392851
694	Water, salt, sole	cu.in	286.147118	148.3508883	0.161895459	0.028493652	8.622203444	128.9836367
695	Water, turbine use, unspecified natural origin	cu.yd	69.5051137	37.22014535	0.967999877	0.08562969	13.97685308	17.25448574
696	Water, unspecified natural origin/m3	dm3	277.223127	173.8774348	0.789673069	0.147335825	61.16567974	41.2430038
697	Water, well, in ground	dm3	806.816739	799.892447	0.084706308	0.004165632	4.263485775	2.571934562
698	Wood, hard, standing	cm3	42.4319352	24.09303196	0.464442206	0.020187143	4.944673711	12.90960021
699	Wood, primary forest, standing	mm3	36.4811414	20.40852306	0.087214333	0.047002194	3.690557685	12.24784414
700	Wood, soft, standing	cm3	132.672844	71.2781064	0.591863786	0.052714081	8.46032983	52.28983004
701	Wood, unspecified, standing/m3	mm3	7.81421235	2.749312153	0.00344086	2.384708206	0.059265217	2.617485918
702	Xenon-131m	Bq	15.7855511	10.15775298	0.020491845	0.037149383	3.69013938	1.880017496
703	Xenon-133	Bq	565.375961	365.5429466	0.657750607	1.357300969	134.9154074	62.90255536
704	Xenon-133m	mBq	834.399912	500.7800887	2.672699963	1.405439826	137.699431	191.8422523
705	Xenon-135	Bq	226.981454	146.6369753	0.269236395	0.543100331	53.97797196	25.55416999
706	Xenon-135m	Bq	141.707714	91.74306588	0.15948726	0.342085208	34.00950923	15.45356657
707	Xenon-137	Bq	4.22230843	2.768449538	0.003217952	0.010731487	1.068699218	0.371210235
708	Xenon-138	Bq	32.0366789	20.9258549	0.027921816	0.080194015	7.982258525	3.020449694
709	Xylene	mg	33.8712384	18.32120224	0.170397913	0.044300837	2.393992054	12.94134539
710	Xylene	mg	10.7976797	6.168880207	0.021812088	0.003860487	1.255632654	3.347494309
711	Zinc	mg	20.2742812	10.61091978	0.963799971	0.007699849	1.552824701	7.139036883

No	Substance	Unit	Total	220mm Double Brick components	Building in component - wall ties	Building in component - insulation	Building in component - Plaster	Building in components - paint
712	Zinc	mg	13.0365942	6.631426013	0.009374018	0.01000417	0.196610975	6.189179041
713	Zinc-65	µBq	33.4549451	22.01301662	0.022087	0.086227289	8.59076429	2.742849906
714	Zinc-65	mBq	82.5379448	54.30913519	0.054491661	0.212734559	21.19459478	6.766988633
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	g	2.14174585	1.163387367	0.00369131	0.001040733	0.15979655	0.813829894
716	Zinc, ion	mg	887.479874	470.7449289	11.07320054	1.25287973	53.20710126	351.2017641
717	Zirconium	µg	2.9442122	1.17932995	0.807909306	0.002516635	0.185263895	0.769192418
718	Zirconium-95	µBq	32.7009305	21.51688394	0.021589204	0.084283902	8.397145952	2.681027546
719	Zirconium-95	µBq	955.812468	628.9149671	0.631028678	2.463525714	245.439337	78.3636095

Appendix 8: Summary of South African Electricity unit processes

South African Electricity Unit Process (per kWh)		
Substance	**Quantity**	**Unit**
Resources		
Aluminium, 24% in bauxite, 11% in crude ore, in ground	4.68E-05	kg
Anhydrite, in ground	2.6E-11	kg
Barite, 15% in crude ore, in ground	2.34E-07	kg
Basalt, in ground	2.38E-09	kg
Borax, in ground	3.08E-12	kg
Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	-6.3E-13	kg
Calcite, in ground	3.38E-05	kg
Carbon dioxide, in air	7.51E-05	kg
Carbon, in organic matter, in soil	6.17E-10	kg
Cerium, 24% in bastnasite, 2.4% in crude ore, in ground	-4.4E-25	kg
Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	4.3E-07	kg
Chrysotile, in ground	2.58E-09	kg
Cinnabar, in ground	2.38E-10	kg
Clay, bentonite, in ground	5.06E-06	kg
Clay, unspecified, in ground	2.29E-06	kg
Coal, brown, in ground	0.000166	kg
Coal, hard, unspecified, in ground	0.647644	kg
Cobalt, in ground	2.73E-11	kg
Colemanite, in ground	9.22E-09	kg
Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in grou	6.54E-09	kg
Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in grou	3.62E-08	kg
Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in grou	9.6E-09	kg
Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in grou	4.76E-08	kg
Diatomite, in ground	4.12E-13	kg
Dolomite, in ground	3.51E-09	kg
Energy, gross calorific value, in biomass	0.000821	MJ
Energy, gross calorific value, in biomass, primary forest	4.28E-08	MJ
Energy, kinetic (in wind), converted	5.4E-05	MJ
Energy, potential (in hydropower reservoir), converted	0.235316	MJ
Energy, solar, converted	7.91E-07	MJ
Feldspar, in ground	2.4E-13	kg
Fluorine, 4.5% in apatite, 1% in crude ore, in ground	5.2E-09	kg
Fluorine, 4.5% in apatite, 3% in crude ore, in ground	3.02E-09	kg
Fluorspar, 92%, in ground	1.72E-06	kg
Gadolinium, 0.15% in bastnasite, 0.015% in crude ore, in ground	-1.6E-28	kg
Gallium, 0.014% in bauxite, in ground	1.2E-18	kg
Gas, mine, off-gas, process, coal mining/m3	0.002592	m3
Gas, natural, in ground	0.000624	m3
Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	7.38E-16	kg
Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	1.35E-15	kg
Gold, Au 1.4E-4%, in ore, in ground	1.62E-15	kg
Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	2.48E-15	kg
Gold, Au 4.3E-4%, in ore, in ground	6.14E-16	kg
Gold, Au 4.9E-5%, in ore, in ground	1.47E-15	kg
Gold, Au 6.7E-4%, in ore, in ground	2.28E-15	kg
Gold, Au 7.1E-4%, in ore, in ground	2.57E-15	kg
Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore,	1.54E-16	kg
Granite, in ground	2.4E-13	kg
Gravel, in ground	3.54E-05	kg
Gypsum, in ground	6.66E-10	kg
Helium, 0.08% in natural gas, in ground	6.04E-18	kg
Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	-1.2E-14	kg
Iron, 46% in ore, 25% in crude ore, in ground	1.24E-06	kg
Kaolinite, 24% in crude ore, in ground	5.72E-06	kg
Kieserite, 25% in crude ore, in ground	1.38E-08	kg
Lanthanum, 7.2% in bastnasite, 0.72% in crude ore, in ground	1.49E-25	kg

South African Electricity Unit Process (per kWh)		
Substance	**Quantity**	**Unit**
Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	4.68E-12	kg
Magnesite, 60% in crude ore, in ground	2.53E-08	kg
Magnesium, 0.13% in water	7.81E-15	kg
Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	2.47E-09	kg
Metamorphous rock, graphite containing, in ground	6.93E-08	kg
Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore,	8.84E-10	kg
Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore,	1.26E-10	kg
Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore,	8.94E-10	kg
Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore,	4.62E-10	kg
Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, i	1.8E-09	kg
Neodymium, 4% in bastnasite, 0.4% in crude ore, in ground	-2.1E-25	kg
Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	6.22E-08	kg
Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	7.01E-07	kg
Occupation, arable, non-irrigated	8.77E-06	m2a
Occupation, construction site	4.62E-05	m2a
Occupation, dump site	0.001377	m2a
Occupation, dump site, benthos	4.9E-11	m2a
Occupation, forest, intensive	6.72E-05	m2a
Occupation, forest, intensive, normal	3.62E-05	m2a
Occupation, forest, intensive, short-cycle	1.07E-08	m2a
Occupation, industrial area	4.94E-07	m2a
Occupation, industrial area, benthos	4.47E-13	m2a
Occupation, industrial area, built up	2.05E-09	m2a
Occupation, industrial area, vegetation	7.59E-09	m2a
Occupation, mineral extraction site	0.001347	m2a
Occupation, permanent crop, fruit, intensive	8.08E-09	m2a
Occupation, shrub land, sclerophyllous	4.61E-05	m2a
Occupation, traffic area, rail embankment	1.39E-10	m2a
Occupation, traffic area, rail network	1.54E-10	m2a
Occupation, traffic area, road embankment	1.46E-06	m2a
Occupation, traffic area, road network	5.36E-10	m2a
Occupation, urban, discontinuously built	3.56E-14	m2a
Occupation, water bodies, artificial	0.002596	m2a
Occupation, water courses, artificial	1.63E-06	m2a
Oil, crude, in ground	0.001118	kg
Olivine, in ground	8.71E-12	kg
Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in or	1.36E-12	kg
Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in o	3.28E-12	kg
Peat, in ground	2.09E-07	kg
Phosphorus, 18% in apatite, 12% in crude ore, in ground	1.21E-08	kg
Phosphorus, 18% in apatite, 4% in crude ore, in ground	2.08E-08	kg
Praseodymium, 0.42% in bastnasite, 0.042% in crude ore, in ground	-1.8E-27	kg
Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in o	3.14E-14	kg
Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore	1.13E-13	kg
Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in o	3.12E-14	kg
Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in or	9.77E-14	kg
Rhenium, in crude ore, in ground	4.45E-14	kg
Samarium, 0.3% in bastnasite, 0.03% in crude ore, in ground	-1.2E-26	kg
Sand, unspecified, in ground	6.52E-10	kg
Shale, in ground	7.32E-11	kg
Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	1.64E-14	kg
Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	1.17E-14	kg
Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	1.08E-15	kg
Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	2.47E-15	kg
Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	2.42E-15	kg
Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore	1.6E-15	kg
Sodium chloride, in ground	9.71E-05	kg

South African Electricity Unit Process (per kWh)		
Substance	**Quantity**	**Unit**
Sodium nitrate, in ground	1.3E-16	kg
Sodium sulphate, various forms, in ground	4.38E-08	kg
Stibnite, in ground	4.28E-14	kg
Sulfur, in ground	1.68E-09	kg
Sylvite, 25 % in sylvinite, in ground	1.28E-07	kg
Talc, in ground	6.04E-07	kg
Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	1.29E-14	kg
Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in grou	1.76E-15	kg
Tin, 79% in cassiterite, 0.1% in crude ore, in ground	2.41E-10	kg
TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	9.57E-08	kg
TiO2, 95% in rutile, 0.40% in crude ore, in ground	2.4E-13	kg
Transformation, from arable	1.78E-08	m2
Transformation, from arable, non-irrigated	1.61E-05	m2
Transformation, from arable, non-irrigated, fallow	5.68E-09	m2
Transformation, from dump site, inert material landfill	2.59E-10	m2
Transformation, from dump site, residual material landfill	9.21E-06	m2
Transformation, from dump site, sanitary landfill	2.48E-09	m2
Transformation, from dump site, slag compartment	5.66E-11	m2
Transformation, from forest	3.78E-10	m2
Transformation, from forest, extensive	7.55E-07	m2
Transformation, from forest, intensive, clear-cutting	3.83E-10	m2
Transformation, from industrial area	8.6E-08	m2
Transformation, from industrial area, benthos	4.15E-15	m2
Transformation, from industrial area, built up	7.43E-12	m2
Transformation, from industrial area, vegetation	1.27E-11	m2
Transformation, from mineral extraction site	3.81E-08	m2
Transformation, from pasture and meadow	9.23E-06	m2
Transformation, from pasture and meadow, intensive	1.31E-08	m2
Transformation, from sea and ocean	6.12E-11	m2
Transformation, from shrub land, sclerophyllous	9.22E-06	m2
Transformation, from tropical rain forest	3.83E-10	m2
Transformation, from unknown	3.77E-05	m2
Transformation, to arable	2.28E-08	m2
Transformation, to arable, non-irrigated	1.61E-05	m2
Transformation, to arable, non-irrigated, fallow	6.13E-09	m2
Transformation, to dump site	9.51E-06	m2
Transformation, to dump site, benthos	4.9E-11	m2
Transformation, to dump site, inert material landfill	2.59E-10	m2
Transformation, to dump site, residual material landfill	9.21E-06	m2
Transformation, to dump site, sanitary landfill	2.48E-09	m2
Transformation, to dump site, slag compartment	5.66E-11	m2
Transformation, to forest	9.22E-06	m2
Transformation, to forest, intensive	4.47E-07	m2
Transformation, to forest, intensive, clear-cutting	3.83E-10	m2
Transformation, to forest, intensive, normal	2.93E-07	m2
Transformation, to forest, intensive, short-cycle	3.83E-10	m2
Transformation, to heterogeneous, agricultural	4.38E-12	m2
Transformation, to industrial area	6.05E-09	m2
Transformation, to industrial area, benthos	1.22E-11	m2
Transformation, to industrial area, built up	1.71E-07	m2
Transformation, to industrial area, vegetation	8.38E-11	m2
Transformation, to mineral extraction site	1.11E-05	m2
Transformation, to pasture and meadow	8.23E-11	m2
Transformation, to permanent crop, fruit, intensive	1.14E-10	m2
Transformation, to sea and ocean	4.15E-15	m2
Transformation, to shrub land, sclerophyllous	9.21E-06	m2
Transformation, to traffic area, rail embankment	3.23E-13	m2

South African Electricity Unit Process (per kWh)		
Substance	**Quantity**	**Unit**
Transformation, to traffic area, rail network	3.55E-13	m2
Transformation, to traffic area, road embankment	1.03E-08	m2
Transformation, to traffic area, road network	6.07E-12	m2
Transformation, to unknown	8.62E-08	m2
Transformation, to urban, discontinuously built	7.09E-16	m2
Transformation, to water bodies, artificial	1.69E-05	m2
Transformation, to water courses, artificial	2.01E-08	m2
Ulexite, in ground	5.93E-14	kg
Uranium, in ground	1.15E-06	kg
Vermiculite, in ground	1.28E-14	kg
Volume occupied, final repository for low-active radioactive waste	2.19E-09	m3
Volume occupied, final repository for radioactive waste	6.06E-10	m3
Volume occupied, reservoir	0.011142	m3y
Volume occupied, underground deposit	3.77E-10	m3
Water, cooling, unspecified natural origin/m3	0.001321	m3
Water, lake	2.19E-05	m3
Water, river	0.001999	m3
Water, salt, ocean	7.72E-05	m3
Water, salt, sole	8.79E-07	m3
Water, turbine use, unspecified natural origin	0.617107	m3
Water, unspecified natural origin/m3	1.03E-05	m3
Water, well, in ground	0.000229	m3
Wood, hard, standing	1.3E-08	m3
Wood, primary forest, standing	3.97E-12	m3
Wood, soft, standing	5.98E-08	m3
Wood, unspecified, standing/m3	8.96E-14	m3
Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	4.8E-07	kg
Zirconium, 50% in zircon, 0.39% in crude ore, in ground	1.77E-14	kg

Appendix 9: Inventory of emitted substances for operational phase (50 years) of the various brick walls

No	Substance	Unit	1 kWh	Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
				220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
1	1-Butanol	pg	1.33E-05	0.000515	0.000445	0.000365	0.000566	0.000533	0.0005	0.001146	0.001119	0.001071	0.000515	0.000423	0.000408	0.000719	0.000734	0.000756	0.001242	0.001176	0.001087
2	1-Butanol	pg	1.352315	52.55393	45.38599	37.24394	57.69636	54.29598	51.00658	116.8331	114.0454	109.1697	52.55393	43.16508	41.56802	73.309	74.81328	77.07964	126.5896	119.8733	110.7972
3	1-Propanol	pg	0.005434	0.211182	0.182378	0.14966	0.231846	0.218182	0.204964	0.46948	0.458278	0.438686	0.211182	0.173454	0.167036	0.294584	0.300628	0.309735	0.508685	0.481697	0.445226
4	1,4-Butanediol	pg	0.004283	0.166465	0.143761	0.117971	0.182754	0.171983	0.161564	0.370071	0.361241	0.345797	0.166465	0.136726	0.131667	0.232207	0.236972	0.244151	0.400975	0.379701	0.350952
5	1,4-Butanediol	pg	0.001713	0.066586	0.057504	0.047188	0.073102	0.068793	0.064626	0.148028	0.144496	0.138319	0.066586	0.05469	0.052667	0.092883	0.094789	0.09766	0.16039	0.15188	0.140381
6	2-Propanol	pg	80.23934	3118.276	2692.968	2209.861	3423.401	3221.64	3026.464	6932.268	6766.858	6477.561	3118.276	2561.19	2466.43	4349.774	4439.029	4573.503	7511.165	7112.655	6574.13
7	2,4-D	pg	139.7912	5432.59	4691.627	3849.969	5964.172	5612.669	5272.638	12077.24	11789.07	11285.06	5432.59	4462.048	4296.958	7578.077	7733.577	7967.854	13085.78	12391.51	11453.3
8	4-Methyl-2-pentanone	pg	0.605955	23.54872	20.33686	16.68851	25.85298	24.32931	22.85537	52.35138	51.10222	48.9175	23.54872	19.3417	18.62608	32.84879	33.52284	34.53836	56.72312	53.71363	49.64678
9	Acenaphthene	pg	6.839714	265.8062	229.5523	188.3716	291.8155	274.6171	257.9801	590.9162	576.8164	552.1563	265.8062	218.3194	210.2419	370.7808	378.3891	389.8518	640.2622	606.2926	560.388
10	Acenaphthene	pg	440.3656	17113.57	14779.41	12128.05	18788.14	17680.85	16609.69	38045.33	37137.53	35549.83	17113.57	14056.2	13536.14	23872.21	24362.06	25100.08	41222.41	39035.32	36079.82
11	Acenaphthylene	pg	27.54055	1070.286	924.3072	758.4905	1175.014	1105.764	1038.773	2379.362	2322.589	2223.293	1070.286	879.0773	846.5526	1492.973	1523.608	1569.764	2578.057	2441.276	2256.439
12	Acetaldehyde	ng	814.8433	31666.59	27347.51	22441.49	34765.18	32716.27	30734.23	70398.29	68718.52	65780.66	31666.59	26009.3	25046.99	44172.64	45079.05	46444.66	76277.08	72230.14	66761.34
13	Acetaldehyde	pg	2.468789	95.94252	82.85671	67.99257	105.3305	99.12281	93.11768	213.2907	208.2014	199.3004	95.94252	78.80221	75.88663	133.833	136.5792	140.7167	231.1021	218.8408	202.2716
14	Acetic acid	µg	3.936163	152.9679	132.1042	108.4053	167.9359	158.0384	148.464	340.0643	331.95	317.7585	152.9679	125.6399	120.9914	213.3793	217.7578	224.3544	368.4622	348.9132	322.4957
15	Acetic acid	ng	47.0077	1826.822	1577.658	1294.633	2005.577	1887.377	1773.034	4061.224	3964.32	3794.837	1826.822	1500.457	1444.942	2548.287	2600.577	2679.357	4400.367	4166.903	3851.411
16	Acetone	ng	572.8848	22263.55	19226.98	15777.74	24442.05	23001.54	21608.04	49494.31	48313.33	46247.84	22263.55	18286.13	17609.56	31056.07	31693.33	32653.44	53627.46	50782.21	46937.31
17	Acetone	pg	1.444268	56.1274	48.47206	39.77638	61.6195	57.9879	54.47483	124.7773	121.8	116.5928	56.1274	46.10014	44.39449	78.29373	79.9003	82.32076	135.1972	128.0242	118.331
18	Acetonitrile	pg	416.7281	16194.96	13986.1	11477.05	17779.65	16731.79	15718.13	36003.17	35144.1	33641.62	16194.96	13301.7	12809.56	22590.82	23054.38	23752.78	39009.71	36940.02	34143.16
19	Acidity, unspecified	ng	30.35534	1179.675	1018.776	836.0121	1295.106	1218.778	1144.941	2622.545	2559.969	2450.525	1179.675	968.9236	933.0746	1645.562	1679.329	1730.201	2841.548	2690.787	2487.058
20	Aclonifen	pg	101.6808	3951.538	3412.579	2800.377	4338.198	4082.523	3835.193	8784.701	8575.09	8208.487	3951.538	3245.589	3125.506	5512.115	5625.222	5795.63	9518.29	9013.29	8330.862
21	Acrolein	ng	14.97213	581.8497	502.4899	412.3454	638.7839	601.1367	564.7182	1293.515	1262.651	1208.67	581.8497	477.9011	460.2194	811.6389	828.2935	853.3854	1401.534	1327.174	1226.689
22	Acrylate, ion	pg	0.491342	19.09461	16.49026	13.53197	20.96303	19.72756	18.53241	42.44941	41.43652	39.66503	19.09461	15.68332	15.10306	26.63563	27.18218	28.00563	45.99426	43.554	40.25637
23	Acrylic acid	pg	0.207604	8.067928	6.967526	5.717582	8.857379	8.335363	7.830383	17.93589	17.50792	16.75942	8.067928	6.626578	6.381403	11.25419	11.48512	11.83304	19.43367	18.4026	17.00927
24	Actinides, radioactive, unspecified	µBq	22.89648	889.8072	768.4445	630.5888	976.8754	919.3024	863.6085	1978.139	1930.938	1848.387	889.8072	730.8415	703.8013	1241.218	1266.687	1305.06	2143.328	2029.612	1875.943
25	Actinides, radioactive, unspecified	mBq	3.393083	131.8626	113.8776	93.44843	144.7654	136.2336	127.9802	293.145	286.1503	273.9167	131.8626	108.3051	104.298	183.939	187.7133	193.3998	317.6248	300.773	278.0004
26	Aerosols, radioactive, unspecified	µBq	521.2555	20257.13	17494.21	14355.83	22239.3	20928.61	19660.69	45033.8	43959.25	42079.91	20257.13	16638.15	16022.56	28257.25	28837.08	29710.66	48794.47	46205.64	42707.25
27	Aldehydes, unspecified	ng	939.0704	36494.33	31516.78	25862.81	40065.31	37704.03	35419.82	81130.87	79195.01	75809.26	36494.33	29974.55	28865.53	50906.99	51951.58	53525.38	87905.91	83242	76939.45
28	Aldrin	pg	0.005341	0.207553	0.179244	0.147089	0.227862	0.214433	0.201442	0.461413	0.450403	0.431147	0.207553	0.170473	0.164166	0.289521	0.295462	0.304413	0.499944	0.473419	0.437575
29	Aluminium	mg	111.743	4342.576	3750.283	3077.498	4767.5	4486.523	4214.717	9654.021	9423.667	9020.786	4342.576	3566.767	3434.801	6057.586	6181.885	6369.156	10460.21	9905.232	9155.271
30	Aluminium	g	3.671774	142.6932	123.2309	101.1238	156.6558	147.4231	138.4918	317.2225	309.6532	296.4149	142.6932	117.2008	112.8645	199.0468	203.1312	209.2847	343.713	325.477	300.834
31	Aluminium	µg	3.613983	140.4473	121.2913	99.5322	154.1901	145.1028	136.3121	312.2296	304.7795	291.7496	140.4473	115.3561	111.0881	195.9139	199.934	205.9907	338.3031	320.3542	296.099
32	Aluminium, 24% in bauxite, 11% in crude ore, in ground	mg	46.84086	1820.338	1572.058	1290.038	1998.459	1880.678	1766.742	4046.81	3950.25	3781.369	1820.338	1495.131	1439.813	2539.242	2591.347	2669.848	4384.75	4152.114	3837.742
33	Ammonia	mg	44.30635	1721.841	1486.996	1220.235	1890.325	1778.917	1671.145	3827.841	3736.506	3576.762	1721.841	1414.231	1361.907	2401.846	2451.132	2525.385	4147.495	3927.447	3630.086
34	Ammonium carbonate	pg	70.77519	2750.478	2375.334	1949.21	3019.614	2841.651	2669.496	6114.613	5968.713	5713.538	2750.478	2259.1	2175.516	3836.722	3915.45	4034.063	6625.23	6273.724	5798.718
35	Ammonium, ion	µg	771.8684	29996.49	25905.2	21257.92	32931.66	30990.81	29113.3	66685.48	65094.3	62311.38	29996.49	24637.56	23726.01	41842.98	42701.58	43995.16	72254.22	68420.72	63240.34
36	Anhydrite, in ground	ng	26.02915	1011.55	873.5821	716.8652	1110.53	1045.08	981.7664	2248.785	2195.127	2101.281	1011.55	830.8344	800.0946	1411.04	1439.994	1483.616	2436.576	2307.301	2132.607
37	Antimony	ng	223.8693	8700.049	7513.43	6165.553	9551.354	8988.437	8443.893	19341.16	18879.66	18072.52	8700.049	7145.769	6881.385	12135.95	12384.98	12760.16	20956.29	19844.44	18341.95
38	Antimony	µg	541.0361	21025.85	18158.08	14900.6	23083.24	21722.81	20406.78	46742.75	45627.42	43676.76	21025.85	17269.54	16630.59	29329.56	29931.39	30838.12	50646.12	47959.06	44327.9
39	Antimony	pg	0.800264	31.10002	26.85822	22.03997	34.14317	32.13092	30.18434	69.13874	67.48903	64.60373	31.10002	25.54394	24.59885	43.38232	44.27251	45.61368	74.91235	70.93782	65.56686
40	Antimony-122	nBq	14.82912	576.2921	497.6903	408.4068	632.6825	595.3949	559.3242	1281.16	1250.59	1197.125	576.2921	473.3364	455.8236	803.8865	820.382	845.2342	1388.147	1314.498	1214.972
41	Antimony-124	nBq	0.036782	1.429429	1.234466	1.013008	1.5693	1.476812	1.387342	3.177777	3.101952	2.969338	1.429429	1.174059	1.13062	1.993952	2.034867	2.096511	3.443146	3.260467	3.013605
42	Antimony-124	µBq	697.9521	27123.94	23424.45	19222.2	29778.03	28023.04	26325.33	60299.48	58860.68	56344.27	27123.94	22278.2	21453.93	37835.97	38612.35	39782.06	65334.95	61868.55	57184.26
43	Antimony-125	nBq	0.383851	14.9173	12.88269	10.57159	16.37696	15.41177	14.47808	33.16277	32.37148	30.98753	14.9173	12.25229	11.79897	20.80857	21.23555	21.87885	35.93212	34.02571	31.4495
44	Antimony-125	µBq	991.8905	38547.03	33289.51	27317.52	42318.88	39824.78	37412.08	85694.25	83649.51	80073.32	38547.03	31660.53	30489.13	53770.37	54873.72	56536.03	92850.38	87924.13	81267.08
45	AOX, Adsorbable Organic Halogen as Cl	µg	2.120897	82.42268	71.18087	58.41132	90.48778	85.15481	79.9959	183.2346	178.8625	171.2157	82.42268	67.69771	65.19298	114.9738	117.333	120.8874	198.5361	188.0026	173.7683
46	Argon-41	mBq	1.230586	47.82326	41.30054	33.8914	52.50279	49.4085	46.41519	106.3163	103.7795	99.34273	47.82326	39.27954	37.82625	66.71005	68.07892	70.14127	115.1945	109.0828	100.8238
47	Arsenic	µg	6.062198	235.5902	203.4576	166.9582	258.6429	243.3995	228.6537	523.7428	511.2458	489.389	235.5902	193.5016	186.3423	328.6316	335.375	345.5347	567.4793	537.3713	496.685
48	Arsenic	pg	549.4534	21352.96	18440.58	15132.42	23442.36	22060.76	20724.26	47469.96	46337.28	44356.27	21352.96	17538.21	16889.32	29785.86	30397.05	31317.89	51434.06	48705.19	45017.54
49	Arsenic, ion	µg	4.187753	162.7452	140.5481	115.3343	178.6699	168.1399	157.9535	361.8004	353.1675	338.0689	162.7452	133.6705	128.7249	227.018	231.6764	238.6947	392.0135	371.2149	343.1089
50	Arsine	pg	2.42E-06	9.4E-05	8.12E-05	6.66E-05	0.000103	9.72E-05	9.13E-05	0.000209	0.000204	0.000195	9.4E-05	7.72E-05	7.44E-05	0.000131	0.000134	0.000138	0.000227	0.000215	0.000198
51	Atrazine	pg	0.001401	0.054449	0.047022	0.038587	0.059776	0.056254	0.052846	0.121045	0.118157	0.113106	0.054449	0.044721	0.043067	0.075952	0.077511	0.079859	0.131153	0.124195	0.114792
52	Barite	ng	30.52687	1186.341	1024.533	840.7363	1302.425	1225.665	1151.411	2637.365	2574.435	2464.373	1186.341	974.3988	938.3473	1654.861	1688.818	1739.978	2857.605	2705.993	2501.112
53	Barite, 15% in crude ore, in ground	µg	234.2761	9104.482	7862.701	6452.166	9995.36	9406.275	8836.417	20240.26	19757.3	18912.64	9104.482	7477.949	7201.275	12700.1	12960.71	13353.33	21930.47	20766.93	19194.59
54	Barium	µg	34.63826	1346.118	1162.518	953.9674	1477.837	1390.739	1306.484	2992.568	2921.162	2796.277	1346.118	1105.632	1064.725	1877.739	1916.27	1974.32	3242.47	3070.438	2837.964
55	Barium	mg	1.016923	39.51987	34.12967	28.00695	43.38691	40.82986	38.35628	87.85698	85.76063	82.09419	39.51987	32.45957	31.25861	55.12741	56.2586	57.96287	95.19371	90.14313	83.31807
56	Barium	ng	1.833409	71.25028	61.53229	50.49367	78.22216	73.61207	69.15245	158.3971	154.6176	148.0074	71.25028	58.52128	56.35607	99.38907	101.4285	104.5011	171.6245	162.5188	150.214
57	Barium-140	nBq	24.96895	970.3478	837.9999	687.6664	1065.297	1002.513	941.7778	2157.189	2105.717	2015.693	970.3478	796.9934	767.5057	1353.566	1381.341	1423.187	2337.331	2213.322	2045.743
58	Barium-140	nBq	64.95943	2524.465	2180.148	1789.039	2771.486	2608.146	2450.137	5612.162	5478.25	5244.044	2524.465	2073.465	1996.749	3521.45	3593.709	3702.575	6080.82	5758.198	5322.224
59	Basalt, in ground	µg	2.375971	92.33541	79.74158	65.43628	101.3705	95.39613	89.61677	205.2717	200.3737	191.8073	92.33541	75.83952	73.03355	128.8013	131.4443	135.4262	222.4134	210.6131	194.6669
60	Benomyl	pg	0.891169	34.63276	29.90912	24.54355	38.02159	35.78076	33.61306	76.9924	75.15529	71.94225	34.63276	28.44555	27.3931	48.31023	49.30154	50.79506	83.42185	78.99584	73.01478
61	Bentazone	pg	51.89318	2016.682	1741.623	1429.183	2214.016	2083.531	1957.305	4483.305	4376.329	4189.232	2016.682	1656.398	1595.114	2813.129	2870.853	2957.821	4857.695	4599.966	4251.686
62	Benzal chloride	pg	0.000102	0.003968	0.003427	0.002812	0.004356	0.004099	0.003851	0.008821	0.008611	0.008243	0.003968	0.003259	0.003138	0.005535	0.005649	0.00582	0.009558	0.009051	0.008365
63	Benzaldehyde	ng	6.117962	237.7574	205.3291	168.494	261.0221	245.6385	230.7571	528.5606	515.9486	493.8908	237.7574	195.2816	188.0564	331.6546	338.4601	348.7132	572.6994	542.3144	501.2539
64	Benzene	mg	2.147731	83.4655	72.08146	59.15035	91.63264	86.2322	81.00801	185.5529	181.1254	173.382	83.4655	68.55423	66.01781	116.4284	118.8175	122.4169	201.048	190.3812	175.9668
65	Benzene	µg	6.07175	235.9615	203.7782	167.2212	259.0504	243.7831	229.014	524.5681	512.0514	490.1602	235.9615	193.8065	186.6359	329.1495	335.9035	346.0792	568.3735	538.218	497.4676
66	Benzene, 1,2-dichloro-	pg	0.577916	22.45907	19.39583	15.9163	24.65671	23.20354	21.79781	49.92897	48.73762	46.65399	22.45907	18.44672	17.76421	31.32881	31.97167	32.9402	54.09842	51.22819	47.34952
67	Benzene, chloro-	pg	11.93358	463.7649	400.511	328.6611	509.1446	479.1377	450.1102	1031	1006.399	963.3738	463.7649	380.9125	366.8192	646.9191	660.1937	680.1933	1117.096	1057.828	977.7361
68	Benzene, ethyl-	µg	1.493478	58.03983	50.12365	41.13168	63.71906	59.96372	56.33096	129.0289	125.9501	120.5655	58.03983	47.67091	45.90714	80.96144	82.62274	85.12567	139.8038	132.3864	122.3629
69	Benzene, ethyl-	µg	1.699328	66.03961	57.03232	46.80097	72.50162	68.22868	64.0952	146.8133	143.3102	137.1834	66.03961	54.24151	52.23464	92.12056	94.01084	96.85876	159.0733	150.6335	139.2285
70	Benzene, hexachloro-	pg	25.81271	1003.138	866.3181	710.9044	1101.296	1036.39	973.6028	2230.086	2176.874	2083.808	1003.138	823.9258	793.4416	1399.307	1428.02	1471.28	2416.315	2288.116	2114.874
71	Benzene, pentachloro-	pg	23.59301	916.876	791.8213	649.7719	1006.593	947.2684	889.8803	2038.315	1989.679	1904.616	916.876	753.0744	725.2116	1278.977	1305.221	1344.761	2208.53	2091.355	1933.011
72	Benzo(a)pyrene	ng	137.8947	5358.888	4627.977	3797.738	5883.258	5536.523	5201.106	11913.39	11629.13	11131.96	5358.888	4401.513	4238.662	7475.268	7628.658	7859.757	12908.25	12223.39	11297.92
73	Beryllium	ng	44.58486	1732.665	1496.343	1227.906	1902.207	1790.099	1681.65	3851.904	3759.994	3599.246	1732.665	1423.121	1370.468	2416.945	2466.54	2541.26	4173.567	3952.135	3652.905
74	Beryllium	µg	366.8113	14255.09	12310.81	10102.3	15649.96	14727.61	13835.37	31690.62	30934.45	29611.94	14255.09	11708.39	11275.2	19884.84	20292.87	20907.61	34337.03	32515.25	30053.4
75	BOD5, Biological Oxygen Demand	mg	15.81757	614.7054	530.8644	435.6296	674.8547	635.0816	596.6066	1366.557	1333.95	1276.921	614.7054	504.8871	486.207	857.4704	875.0654	901.5742	1480.675	1402.117	1295.958
76	Borax, in ground	ng	3.076545	119.5612	103.254	84.73069	131.2604	123.5244	116.041	265.7977	259.4555	248.3633	119.5612	98.2014	94.56808	166.7794	170.2017	175.3577	287.9938	272.7141	252.0659
77	Boron	mg	1.852467	71.99093	62.17193	51.01855	79.03528	74.37727	69.87129	160.0437	156.2249	149.546	71.99093	59.12962	56.9419	100.4222	102.4829	105.5874	173.4086	164.2082	151.7754
78	Boron	mg	7.831082	304.3329	262.8243	215.6747	334.1121	314.4209	295.3724	676.5653	660.4218	632.1875	304.3329	249.9633	240.715	424.5228	433.2339	446.3581	733.0637	694.1704	641.6123
79	Boron	pg	254.4005	9886.558	8538.109	7006.409	10853.96	10214.28	9595.467	21978.9	21454.46	20537.24	9886.558	8120.306	7819.865	13791.05	14074.03	14500.39	23814.3	22550.82	20843.41
80	Boron trifluoride	pg	1.81E-08	7.02E-07	6.06E-07	4.97E-07	7.7E-07	7.25E-07	6.81E-07	1.56E-06	1.52E-06	1.46E-06	7.02E-07	5.76E-07	5.55E-07	9.79E-07	9.99E-07	1.03E-06	1.69E-06	1.6E-06	1.48E-06
81	Bromate	µg	13.61245	529.0096	456.8568	374.8987	580.7735	546.5451	513.4339	1176.046	1147.985	1098.906	529.0096	434.5011	418.4251	737.9308	753.0729	775.8861	1274.255	1206.648	1115.289
82	Bromine	µg	513.264	19946.56	17226	14135.73	21898.34	20607.75	19359.27	44343.38	43285.31	41434.77	19946.56	16383.07	15776.92	27824.03	28394.97	29255.16	48046.39	45497.25	42052.49
83	Bromine	mg	1.374245	53.40615	46.12197	37.84789	58.63197	55.17645	51.83371	118.7277	115.8948	110.94	53.40615	43.86504	42.24209	74.49779	76.02646	78.32957	128.6424	121.8172	112.5939
84	Butadiene	pg	0.244607	9.505967	8.209427	6.736691	10.43613	9.821069	9.226082	21.1328	20.62855	19.74664	9.505967	7.807708	7.518833	13.26015	13.53224	13.94218	22.89755	21.68271	20.04103
85	Butane	µg	260.7259	10132.38	8750.4	7180.616	11123.84	10468.24	9834.049	22525.38	21987.9	21047.88	10132.38	8322.209	8014.298	14133.95	14423.97	14860.92	24406.42	23111.52	21361.66
86	Butene	µg	1.48679	57.77992	49.89919	40.94749	63.43372	59.6952	56.0787	128.4511	125.3861	120.0256	57.77992	47.45743	45.70157	80.59888	82.25275	84.74447	139.1777	131.7935	121.815
87	Butene	ng	1.305513	50.73508	43.81521	35.95495	55.69954	52.41684	49.24128	112.7896	110.0984	105.3914	50.73508	41.67117	40.12939	70.77183	72.22405	74.41197	122.2084	115.7246	106.9626
88	Butyl acetate	pg	1.757992	68.31942	59.00118	48.41662	75.00451	70.58406	66.30788	151.8815	148.2575	141.9192	68.31942	56.11403	54.03788	95.30074	97.25627	100.2025	164.5648	155.8337	144.035
89	Butyrolactone	pg	0.001244	0.04833	0.041738	0.03425	0.053059	0.049932	0.046907	0.107442	0.104878	0.100394	0.04833	0.039695	0.038227	0.067416	0.0688	0.070884	0.116414	0.110238	0.101891
90	Butyrolactone	pg	0.002985	0.115995	0.100174	0.082203	0.127345	0.11984	0.11258	0.25787	0.251717	0.240955	0.115995	0.095272	0.091747	0.161805	0.165125	0.170127	0.279404	0.26458	0.244548
91	Cadmium	ng	383.1193	14888.85	12858.13	10551.44	16345.73	15382.38	14450.48	33099.54	32309.76	30928.45	14888.85	12228.93	11776.48	20768.89	21195.06	21837.13	35863.61	33960.84	31389.54
92	Cadmium	ng	1.429826	55.56617	47.98737	39.37865	61.00335	57.40806	53.93013	123.5297	120.5821	115.427	55.56617	45.63917	43.95058	77.51085	79.10135	81.49761	133.8453	126.7441	117.1478
93	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	pg	-630.203	-24491.1	-21150.7	-17356.3	-26887.5	-25302.9	-23770	-54446.3	-53147.2	-50875	-24491.1	-20115.7	-19371.4	-34163.3	-34864.3	-35920.5	-58993	-55863.1	-51633.5
94	Cadmium, ion	µg	1.769721	68.77523	59.39483	48.73965	75.50493	71.05498	66.75028	152.8948	149.2466	142.866	68.77523	56.48841	54.39841	95.93656	97.90515	100.871	165.6627	156.8734	144.9959
95	Calcite, in ground	mg	33.84345	1315.23	1135.843	932.0779	1443.926	1358.827	1276.506	2923.901	2854.134	2732.114	1315.23	1080.262	1040.294	1834.653	1872.299	1929.018	3168.069	2999.985	2772.845
96	Calcium	µg	45.17345	1755.539	1516.097	1244.116	1927.319	1813.731	1703.85	3902.755	3809.631	3646.762	1755.539	1441.909	1388.56	2448.852	2499.102	2574.808	4228.664	4004.309	3701.129
97	Calcium	µg	16.27042	632.3041	546.0628	448.1015	694.1754	653.2636	613.6871	1405.681	1372.14	1313.478	632.3041	519.3418	500.1268	882.0193	900.1181	927.3858	1523.066	1442.259	1333.06
98	Calcium, ion	mg	160.5273	6238.441	5387.566	4421.06	6848.876	6445.232	6054.762	13868.74	13537.81	12959.05	6238.441	5123.932	4934.353	8702.182	8880.748	9149.777	15026.88	14229.62	13152.24
99	Carbetamide	ng	2.683318	104.2796	90.05667	73.90089	114.4834	107.7362	101.2093	231.8249	226.2934	216.6189	104.2796	85.64985	82.48092	145.4626	148.4475	152.9445	251.1841	237.8573	219.8483
100	Carbofuran	pg	488.5725	18987	16397.32	13455.71	20844.88	19616.37	18427.96	42210.16	41202.99	39441.48	18987	15594.93	15017.94	26485.51	27028.98	27847.79	45735.04	43308.53	40029.48
101	Carbon	µg	41.94619	1630.121	1407.785	1155.234	1789.629	1684.155	1582.125	3623.936	3537.465	3386.232	1630.121	1338.896	1289.359	2273.902	2320.562	2390.86	3926.562	3718.235	3436.714
102	Carbon-14	Bq	2.009017	78.07479	67.42599	55.33006	85.71445	80.6628	75.77602	173.5688	169.4273	162.1839	78.07479	64.12658	61.75398	108.9088	111.1436	114.5105	188.0631	178.0853	164.6018
103	Carbon dioxide, biogenic	mg	111.3201	4326.141	3736.089	3065.851	4749.456	4469.543	4198.766	9617.483	9388.001	8986.645	4326.141	3553.268	3421.801	6034.659	6158.488	6345.05	10420.62	9867.743	9120.62
104	Carbon dioxide, fossil	g	907.8566	35281.29	30469.2	25003.16	38733.58	36450.79	34242.5	78434.16	76562.65	73289.44	35281.29	28978.22	27906.07	49214.89	50224.77	51746.25	84984.01	80475.12	74382.06
105	Carbon dioxide, in air	mg	75.11944	2919.306	2521.135	2068.854	3204.961	3016.074	2833.352	6489.935	6335.079	6064.241	2919.306	2397.766	2309.052	4072.224	4155.784	4281.678	7031.894	6658.811	6154.649
106	Carbon dioxide, land transformation	µg	31.48291	1223.495	1056.62	867.0666	1343.214	1264.051	1187.471	2719.962	2655.062	2541.552	1223.495	1004.915	967.7346	1706.688	1741.709	1794.471	2947.1	2790.739	2579.442
107	Carbon disulfide	µg	1.438011	55.88423	48.26206	39.60405	61.35253	57.73667	54.23882	124.2367	121.2723	116.0877	55.88423	45.90041	44.20215	77.95453	79.55413	81.9641	134.6115	127.4695	117.8184
108	Carbon monoxide, biogenic	mg	3.797838	147.5923	127.4618	104.5957	162.0342	152.4846	143.2467	328.1137	320.2846	306.5918	147.5923	121.2246	116.7395	205.8807	210.1053	216.4702	355.5137	336.6517	311.1626

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
109	Carbon monoxide, fossil	mg	147.483	5731.512	4949.779	4061.81	6292.344	5921.499	5562.759	12741.78	12437.75	11906.01	5731.512	4707.567	4533.393	7995.052	8159.108	8406.276	13805.81	13073.34	12083.51
110	Carbon, in organic matter, in soil	ng	617.1304	23983.04	20711.94	16996.3	26329.79	24778.02	23276.9	53316.9	52044.71	49819.7	23983.04	19698.42	18969.61	33454.63	34141.11	35175.36	57769.27	54704.28	50562.42
111	Carbonate	µg	37.9848	1476.172	1274.834	1046.134	1620.617	1525.104	1432.709	3281.692	3203.388	3066.437	1476.172	1212.451	1167.592	2059.155	2101.409	2165.068	3555.738	3367.086	3112.152
112	Carboxylic acids, unspecified	µg	303.7901	11805.95	10195.71	8366.642	12961.17	12197.29	11458.34	26245.91	25619.66	24524.37	11805.95	9696.793	9338.024	16468.46	16806.38	17315.51	28437.64	26928.86	24889.98
113	Cerium-141	nBq	6.053038	235.2343	203.1501	166.7059	258.2521	243.0318	228.3082	522.9514	510.4733	488.6496	235.2343	193.2092	186.0607	328.1351	334.8683	345.0126	566.6219	536.5593	495.9345
114	Cerium-141	nBq	25.97184	1009.322	871.6588	715.2869	1108.085	1042.779	979.6049	2243.834	2190.294	2096.655	1009.322	829.0052	798.333	1407.933	1436.823	1480.35	2431.211	2302.222	2127.912
115	Cerium-144	nBq	7.906678	307.2708	265.3614	217.7567	337.3374	317.4561	298.2238	683.0965	666.7971	638.2902	307.2708	252.3763	243.0387	428.6209	437.4161	450.6669	740.1402	700.8715	647.806
116	Cerium, 24% in bastnasite, 2.4% in crude ore, in ground	pg	-4.4E-10	-1.7E-08	-1.5E-08	-1.2E-08	-1.9E-08	-1.8E-08	-1.7E-08	-3.8E-08	-3.7E-08	-3.6E-08	-1.7E-08	-1.4E-08	-1.4E-08	-2.4E-08	-2.5E-08	-2.5E-08	-4.2E-08	-3.9E-08	-3.6E-08
117	Cesium	ng	70.79833	2751.378	2376.111	1949.847	3020.601	2842.58	2670.369	6116.613	5970.665	5715.407	2751.378	2259.839	2176.228	3837.976	3916.73	4035.382	6627.397	6275.775	5800.614
118	Cesium-134	nBq	0.289902	11.26621	9.729586	7.98414	12.36861	11.63966	10.9345	25.04601	24.44839	23.40317	11.26621	9.25348	8.911113	15.71556	16.03804	16.52389	27.13754	25.69774	23.75207
119	Cesium-134	mBq	1.042554	40.51591	34.98985	28.71282	44.48041	41.85892	39.32299	90.07128	87.92209	84.16325	40.51591	33.27766	32.04643	56.51681	57.67651	59.42374	97.59292	92.41505	85.41798
120	Cesium-136	nBq	4.609495	179.135	154.7024	126.9495	196.6635	185.073	173.8607	398.2367	388.7344	372.1152	179.135	147.1322	141.6885	249.8806	255.0081	262.7332	431.4925	408.5994	377.6628
121	Cesium-137	nBq	5.139013	199.7133	172.4739	141.5328	219.2553	206.3333	193.8331	443.9844	433.3905	414.8622	199.7133	164.0341	157.9651	278.5858	284.3023	292.9148	481.0604	455.5374	421.047
122	Cesium-137	mBq	391.0522	15197.14	13124.37	10769.92	16684.19	15700.9	14749.69	33784.91	32978.77	31568.86	15197.14	12482.15	12020.32	21198.94	21633.93	22289.3	36606.21	34664.04	32039.5
123	Chlorate	µg	105.4219	4096.926	3538.138	2903.411	4497.813	4232.731	3976.3	9107.914	8890.591	8510.5	4096.926	3365.003	3240.502	5714.921	5832.189	6008.867	9868.495	9344.914	8637.377
124	Chloride	g	4.204891	163.4113	141.1232	115.8063	179.4011	168.828	158.5999	363.281	354.6128	339.4524	163.4113	134.2175	129.2517	227.9471	232.6245	239.6715	393.6178	372.7341	344.5131
125	Chloride	ng	95.33517	3704.933	3199.609	2625.613	4067.462	3827.743	3595.848	8236.47	8039.94	7696.216	3704.933	3043.04	2930.451	5168.118	5274.166	5433.939	8924.278	8450.794	7810.954
126	Chlorinated solvents, unspecified	ng	30.36788	1180.162	1019.197	836.3577	1295.642	1219.282	1145.415	2623.629	2561.027	2451.538	1180.162	969.324	933.4603	1646.242	1680.023	1730.917	2842.722	2691.9	2488.086
127	Chlorine	µg	2.707968	105.2375	90.88396	74.57977	115.5351	108.7259	102.139	233.9545	228.3722	218.6088	105.2375	86.43666	83.23862	146.7989	149.8112	154.3495	253.4915	240.0423	221.8679
128	Chlorine	µg	19.07364	741.2434	640.1436	525.3046	813.7744	765.814	719.4189	1647.865	1608.545	1539.777	741.2434	608.8189	586.2934	1033.982	1055.199	1087.164	1785.474	1690.745	1562.732
129	Chloroform	ng	10.67304	414.7775	358.2051	293.9446	455.3637	428.5264	402.5651	922.0956	900.0935	861.6127	414.7775	340.6767	328.0721	578.5851	590.4575	608.3445	999.0976	946.0897	874.4579
130	Chloroform	pg	0.027353	1.062986	0.918003	0.753317	1.167	1.098222	1.031688	2.363134	2.306747	2.208129	1.062986	0.873082	0.840779	1.48279	1.513216	1.559057	2.560474	2.424626	2.241049
131	Chlorosilane, trimethyl-	pg	0.003747	0.145606	0.125746	0.103188	0.159853	0.150432	0.141319	0.323698	0.315974	0.302465	0.145606	0.119593	0.115168	0.20311	0.207278	0.213557	0.350729	0.332121	0.306975
132	Chlorothalonil	µg	2.627136	102.0962	88.17111	72.35359	112.0864	105.4805	99.09021	226.9711	221.5553	212.0834	102.0962	83.85655	80.75397	142.417	145.3393	149.7422	245.9249	232.8772	215.2452
133	Chromium	µg	4.836716	187.9654	162.3283	133.2073	206.3579	194.196	182.4311	417.8675	407.8968	390.4584	187.9654	154.385	148.673	262.1983	267.5785	275.6844	452.7626	428.741	396.2794
134	Chromium	ng	17.91449	696.1961	601.2404	493.3805	764.3193	719.2735	675.6979	1547.72	1510.79	1446.201	696.1961	571.8194	550.6628	971.1441	991.0717	1021.095	1676.966	1587.994	1467.761
135	Chromium-51	nBq	0.387878	15.07377	13.01783	10.68248	16.54875	15.57343	14.62995	33.51064	32.71104	31.31258	15.07377	12.38081	11.92274	21.02684	21.4583	22.10835	36.30903	34.38263	31.77939
136	Chromium-51	µBq	773.4347	30057.36	25957.77	21301.06	32998.49	31053.7	29172.38	66820.79	65226.38	62437.82	30057.36	24687.56	23774.15	41927.88	42788.23	44084.43	72400.84	68559.55	63368.66
137	Chromium VI	ng	476.4289	18515.07	15989.76	13121.26	20326.78	19128.8	17969.93	41161.02	40178.88	38461.15	18515.07	15207.32	14644.67	25827.2	26357.17	27155.62	44598.28	42232.08	39034.54
138	Chromium VI	mg	2.147507	83.45682	72.07396	59.1442	91.62311	86.22323	80.99959	185.5336	181.1066	173.3639	83.45682	68.5471	66.01095	116.4163	118.8052	122.4042	201.0271	190.3614	175.9485
139	Chromium VI	pg	76.46949	2971.771	2566.445	2106.036	3262.561	3070.279	2884.273	6606.572	6448.933	6173.228	2971.771	2440.859	2350.55	4145.41	4230.472	4358.628	7158.271	6778.484	6265.26
140	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	µg	430.035	16712.1	14432.7	11843.53	18347.39	17266.07	16220.04	37152.82	36266.32	34715.86	16712.1	13726.45	13218.59	23312.19	23790.55	24511.25	40255.36	38119.58	35233.41
141	Chromium, ion	µg	3.313673	128.7766	111.2124	91.26141	141.3774	133.0452	124.985	286.2844	279.4533	267.5061	128.7766	105.7704	101.857	179.6342	183.3202	188.8736	310.1913	293.7338	271.4942
142	Chrysotile, in ground	µg	2.575885	100.1045	86.45105	70.9421	109.8998	103.4228	97.15714	222.5433	217.2332	207.946	100.1045	82.22067	79.17861	139.6387	142.504	146.821	241.1274	228.3342	211.0462
143	Cinnabar, in ground	ng	237.8171	9242.092	7981.542	6549.688	10146.44	9548.447	8969.976	20546.18	20055.93	19198.5	9242.092	7590.975	7310.119	12892.06	13156.6	13555.16	22261.94	21080.82	19484.71
144	Clay, bentonite, in ground	mg	5.056195	196.4948	169.6944	139.252	215.7219	203.0081	190.7093	436.8293	426.4062	408.1764	196.4948	161.3906	155.4194	274.0962	279.7206	288.1943	473.3079	448.1962	414.2616
145	Clay, unspecified, in ground	mg	2.292704	89.0995	76.94702	63.14306	97.81793	92.05295	86.47613	198.0779	193.3516	185.0854	89.0995	73.18171	70.47408	124.2875	126.8378	130.6802	214.6189	203.2322	187.8447
146	Coal, brown, in ground	mg	165.8829	6446.571	5567.308	4568.557	7077.371	6660.26	6256.763	14331.43	13989.47	13391.39	6446.571	5294.879	5098.975	8992.508	9177.031	9455.036	15528.21	14704.35	13591.03
147	Coal, hard, unspecified, in ground	g	647.6438	25168.85	21736.02	17836.67	27631.64	26003.15	24427.8	55953.11	54618.01	52282.98	25168.85	20672.39	19907.54	35108.76	35829.18	36914.57	60625.62	57409.08	53062.43
148	Cobalt	µg	1.045764	40.64069	35.09762	28.80125	44.6174	41.98784	39.4441	90.34869	88.19288	84.42246	40.64069	33.38015	32.14513	56.69087	57.85415	59.60676	97.89349	92.69968	85.68105
149	Cobalt	µg	624.9781	24288.01	20975.32	17212.44	26664.61	25093.11	23572.9	53994.91	52706.54	50453.23	24288.01	19948.92	19210.83	33880.05	34575.26	35622.67	58503.89	55399.92	51205.4
150	Cobalt	ng	2.071439	80.50063	69.52097	57.04921	88.37766	83.16905	78.13044	178.9617	174.6915	167.2231	80.50063	66.11904	63.67272	112.2927	114.5969	118.0684	193.9063	183.6185	169.7161
151	Cobalt-57	nBq	146.3228	5686.422	4910.838	4029.855	6242.841	5874.914	5518.996	12641.54	12339.9	11812.34	5686.422	4670.532	4497.728	7932.155	8094.92	8340.143	13697.2	12970.49	11988.44
152	Cobalt-58	nBq	0.540136	20.99085	18.12786	14.8758	23.04481	21.68665	20.37281	46.66495	45.55148	43.60406	20.99085	17.24079	16.60291	29.28074	29.88157	30.78679	50.56182	47.87923	44.25412
153	Cobalt-58	mBq	4.99042	193.9386	167.4869	137.4405	212.9156	200.3673	188.2285	431.1467	420.8592	402.8666	193.9386	159.2911	153.3976	270.5306	276.0818	284.4453	467.1508	442.3657	408.8726
154	Cobalt-60	nBq	4.771595	185.4346	160.1428	131.4138	203.5795	191.5814	179.9748	412.2414	402.4049	385.2013	185.4346	152.3064	146.6712	258.6681	263.9759	271.9726	446.6667	422.9684	390.944
155	Cobalt-60	mBq	4.202534	163.3196	141.0441	115.7414	179.3006	168.7333	158.511	363.0774	354.414	339.2621	163.3196	134.1423	129.1792	227.8193	232.4941	239.5371	393.3971	372.5251	344.3199
156	Cobalt, in ground	ng	27.27773	1060.072	915.4867	751.2523	1163.801	1095.211	1028.86	2356.656	2300.424	2202.076	1060.072	870.6884	838.474	1478.725	1509.068	1554.783	2553.455	2417.98	2234.906
157	COD, Chemical Oxygen Demand	mg	17.21821	669.1374	577.8722	474.2044	734.6128	691.3178	649.4359	1487.565	1452.071	1389.992	669.1374	549.5947	529.2604	933.3991	952.5521	981.4082	1611.788	1526.274	1410.714
158	Colemanite, in ground	µg	9.216952	358.1909	309.3364	253.8428	393.24	370.0641	347.6446	796.2974	777.297	744.066	358.1909	294.1994	283.3144	499.6508	509.9035	525.3503	862.7943	817.0181	755.1587
159	Copper	µg	6.459131	251.0159	216.7793	177.89	275.578	259.3366	243.6252	558.0358	544.7206	521.4327	251.0159	206.1715	198.5434	350.1494	357.3343	368.1593	604.6361	572.5566	529.2063
160	Copper	ng	123.8833	4814.374	4157.731	3411.852	5285.463	4973.96	4672.624	10702.88	10447.5	10000.85	4814.374	3954.277	3807.974	6715.71	6853.514	7061.131	11596.65	10981.38	10149.94
161	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	µg	6.541004	254.1977	219.5271	180.1449	279.0711	262.6238	246.7133	565.1092	551.6252	528.0421	254.1977	208.7848	201.06	354.5877	361.8637	372.8258	612.3001	579.8141	535.9143
162	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	µg	36.17603	1405.879	1214.128	996.319	1543.445	1452.481	1364.486	3125.423	3050.848	2920.418	1405.879	1154.716	1111.993	1961.102	2001.343	2061.971	3386.42	3206.751	2963.956
163	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	µg	9.596208	372.9296	322.0649	264.2878	409.421	385.2914	361.9494	829.0632	809.281	774.6826	372.9296	306.305	294.9721	520.2103	530.8848	546.9672	898.2963	850.6365	786.2318
164	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	µg	47.57279	1848.782	1596.623	1310.196	2029.687	1910.065	1794.348	4110.045	4011.975	3840.455	1848.782	1518.494	1462.312	2578.92	2631.839	2711.566	4453.265	4216.994	3897.71
165	Copper, ion	µg	569.891	22147.21	19126.5	15695.29	24314.32	22881.34	21495.13	49235.66	48060.85	46006.15	22147.21	18190.57	17517.54	30893.78	31527.71	32482.8	53347.21	50516.84	46692.03
166	Cumene	ng	675.5044	26251.58	22671.06	18603.97	28820.31	27121.76	25478.65	58360.12	56967.59	54532.11	26251.58	21561.68	20763.93	36619.08	37370.49	38502.58	63233.63	59878.72	55345.09
167	Cumene	µg	1.623082	63.07653	54.47338	44.70109	69.2486	65.16738	61.21936	140.226	136.8801	131.0282	63.07653	51.80779	49.89097	87.98727	89.79274	92.51288	151.9359	143.8749	132.9816
168	Cyanide	ng	83.28305	3236.561	2795.119	2293.687	3553.26	3343.846	3141.267	7195.229	7023.544	6723.273	3236.561	2658.344	2559.988	4514.773	4607.415	4746.989	7796.085	7382.458	6823.506
169	Cyanide	ng	199.3471	7747.064	6690.425	5490.192	8505.119	8003.863	7518.966	17222.57	16811.62	16092.89	7747.064	6363.037	6127.613	10806.6	11028.35	11362.44	18660.79	17670.72	16332.81
170	Cypermethrin	pg	204.8945	7962.649	6876.606	5642.972	8741.798	8226.593	7728.204	17701.84	17279.46	16540.72	7962.649	6540.107	6298.131	11107.33	11335.25	11678.63	19180.08	18162.46	16787.32
171	Diatomite, in ground	µg	411.8289	16004.57	13821.67	11342.12	17570.62	16535.09	15533.34	35579.9	34730.93	33246.12	16004.57	13145.32	12658.96	22325.24	22783.34	23473.53	38551.1	36505.74	33741.76
172	Dichromate	pg	12.39161	481.565	415.8833	341.2756	528.6864	497.5278	467.3862	1070.572	1045.027	1000.35	481.565	395.5325	380.8983	671.749	685.533	706.3003	1159.972	1098.429	1015.263
173	Dinitrogen monoxide	mg	38.77857	1507.02	1301.474	1067.995	1654.483	1556.974	1462.649	3350.27	3270.33	3130.516	1507.02	1237.788	1191.992	2102.186	2145.322	2210.311	3630.043	3437.448	3177.187
174	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	pg	69.1586	2687.654	2321.079	1904.688	2950.643	2776.744	2608.521	5974.949	5832.381	5583.035	2687.654	2207.5	2125.825	3749.087	3826.017	3941.92	6473.903	6130.425	5666.268
175	DOC, Dissolved Organic Carbon	mg	5.58555	217.0667	187.4605	153.8309	238.3068	224.262	210.6756	482.5629	471.0485	450.9102	217.0667	178.2873	171.6909	302.7926	309.0058	318.3667	522.8606	495.1198	457.6325
176	Dolomite, in ground	µg	3.51066	136.4319	117.8237	96.68662	149.7819	140.9543	132.4149	303.3031	296.066	283.4086	136.4319	112.0581	107.9121	190.3128	194.218	200.1015	328.6312	311.1954	287.6337
177	Energy, gross calorific value, in biomass	J	820.9221	31902.82	27551.53	22608.9	35024.53	32960.33	30963.51	70923.46	69231.16	66271.39	31902.82	26203.33	25233.84	44502.17	45415.34	46791.13	76846.11	72768.98	67259.38
178	Energy, gross calorific value, in biomass, primary forest	J	0.042784	1.662695	1.435916	1.178319	1.82539	1.71781	1.61374	3.696352	3.608154	3.453898	1.662695	1.365651	1.315124	2.319341	2.366933	2.438636	4.005026	3.792536	3.505389
179	Energy, kinetic (in wind), converted	J	54.00312	2098.679	1812.436	1487.293	2304.036	2168.246	2036.888	4665.593	4554.268	4359.563	2098.679	1723.746	1659.97	2927.508	2987.58	3078.084	5055.206	4786.998	4424.557
180	Energy, potential (in hydropower reservoir), converted	kJ	235.3159	9144.888	7897.597	6480.802	10039.72	9448.021	8875.634	20330.08	19844.99	18996.58	9144.888	7511.137	7233.234	12756.47	13018.23	13412.6	22027.8	20859.1	19279.78
181	Energy, solar, converted	J	0.791276	30.75073	26.55657	21.79243	33.7597	31.77004	29.84533	68.36222	66.73103	63.87814	30.75073	25.25705	24.32257	42.89508	43.77527	45.10138	74.07098	70.14109	64.83046
182	Ethane	µg	568.2411	22083.09	19071.13	15649.85	24243.93	22815.09	21432.89	49093.12	47921.71	45872.96	22083.09	18137.9	17466.82	30804.34	31436.43	32388.75	53192.77	50370.58	46556.85
183	Ethane, 1,1-difluoro-, HFC-152a	pg	0.155313	6.035801	5.212565	4.277453	6.626407	6.235874	5.858088	13.41824	13.09807	12.5381	6.035801	4.957494	4.774073	8.419513	8.592279	8.852569	14.53877	13.7674	12.72502
184	Ethane, 1,1,1-trichloro-, HCFC-140	pg	221.0002	8588.551	7417.139	6086.536	9428.945	8873.242	8335.677	19093.29	18637.7	17840.9	8588.551	7054.19	6793.194	11980.42	12226.25	12596.63	20687.72	19590.12	18106.88
185	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	ng	70.56127	2742.165	2368.155	1943.318	3010.487	2833.062	2661.427	6096.132	5950.673	5696.27	2742.165	2252.272	2168.941	3825.126	3903.616	4021.87	6605.206	6254.762	5781.191
186	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	pg	0.009853	0.382899	0.330674	0.271353	0.420365	0.395591	0.371625	0.851225	0.830914	0.795391	0.382899	0.314493	0.302857	0.534116	0.545076	0.561588	0.922309	0.873375	0.807249
187	Ethane, 1,2-dichloro-	ng	60.43965	2348.817	2028.457	1664.56	2578.65	2426.675	2279.66	5221.676	5097.082	4879.172	2348.817	1929.196	1857.819	3276.433	3343.664	3444.955	5657.726	5357.551	4951.912
188	Ethane, 1,2-dichloro-	ng	107.9417	4194.85	3622.705	2972.807	4605.318	4333.9	4071.34	9325.609	9103.091	8713.915	4194.85	3445.432	3317.956	5851.517	5971.589	6152.489	10104.37	9568.273	8843.825

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
189	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	1.002931	38.9761	33.66007	27.6216	42.78994	40.26808	37.82853	86.64813	84.58063	80.96463	38.9761	32.01295	30.82851	54.3689	55.48453	57.16535	93.88391	88.90283	82.17168
190	Ethane, hexafluoro-, HFC-116	µg	1.125084	43.72322	37.75971	30.98578	48.00156	45.17255	42.43587	97.20148	94.88216	90.82576	43.72322	35.91198	34.58329	60.99078	62.24229	64.12783	105.3185	99.73079	92.17981
191	Ethanol	µg	1.335728	51.9093	44.82928	36.7871	56.98866	53.62998	50.38093	115.4	112.6465	107.8306	51.9093	42.63561	41.05815	72.40979	73.89562	76.13417	125.0368	118.4029	109.4382
192	Ethanol	pg	3.111656	120.9258	104.4324	85.69769	132.7584	124.9342	117.3653	268.8311	262.4166	251.1977	120.9258	99.32214	95.64735	168.6828	172.1441	177.359	291.2806	275.8265	254.9427
193	Ethene	µg	108.5129	4217.05	3641.877	2988.54	4629.69	4356.836	4092.887	9374.962	9151.266	8760.031	4217.05	3463.666	3335.515	5882.485	6003.191	6185.049	10157.84	9618.91	8890.628
194	Ethene	ng	225.5336	8764.727	7569.287	6211.389	9622.361	9055.259	8506.666	19484.95	19020.02	18206.87	8764.727	7198.893	6932.543	12226.17	12477.05	12855.02	21112.09	19991.97	18478.31
195	Ethene, chloro-	ng	3.837024	149.1151	128.777	105.6749	163.7061	154.058	144.7247	331.4992	323.5893	309.7552	149.1151	122.4754	117.944	208.005	212.2732	218.7037	359.1819	340.1252	314.3731
196	Ethene, chloro-	pg	252.4865	9812.176	8473.872	6953.695	10772.3	10137.43	9523.275	21813.54	21293.05	20382.73	9812.176	8059.212	7761.032	13687.29	13968.15	14391.29	23635.13	22381.15	20686.6
197	Ethene, tetrachloro-	pg	474.835	18453.12	15936.26	13077.36	20258.77	19064.8	17909.81	41023.31	40044.45	38332.47	18453.12	15156.44	14595.67	25740.8	26268.99	27064.77	44449.07	42090.79	38903.94
198	Ethyl acetate	pg	372.6748	14482.96	12507.59	10263.79	15900.12	14963.04	14056.53	32197.19	31428.94	30085.29	14482.96	11895.55	11455.43	20202.7	20617.25	21241.82	34885.91	33035.01	30533.81
199	Ethyl acetate	pg	0.000212	0.008248	0.007123	0.005845	0.009055	0.008522	0.008005	0.018337	0.017899	0.017134	0.008248	0.006775	0.006524	0.011506	0.011742	0.012097	0.019868	0.018814	0.017389
200	Ethyl cellulose	pg	0.753676	29.28949	25.29463	20.75688	32.15548	30.26037	28.42712	65.11373	63.56006	60.84274	29.28949	24.05687	23.1668	40.85676	41.69512	42.95822	70.55123	66.80808	61.7498
201	Ethylene diamine	pg	530.2535	20606.81	17796.2	14603.64	22623.19	21289.88	20000.08	45811.18	44718.08	42806.3	20606.81	16925.36	16299.15	28745.03	29334.87	30223.53	49636.77	47003.25	43444.46
202	Ethylene diamine	ng	1.285463	49.9559	43.1423	35.40276	54.84411	51.61183	48.48504	111.0574	108.4075	103.7728	49.9559	41.03118	39.51308	69.68493	71.11484	73.26916	120.3316	113.9473	105.3199
203	Ethylene oxide	ng	3.2805	127.4874	110.0991	90.34781	139.9621	131.7133	123.7338	283.4184	276.6558	264.8282	127.4874	104.7115	100.8374	177.8359	181.485	186.9828	307.086	290.7933	268.7763
204	Ethylene oxide	pg	285.9184	11111.41	9595.904	7874.44	12198.67	11479.73	10784.26	24701.89	24112.48	23081.62	11111.41	9126.34	8788.677	15499.63	15817.68	16296.85	26764.68	25344.66	23425.73
205	Ethyne	µg	17.36409	674.8065	582.7682	478.2221	740.8367	697.1749	654.9381	1500.169	1464.373	1401.768	674.8065	554.2511	533.7445	941.3071	960.6224	989.7231	1625.444	1539.205	1422.666
206	Feldspar, in ground	pg	239.9619	9325.445	8053.527	6608.759	10237.94	9634.563	9050.874	20731.48	20236.81	19371.64	9325.445	7659.437	7376.047	13008.33	13275.26	13677.41	22462.72	21270.94	19660.44
207	Fenpiclonil	ng	103.4055	4018.564	3470.463	2847.877	4411.783	4151.771	3900.245	8933.707	8720.54	8347.72	4018.564	3300.64	3178.521	5605.612	5720.637	5893.935	9679.74	9166.174	8472.17
208	Fluoride	mg	6.185899	240.3975	207.6092	170.365	263.9206	248.3662	233.3195	534.4299	521.6779	499.3752	240.3975	197.4501	190.1447	335.3375	342.2185	352.5855	579.0589	548.3365	506.82
209	Fluoride	pg	155.4192	6039.931	5216.131	4280.38	6630.941	6240.141	5862.096	13427.43	13107.03	12546.68	6039.931	4960.886	4777.34	8425.274	8598.158	8858.627	14548.72	13776.82	12733.73
210	Fluorine	ng	14.81058	575.5714	497.0679	407.8961	631.8913	594.6503	558.6247	1279.558	1249.027	1195.628	575.5714	472.7445	455.2535	802.8812	819.356	844.1772	1386.411	1312.854	1213.453
211	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	µg	5.199372	202.059	174.4997	143.1952	221.8305	208.7568	196.1097	449.1991	438.4808	419.7349	202.059	165.9608	159.8204	281.8579	287.6415	296.3552	486.7107	460.8879	425.9924
212	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	µg	3.019012	117.3254	101.3231	83.14619	128.8057	121.2145	113.871	260.8272	254.6036	243.7188	117.3254	96.36499	92.79961	163.6606	167.0188	172.0784	282.6082	267.6142	247.3522
213	Fluorspar, 92%, in ground	mg	1.723547	66.9808	57.84514	47.46797	73.53491	69.20107	65.00868	148.9056	145.3526	139.1385	66.9808	55.01456	52.97909	93.43346	95.35068	98.23919	161.3404	152.7804	141.2128
214	Fluosilicic acid	µg	1.314941	51.10148	44.13163	36.21461	56.10178	52.79538	49.59689	113.6042	110.8935	106.1525	51.10148	41.9721	40.41919	71.28293	72.74563	74.94935	123.091	116.5603	107.7351
215	Fluosilicic acid	µg	2.366894	91.98266	79.43694	65.18629	100.9832	95.03168	89.2744	204.4875	199.6082	191.0746	91.98266	75.54978	72.75454	128.3093	130.9421	134.9088	221.5638	209.8085	193.9232
216	Formaldehyde	µg	571.3361	22203.37	19175	15735.09	24375.98	22939.36	21549.63	49360.51	48182.73	46122.82	22203.37	18236.7	17561.96	30972.12	31607.66	32565.17	53482.49	50644.94	46810.43
217	Formaldehyde	ng	117.3575	4560.768	3938.715	3232.127	5007.042	4711.948	4426.485	10139.09	9897.158	9474.034	4560.768	3745.979	3607.382	6361.948	6492.493	6689.173	10985.78	10402.92	9615.276
218	Formic acid	ng	2.7877	108.3361	93.55989	76.77565	118.9368	111.9272	105.1463	240.843	235.0962	225.0454	108.3361	88.98165	85.68944	151.1212	154.2221	158.894	260.9552	247.11	228.4004
219	Furan	pg	791.5013	30759.47	26564.12	21798.63	33769.3	31779.08	29853.81	68381.66	66750.01	63896.31	30759.47	25264.23	24329.49	42907.27	43787.72	45114.2	74092.05	70161.04	64848.89
220	Gadolinium, 0.15% in bastnasite, 0.015% in crude ore, in ground	pg	-1.6E-13	-6.4E-12	-5.5E-12	-4.5E-12	-7E-12	-6.6E-12	-6.2E-12	-1.4E-11	-1.4E-11	-1.3E-11	-6.4E-12	-5.2E-12	-5.1E-12	-8.9E-12	-9.1E-12	-9.4E-12	-1.5E-11	-1.5E-11	-1.3E-11
221	Gallium, 0.014% in bauxite, in ground	pg	0.001196	0.046488	0.040147	0.032945	0.051037	0.048029	0.045119	0.103348	0.100882	0.096569	0.046488	0.038183	0.03677	0.064848	0.066178	0.068183	0.111979	0.106037	0.098009
222	Gas, mine, off-gas, process, coal mining/m3	cu.in	158.1466	6145.921	5307.666	4355.493	6747.303	6349.645	5964.966	13663.05	13337.04	12766.86	6145.921	5047.941	4861.174	8573.124	8749.041	9014.081	14804.02	14018.58	12957.19
223	Gas, natural, in ground	cm3	624.1336	24255.2	20946.98	17189.18	26628.58	25059.2	23541.05	53921.95	52635.32	50385.05	24255.2	19921.96	19184.87	33834.27	34528.54	35574.53	58424.84	55325.07	51136.21
224	Glutaraldehyde	pg	3.768734	146.4612	126.4851	103.7942	160.7925	151.3161	142.149	325.5993	317.8302	304.2423	146.4612	120.2957	115.8449	204.303	208.4952	214.8113	352.7893	334.0718	308.778
225	Glyphosate	pg	978.7624	38036.84	32848.91	26955.96	41758.77	39297.68	36916.92	84560.05	82542.37	79013.52	38036.84	31241.49	30085.6	53058.69	54147.44	55787.76	91621.46	86760.42	80191.47
226	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	pg	0.738255	28.69021	24.77709	20.33219	31.49757	29.64123	27.84548	63.78148	62.25959	59.59787	28.69021	23.56465	22.69279	40.02081	40.84202	42.07927	69.10772	65.44115	60.48637
227	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	pg	1.35323	52.58946	45.41667	37.26911	57.73537	54.33269	51.04106	116.9121	114.1225	109.2435	52.58946	43.19426	41.59612	73.35856	74.86385	77.13174	126.6752	119.9543	110.8721
228	Gold, Au 1.4E-4%, in ore, in ground	pg	1.620795	62.98765	54.39663	44.63811	69.15103	65.07556	61.1331	140.0284	136.6872	130.8436	62.98765	51.73479	49.82067	87.8633	89.66622	92.38253	151.7219	143.6721	132.7942
229	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	pg	2.475842	96.21664	83.09344	68.18684	105.6315	99.40601	93.38372	213.9001	208.7962	199.8698	96.21664	79.02736	76.10345	134.2154	136.9694	141.1187	231.7624	219.4661	202.8495
230	Gold, Au 4.3E-4%, in ore, in ground	pg	0.613659	23.84812	20.59543	16.90069	26.18167	24.63864	23.14596	53.01698	51.75195	49.53945	23.84812	19.58761	18.8629	33.26644	33.94905	34.97749	57.4443	54.39655	50.27799
231	Gold, Au 4.9E-5%, in ore, in ground	pg	1.470302	57.13916	49.34582	40.4934	62.73026	59.0332	55.45681	127.0266	123.9956	118.6946	57.13916	46.93114	45.19475	79.70507	81.34059	83.80468	137.6343	130.332	120.4641
232	Gold, Au 6.7E-4%, in ore, in ground	pg	2.275434	88.42834	76.3674	62.66742	97.0811	91.35954	85.82473	196.5858	191.8951	183.6912	88.42834	72.63045	69.94322	123.3512	125.8824	129.6958	213.0023	201.7013	186.4297
233	Gold, Au 7.1E-4%, in ore, in ground	pg	2.565664	99.70731	86.10801	70.66061	109.4637	103.0124	96.77162	221.6602	216.3712	207.1209	99.70731	81.89442	78.86443	139.0846	141.9386	146.2384	240.1706	227.4281	210.2087
234	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	pg	0.153753	5.975166	5.1602	4.234482	6.559839	6.173229	5.799238	13.28345	12.96649	12.41215	5.975166	4.907691	4.726113	8.334931	8.505961	8.763637	14.39271	13.6291	12.59719
235	Granite, in ground	pg	239.8894	9322.627	8051.093	6606.762	10234.85	9631.652	9048.14	20725.22	20230.69	19365.79	9322.627	7657.122	7373.819	13004.4	13271.25	13673.28	22455.93	21264.51	19654.5
236	Gravel, in ground	mg	35.38778	1375.246	1187.673	974.61	1509.815	1420.833	1334.755	3057.323	2984.372	2856.784	1375.246	1129.556	1087.764	1918.371	1957.735	2017.042	3312.633	3136.878	2899.374
237	Gypsum, in ground	ng	666.4419	25899.39	22366.91	18354.38	28433.66	26757.9	25136.83	57577.16	56203.32	53800.51	25899.39	21272.41	20485.36	36127.8	36869.14	37986.03	62385.3	59075.4	54602.59
238	Heat, waste	MJ	5.895655	229.118	197.8681	162.3714	251.5373	236.7128	222.3721	509.3544	497.2007	475.9443	229.118	188.1857	181.223	319.6034	326.1615	336.0421	551.8893	522.6084	483.0399
239	Heat, waste	kJ	21.24791	825.7401	713.1156	585.1857	906.5392	853.1116	801.4278	1835.71	1791.909	1715.301	825.7401	678.2201	653.1268	1151.849	1175.484	1211.094	1989.006	1883.478	1740.873
240	Heat, waste	J	32.47149	1261.913	1089.798	894.2927	1385.392	1303.743	1224.758	2805.37	2738.431	2621.358	1261.913	1036.47	998.1217	1760.279	1796.399	1850.818	3039.64	2878.369	2660.438
241	Helium	µg	2.800302	108.8259	93.98286	77.12274	119.4745	112.4332	105.6217	241.9318	236.159	226.0628	108.8259	89.38392	86.07683	151.8043	154.9193	159.6124	262.1349	248.2271	229.433
242	Helium, 0.08% in natural gas, in ground	pg	0.00604	0.234709	0.202697	0.166334	0.257676	0.242489	0.227799	0.521784	0.509334	0.487559	0.234709	0.192778	0.185645	0.327403	0.334121	0.344243	0.565357	0.535362	0.494828
243	Heptane	µg	14.86247	577.5882	498.8097	409.3254	634.1055	596.734	560.5822	1284.042	1253.403	1199.818	577.5882	474.401	456.8488	805.6945	822.2271	847.1353	1391.269	1317.454	1217.705
244	Hexane	µg	52.83099	2053.128	1773.097	1455.011	2254.027	2121.185	1992.677	4564.327	4455.418	4264.94	2053.128	1686.333	1623.941	2863.967	2922.735	3011.275	4945.483	4683.097	4328.523
245	Hydrocarbons, aliphatic, alkanes, cyclic	ng	10.74115	417.4246	360.4911	295.8206	458.2698	431.2613	405.1343	927.9804	905.8379	867.1115	417.4246	342.8509	330.1659	582.2776	594.2258	612.227	1005.474	952.1277	880.0387
246	Hydrocarbons, aliphatic, alkanes, unspecified	mg	2.161648	84.00635	72.54854	59.53364	92.22642	86.79098	81.53294	186.7553	182.2991	174.5055	84.00635	68.99846	66.44561	117.1829	119.5874	123.2102	202.3508	191.6149	177.1071
247	Hydrocarbons, aliphatic, alkanes, unspecified	µg	9.203783	357.6791	308.8945	253.4801	392.6782	369.5354	347.1479	795.1597	776.1864	743.0029	357.6791	293.7791	282.9096	498.9369	509.1749	524.5996	861.5616	815.8508	754.0798
248	Hydrocarbons, aliphatic, unsaturated	mg	2.122795	82.49645	71.24457	58.4636	90.56877	85.23102	80.06749	183.3986	179.0225	171.369	82.49645	67.7583	65.25133	115.0767	117.438	120.9956	198.7138	188.1709	173.9238
249	Hydrocarbons, aliphatic, unsaturated	ng	849.58	33016.53	28513.33	23398.16	36247.22	34110.96	32044.42	73399.35	71647.98	68584.88	33016.53	27118.07	26114.73	46055.72	47000.76	48424.58	79528.76	75309.3	69607.36
250	Hydrocarbons, aromatic	µg	3.694586	143.5797	123.9965	101.7521	157.629	148.339	139.3523	319.1933	311.5771	298.2565	143.5797	117.9289	113.5657	200.2835	204.3932	210.585	345.8484	327.4991	302.703
251	Hydrocarbons, aromatic	µg	37.37268	1452.384	1254.29	1029.276	1594.501	1500.527	1409.621	3228.808	3151.766	3017.021	1452.384	1192.913	1148.777	2025.973	2067.545	2130.178	3498.438	3312.826	3062
252	Hydrocarbons, chlorinated	ng	364.3905	14161.01	12229.56	10035.63	15546.67	14630.42	13744.07	31481.48	30730.3	29416.52	14161.01	11631.12	11200.78	19753.61	20158.94	20769.63	34110.42	32300.66	29855.07
253	Hydrocarbons, unspecified	µg	4.070579	158.1916	136.6155	112.1073	173.6707	163.4353	153.5339	351.6772	343.2858	328.6097	158.1916	129.9304	125.1231	220.666	225.194	232.016	381.0449	360.8283	333.5087
254	Hydrogen	µg	94.61276	3676.859	3175.364	2605.717	4036.641	3798.738	3568.6	8174.058	7979.017	7637.898	3676.859	3019.981	2908.246	5128.956	5234.201	5392.763	8856.654	8386.757	7751.766
255	Hydrogen-3, Tritium	Bq	12.81442	497.9962	430.0734	352.9201	546.7254	514.5037	483.3337	1107.1	1080.684	1034.482	497.9962	409.0283	393.8948	694.6693	708.9237	730.3995	1199.551	1135.908	1049.904
256	Hydrogen-3, Tritium	Bq	909.8043	35356.98	30534.57	25056.8	38816.68	36528.99	34315.96	78602.43	76726.9	73446.67	35356.98	29040.39	27965.94	49320.48	50332.52	51857.27	85166.33	80647.77	74541.64
257	Hydrogen chloride	mg	11.78193	457.8717	395.4215	324.4846	502.6747	473.0491	444.3905	1017.899	993.6107	951.1318	457.8717	376.0721	362.1579	638.6985	651.8043	671.5498	1102.901	1044.386	965.3116
258	Hydrogen fluoride	mg	11.08802	430.9048	372.1328	305.3738	473.0691	445.1884	418.2177	957.9485	935.091	895.1139	430.9048	353.9229	340.8282	601.0816	613.4156	631.9981	1037.944	982.8756	908.4585
259	Hydrogen peroxide	pg	0.558508	21.70484	18.74447	15.38179	23.82867	22.42431	21.06578	48.25223	47.10089	45.08723	21.70484	17.82723	17.16765	30.27671	30.89798	31.83399	52.28166	49.50782	45.7594
260	Hydrogen peroxide	ng	164.7969	6404.365	5530.86	4538.647	7031.036	6616.656	6215.801	14237.6	13897.88	13303.72	6404.365	5260.214	5065.593	8933.635	9116.95	9393.134	15426.55	14608.08	13502.05
261	Hydrogen sulfide	µg	15.04384	584.6365	504.8967	414.3204	641.8435	604.016	567.423	1299.711	1268.699	1214.459	584.6365	480.1901	462.4237	815.5264	832.2607	857.4729	1408.247	1333.531	1232.565
262	Hydrogen sulfide	µg	181.5736	7056.347	6093.916	5000.694	7746.814	7290.249	6848.586	15687.03	15312.72	14658.07	7056.347	5795.717	5581.283	9843.102	10045.08	10349.38	16997.02	16095.23	14876.6
263	Hydroxide	pg	15.56383	604.8443	522.3482	428.6412	664.0286	624.8935	587.0358	1344.635	1312.551	1256.436	604.8443	496.7877	478.4072	843.7148	861.0275	887.1111	1456.922	1379.624	1275.168
264	Hypochlorite	ng	353.5238	13738.7	11864.85	9736.349	15083.04	14194.11	13334.19	30542.64	29813.86	28539.26	13738.7	11284.26	10866.76	19164.52	19557.77	20150.24	33093.18	31337.4	28964.73
265	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	pg	-11.532	-448.16	-387.035	-317.602	-492.013	-463.016	-434.965	-996.309	-972.536	-930.958	-448.16	-368.096	-354.476	-625.152	-637.98	-657.306	-1079.51	-1022.23	-944.837
266	Iodide	µg	7.113058	276.429	238.7262	195.8997	303.4777	285.592	268.29	614.5317	599.8684	574.2228	276.429	227.0444	218.6441	385.5988	393.5111	405.4319	665.8498	630.5227	582.7835
267	Iodine	µg	289.9862	11269.5	9732.426	7986.471	12372.22	11643.06	10937.69	25053.32	24455.53	23410	11269.5	9256.181	8913.714	15720.15	16042.72	16528.71	27145.47	25705.24	23759.01

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
268	Iodine-129	mBq	2.08898	81.18232	70.10968	57.53231	89.12605	83.87333	78.79206	180.4771	176.1708	168.6391	81.18232	66.67894	64.21191	113.2436	115.5673	119.0682	195.5484	185.1734	171.1533
269	Iodine-131	µBq	484.4593	18827.15	16259.27	13342.43	20669.39	19451.22	18272.82	41854.8	40856.1	39109.42	18827.15	15463.64	14891.51	26262.53	26801.43	27613.34	45349.99	42943.91	39692.48
270	Iodine-131	µBq	132.5785	5152.29	4449.558	3651.326	5656.444	5323.077	5000.59	11454.1	11180.8	10702.8	5152.29	4231.824	4075.252	7187.078	7334.555	7556.744	12410.61	11752.15	10862.36
271	Iodine-133	µBq	2.879658	111.9098	96.64618	79.30827	122.8602	115.6194	108.6148	248.7877	242.8514	232.469	111.9098	91.91691	88.5161	156.1062	159.3095	164.1355	269.5634	255.2615	235.9347
272	Iodine-133	nBq	40.78009	1584.803	1368.648	1123.119	1739.877	1637.336	1538.142	3523.191	3439.124	3292.094	1584.803	1301.675	1253.515	2210.688	2256.05	2324.394	3817.404	3614.869	3341.174
273	Iodine-135	µBq	6.180999	240.2071	207.4447	170.23	263.7115	248.1695	233.1347	534.0066	521.2647	498.9796	240.2071	197.2937	189.9941	335.0718	341.9474	352.3062	578.6002	547.9022	506.4185
274	Iron	µg	153.8035	5977.142	5161.906	4235.882	6562.008	6175.271	5801.156	13287.84	12970.78	12416.25	5977.142	4909.314	4727.676	8337.688	8508.774	8766.535	14397.47	13633.6	12601.36
275	Iron	µg	323.7891	12583.15	10866.91	8917.431	13814.42	13000.26	12212.66	27973.72	27306.24	26138.84	12583.15	10335.15	9952.761	17552.6	17912.78	18455.42	30309.74	28701.63	26528.53
276	Iron-59	nBq	11.21132	435.6963	376.2707	308.7694	478.3294	450.1387	422.868	968.6004	945.4887	905.0671	435.6963	357.8583	344.618	607.7654	620.2365	639.0257	1049.486	993.8047	918.5601
277	Iron, 46% in ore, 25% in crude ore, in ground	mg	1.240427	48.20571	41.63083	34.16244	52.92267	49.80363	46.78639	107.1666	104.6095	100.1372	48.20571	39.59367	38.12876	67.24354	68.62336	70.7022	116.1158	109.9552	101.6301
278	Iron, ion	mg	30.4445	1183.14	1021.769	838.4677	1298.91	1222.358	1148.304	2630.248	2567.488	2457.723	1183.14	971.7695	935.8153	1650.396	1684.261	1735.283	2849.894	2698.691	2494.363
279	Isocyanic acid	pg	3.084581	119.8735	103.5237	84.95201	131.6032	123.8471	116.3441	266.492	260.1332	249.012	119.8735	98.45791	94.81509	167.2151	170.6463	175.8157	288.7461	273.4264	252.7243
280	Isoprene	pg	36.72629	1427.264	1232.596	1011.474	1566.922	1474.574	1385.241	3172.963	3097.253	2964.839	1427.264	1172.28	1128.908	1990.931	2031.785	2093.335	3437.93	3255.528	3009.04
281	Kaolinite, 24% in crude ore, in ground	mg	5.71924	222.2621	191.9473	157.5128	244.0106	229.6297	215.7181	494.113	482.323	461.7027	222.2621	182.5546	175.8003	310.0399	316.4018	325.9867	535.3752	506.9705	468.5859
282	Kieserite, 25% in crude ore, in ground	µg	13.79008	535.9125	462.8182	379.7906	588.3518	553.6768	520.1335	1191.392	1162.964	1113.245	535.9125	440.1707	423.885	747.5598	762.8995	786.0104	1290.882	1222.393	1129.842
283	Krypton-85	mBq	3.864375	150.178	129.6949	106.4282	164.873	155.1561	145.7563	333.8622	325.8959	311.9632	150.178	123.3485	118.7847	209.4877	213.7863	220.2627	361.7422	342.5497	316.614
284	Krypton-85m	µBq	420.5637	16344.02	14114.83	11582.69	17943.3	16885.79	15862.81	36334.55	35467.57	33951.26	16344.02	13424.13	12927.46	22798.75	23266.58	23971.4	39368.76	37280.02	34457.42
285	Krypton-87	µBq	126.2751	4907.324	4238.003	3477.724	5387.508	5069.991	4762.837	10909.52	10649.21	10193.93	4907.324	4030.622	3881.494	6845.368	6985.833	7197.459	11820.55	11193.4	10345.9
286	Krypton-88	µBq	141.908	5514.855	4762.671	3908.269	6054.486	5697.66	5352.48	12260.12	11967.59	11455.95	5514.855	4529.616	4362.026	7692.83	7850.685	8088.51	13283.94	12579.15	11626.74
287	Krypton-89	µBq	47.99348	1865.131	1610.742	1321.782	2047.635	1926.956	1810.216	4146.39	4047.454	3874.417	1865.131	1531.922	1475.243	2601.726	2655.112	2735.545	4492.645	4254.285	3932.178
288	Lanthanum-140	nBq	2.133998	82.93181	71.62056	58.77214	91.04674	85.68082	80.49004	184.3665	179.9673	172.2733	82.93181	68.11589	65.59569	115.684	118.0578	121.6342	199.7625	189.1639	174.8416
289	Lanthanum-140	nBq	69.18716	2688.764	2322.038	1905.474	2951.861	2777.891	2609.599	5977.416	5834.789	5585.34	2688.764	2208.411	2126.703	3750.635	3827.597	3943.548	6476.576	6132.956	5668.608
290	Lanthanum, 7.2% in bastnasite, 0.72% in crude ore, in ground	pg	1.49E-10	5.81E-09	5.02E-09	4.12E-09	6.38E-09	6E-09	5.64E-09	1.29E-08	1.26E-08	1.21E-08	5.81E-09	4.77E-09	4.59E-09	8.1E-09	8.27E-09	8.52E-09	1.4E-08	1.33E-08	1.22E-08
291	Lead	µg	10.71543	416.425	359.6278	295.1121	457.1723	430.2285	404.1641	925.7581	903.6687	865.035	416.425	342.0299	329.3752	580.8832	592.8027	610.7608	1003.066	949.8475	877.9312
292	Lead	µg	77.28404	3003.427	2593.783	2128.469	3297.314	3102.984	2914.996	6676.945	6517.627	6238.985	3003.427	2466.859	2375.588	4189.567	4275.535	4405.056	7234.521	6850.688	6331.998
293	Lead	ng	28.47252	1106.504	955.5857	784.1577	1214.776	1143.182	1073.925	2459.88	2401.185	2298.529	1106.504	908.8252	875.1999	1543.495	1575.167	1622.884	2665.298	2523.889	2332.796
294	Lead-210	mBq	10.36447	402.7859	347.849	285.4464	442.1987	416.1374	390.9266	895.437	874.0711	836.7027	402.7859	330.8275	318.5873	561.8577	573.3868	590.7568	970.2128	918.7375	849.1766
295	Lead-210	µBq	123.7544	4809.364	4153.404	3408.302	5279.963	4968.784	4667.762	10691.74	10436.63	9990.44	4809.364	3950.162	3804.012	6708.722	6846.382	7053.783	11584.58	10969.95	10139.38
296	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	ng	4.677707	181.7859	156.9917	128.8281	199.5738	187.8117	176.4336	404.1299	394.487	377.6219	181.7859	149.3095	143.7853	253.5784	258.7818	266.6212	437.8779	414.6459	383.2516
297	Linuron	pg	783.3687	30443.42	26291.17	21574.65	33422.32	31452.55	29547.07	67679.04	66064.16	63239.78	30443.42	25004.64	24079.51	42466.4	43337.8	44650.66	73330.76	69440.14	64182.58
298	Lithium, ion	ng	155.3613	6037.679	5214.187	4278.784	6628.469	6237.815	5859.911	13422.42	13102.15	12542.01	6037.679	4959.037	4775.559	8422.134	8594.953	8855.324	14543.29	13771.69	12728.98
299	m-Xylene	ng	18.74602	728.5114	629.1481	516.2816	799.7966	752.6599	707.0617	1619.56	1580.916	1513.329	728.5114	598.3615	576.2229	1016.222	1037.074	1068.491	1754.806	1661.703	1535.89
300	m-Xylene	pg	4.378364	170.1528	146.9453	120.5839	186.8023	175.793	165.143	378.2682	369.2424	353.4565	170.1528	139.7547	134.5839	237.351	242.2214	249.5591	409.8565	388.1112	358.7259
301	Magnesite, 60% in crude ore, in ground	µg	25.31967	983.9779	849.7709	697.3257	1080.261	1016.595	955.0065	2187.49	2135.295	2044.006	983.9779	808.1884	778.2865	1372.579	1400.744	1443.178	2370.162	2244.411	2074.479
302	Magnesium	µg	131.5364	5111.793	4414.584	3622.627	5611.985	5281.238	4961.286	11364.07	11092.92	10618.67	5111.793	4198.562	4043.22	7130.588	7276.905	7497.348	12313.06	11659.78	10776.98
303	Magnesium	mg	383.9976	14922.98	12887.61	10575.62	16383.21	15417.65	14483.61	33175.42	32383.83	30999.35	14922.98	12256.97	11803.47	20816.5	21243.65	21887.2	35945.82	34038.69	31461.5
304	Magnesium	µg	1.823557	70.86741	61.20165	50.22233	77.80182	73.21651	68.78085	157.546	153.7868	147.2121	70.86741	58.20682	56.05324	98.855	100.8835	103.9396	170.7023	161.6455	149.4068
305	Magnesium, 0.13% in water	pg	7.805518	303.3395	261.9663	214.9707	333.0214	313.3945	294.4082	674.3568	658.266	630.1238	303.3395	249.1473	239.9292	423.137	431.8197	444.901	730.6707	691.9044	639.5179
306	Mancozeb	µg	3.412108	132.602	114.5161	93.9724	145.5771	136.9974	128.6978	294.7887	287.7547	275.4526	132.602	108.9124	104.8828	184.9703	188.7659	194.4842	319.4058	302.4594	279.5592
307	Manganese	µg	5.20771	202.383	174.7795	143.4248	222.1862	209.0915	196.4242	449.9194	439.1839	420.4079	202.383	166.2269	160.0767	282.3099	288.1028	296.8304	487.4911	461.6269	426.6755
308	Manganese	mg	1.164043	45.23726	39.06725	32.05875	49.66375	46.73677	43.90533	100.5674	98.16773	93.97086	45.23726	37.15554	35.78083	63.10276	64.39761	66.34844	108.9655	103.1843	95.37181
309	Manganese	ng	429.4151	16688.01	14411.9	11826.46	18320.94	17241.18	16196.66	37099.27	36214.05	34665.82	16688.01	13706.67	13199.54	23278.59	23756.26	24475.92	40197.34	38064.64	35182.63
310	Manganese-54	nBq	0.198636	7.719439	6.666568	5.470614	8.47479	7.975322	7.492155	17.16116	16.75167	16.03551	7.719439	6.340347	6.105762	10.76807	10.98903	11.32192	18.59424	17.60771	16.27457
311	Manganese-54	µBq	375.7609	14602.89	12611.17	10348.78	16031.79	15086.94	14172.93	32463.81	31689.2	30334.42	14602.89	11994.06	11550.29	20369.99	20787.98	21417.72	35174.79	33308.56	30786.65
312	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	µg	2.472276	96.07803	82.97374	68.08861	105.4793	99.26281	93.24919	213.5919	208.4954	199.5818	96.07803	78.91351	75.99381	134.022	136.7721	140.9154	231.4285	219.1499	202.5573
313	Mercury	µg	18.13235	704.6627	608.5522	499.3805	773.6143	728.0207	683.9152	1566.542	1529.163	1463.788	704.6627	578.7734	557.3595	982.9544	1003.124	1033.512	1697.36	1607.306	1485.611
314	Mercury	ng	396.1333	15394.6	13294.9	10909.85	16900.97	15904.9	14941.34	34223.89	33407.27	31979.04	15394.6	12644.33	12176.51	21474.38	21915.03	22578.91	37081.84	35114.44	32455.8
315	Mercury	pg	941.9931	36607.91	31614.87	25943.3	40190.01	37821.38	35530.06	81383.38	79441.49	76045.21	36607.91	30067.84	28955.37	51065.43	52113.28	53691.97	88179.51	83501.08	77178.91
316	Metaldehyde	ng	1.177871	45.77462	39.53132	32.43957	50.25369	47.29195	44.42687	101.762	99.33384	95.08712	45.77462	37.5969	36.20586	63.85234	65.16257	67.13657	110.2599	104.41	96.5047
317	Metamorphous rock, graphite containing, in ground	µg	69.3033	2693.277	2325.935	1908.673	2956.816	2782.554	2613.979	5987.45	5844.584	5594.716	2693.277	2212.118	2130.273	3756.931	3834.022	3950.168	6487.447	6143.251	5678.123
318	Methane, biogenic	mg	17.6628	686.4151	592.7934	486.4488	753.5812	709.1683	666.2049	1525.976	1489.564	1425.883	686.4151	563.7858	542.9264	957.5003	977.1479	1006.749	1653.406	1565.684	1447.14
319	Methane, bromo-, Halon 1001	pg	2.34E-05	0.000908	0.000784	0.000643	0.000996	0.000938	0.000881	0.002018	0.00197	0.001885	0.000908	0.000746	0.000718	0.001266	0.001292	0.001331	0.002186	0.00207	0.001914
320	Methane, bromochlorodifluoro-, Halon 1211	ng	27.23573	1058.44	914.0771	750.0956	1162.009	1093.525	1027.276	2353.028	2296.882	2198.686	1058.44	869.3478	837.183	1476.449	1506.745	1552.389	2549.524	2414.257	2231.465
321	Methane, bromotrifluoro-, Halon 1301	ng	38.92785	1512.821	1306.484	1072.107	1660.852	1562.968	1468.279	3363.167	3282.918	3142.567	1512.821	1242.553	1196.58	2110.278	2153.58	2218.82	3644.017	3450.681	3189.417
322	Methane, chlorodifluoro-, HCFC-22	ng	96.37635	3745.395	3234.553	2654.288	4111.884	3869.547	3635.119	8326.423	8127.747	7780.269	3745.395	3076.274	2962.455	5224.56	5331.767	5493.285	9021.743	8543.087	7896.259
323	Methane, dichloro-, HCC-30	ng	3.496341	135.8754	117.3431	96.29223	149.1709	140.3794	131.8748	302.0659	294.8583	282.2525	135.8754	111.601	107.4719	189.5366	193.4258	199.2853	327.2907	309.9261	286.4604
324	Methane, dichloro-, HCC-30	pg	57.27483	2225.825	1922.24	1577.398	2443.623	2299.606	2160.29	4948.252	4830.182	4623.682	2225.825	1828.177	1760.537	3104.867	3168.578	3264.566	5361.468	5077.011	4692.613
325	Methane, dichlorodifluoro-, CFC-12	pg	175.892	6835.548	5903.232	4844.218	7504.41	7062.131	6634.288	15196.17	14833.57	14199.41	6835.548	5614.365	5406.64	9535.104	9730.761	10025.54	16465.17	15591.59	14411.1
326	Methane, dichlorofluoro-, HCFC-21	pg	6.64E-05	0.002579	0.002227	0.001828	0.002831	0.002664	0.002503	0.005733	0.005597	0.005357	0.002579	0.002118	0.00204	0.003597	0.003671	0.003783	0.006212	0.005883	0.005437
327	Methane, fossil	g	1.758963	68.35713	59.03375	48.44335	75.04591	70.62302	66.34448	151.9654	148.3393	141.9975	68.35713	56.145	54.06771	95.35333	97.30995	100.2578	164.6556	155.9197	144.1145
328	Methane, monochloro-, R-40	ng	5.853223	227.469	196.444	161.2028	249.727	235.0091	220.7716	505.6885	493.6223	472.5189	227.469	186.8313	179.9187	317.3031	323.8141	333.6236	547.9173	518.8471	479.5634
329	Methane, tetrachloro-, CFC-10	ng	223.8906	8700.878	7514.146	6166.141	9552.264	8989.293	8444.697	19343	18881.46	18074.24	8700.878	7146.45	6882.041	12137.11	12386.16	12761.38	20958.29	19846.33	18343.69
330	Methane, tetrafluoro-, CFC-14	µg	10.12575	393.5087	339.8372	278.8718	432.0137	406.5526	381.9226	874.8127	853.9389	817.4313	393.5087	323.2076	311.2494	548.9166	560.1802	577.1501	947.8663	897.5765	829.6178
331	Methane, trichlorofluoro-, CFC-11	pg	0.000108	0.004187	0.003616	0.002967	0.004597	0.004326	0.004064	0.009308	0.009086	0.008697	0.004187	0.003439	0.003312	0.00584	0.00596	0.006141	0.010085	0.00955	0.008827
332	Methane, trifluoro-, HFC-23	pg	0.021115	0.820582	0.708661	0.58153	0.900876	0.847782	0.796421	1.824243	1.780715	1.704586	0.820582	0.673983	0.649047	1.144653	1.168141	1.203528	1.976581	1.871712	1.729998
333	Methanol	µg	6.873	267.0998	230.6694	189.2883	293.2356	275.9536	259.2355	593.792	579.6235	554.8434	267.0998	219.3819	211.2651	372.5852	380.2305	391.7491	643.3781	609.2432	563.1152
334	Methanol	ng	421.1581	16367.12	14134.78	11599.06	17968.66	16909.66	15885.22	36385.9	35517.7	33999.25	16367.12	13443.11	12945.73	22830.97	23299.46	24005.28	39424.4	37332.71	34506.12
335	Methyl acrylate	pg	0.235548	9.1539	7.90538	6.487188	10.04961	9.457332	8.884381	20.35012	19.86455	19.0153	9.1539	7.518539	7.240363	12.76904	13.03106	13.42581	22.04951	20.87966	19.29878
336	Methyl acrylate	pg	4.601423	178.8213	154.4315	126.7272	196.3191	184.7489	173.5563	397.5394	388.0537	371.4636	178.8213	146.8746	141.4404	249.4431	254.5616	262.2731	430.7369	407.8839	377.0015
337	Methyl amine	pg	0.000448	0.017421	0.015045	0.012346	0.019126	0.017999	0.016908	0.038729	0.037805	0.036189	0.017421	0.014309	0.01378	0.024301	0.0248	0.025551	0.041964	0.039737	0.036729
338	Methyl amine	pg	0.001076	0.04181	0.036108	0.02963	0.045901	0.043196	0.040579	0.092949	0.090731	0.086852	0.04181	0.034341	0.03307	0.058322	0.059519	0.061322	0.100711	0.095367	0.088147
339	Methyl borate	pg	7.95E-08	3.09E-06	2.67E-06	2.19E-06	3.39E-06	3.19E-06	3E-06	6.87E-06	6.7E-06	6.42E-06	3.09E-06	2.54E-06	2.44E-06	4.31E-06	4.4E-06	4.53E-06	7.44E-06	7.05E-06	6.51E-06
340	Methyl ethyl ketone	pg	372.6748	14482.96	12507.59	10263.79	15900.12	14963.04	14056.53	32197.19	31428.94	30085.29	14482.96	11895.55	11455.43	20202.7	20617.25	21241.82	34885.91	33035.01	30533.81
341	Methyl formate	pg	0.000922	0.035847	0.030958	0.025404	0.039354	0.037035	0.034791	0.079691	0.07779	0.074464	0.035847	0.029443	0.028353	0.050004	0.05103	0.052576	0.086346	0.081765	0.075574
342	Methyl formate	pg	0.000368	0.014312	0.01236	0.010142	0.015712	0.014786	0.01389	0.031816	0.031057	0.029729	0.014312	0.011755	0.01132	0.019964	0.020373	0.020991	0.034473	0.032644	0.030173
343	Metolachlor	ng	5.669951	220.3467	190.2931	156.1553	241.9077	227.6507	213.859	489.8547	478.1663	457.7238	220.3467	180.9813	174.2853	307.368	313.6751	323.1774	530.7613	502.6014	464.5476
344	Metribuzin	ng	120.1425	4669.001	4032.185	3308.829	5125.865	4823.768	4531.531	10379.7	10132.03	9698.864	4669.001	3834.875	3692.99	6512.924	6646.567	6847.915	11246.48	10649.79	9843.457
345	Molybdenum	ng	780.3546	30326.28	26190.01	21491.64	33293.73	31331.53	29433.38	67418.64	65809.96	62996.45	30326.28	24908.44	23986.86	42303.01	43171.05	44478.86	73048.61	69172.96	63935.62
346	Molybdenum	µg	23.13651	899.1352	776.5001	637.1994	987.116	928.9395	872.6618	1998.876	1951.181	1867.764	899.1352	738.503	711.1793	1254.23	1279.966	1318.741	2165.797	2050.889	1895.609
347	Molybdenum	ng	1.098114	42.67509	36.85454	30.24299	46.85087	44.08967	41.4186	94.87138	92.60766	88.64849	42.67509	35.0511	33.75426	59.52872	60.75023	62.59056	102.7939	97.34006	89.97009
348	Molybdenum-99	nBq	23.85425	927.0282	800.5887	656.9666	1017.738	957.7571	899.7336	2060.885	2011.71	1925.705	927.0282	761.4129	733.2416	1293.138	1319.673	1359.651	2232.984	2114.512	1954.414
349	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	ng	884.0786	34357.22	29671.17	24348.29	37719.1	35496.09	33345.64	76379.86	74557.36	71369.88	34357.22	28219.24	27175.17	47925.89	48909.31	50390.94	82758.16	78367.36	72433.89
350	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	ng	126.047	4898.46	4230.348	3471.442	5377.777	5060.833	4754.234	10889.81	10629.97	10175.52	4898.46	4023.341	3874.482	6833.003	6973.214	7184.457	11799.19	11173.18	10327.22

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
351	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	ng	893.6447	34728.99	29992.22	24611.75	38127.23	35880.18	33706.46	77206.32	75364.11	72142.14	34728.99	28524.59	27469.21	48444.47	49438.53	50936.2	83653.64	79215.33	73217.66
352	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	ng	461.8749	17949.47	15501.3	12720.43	19705.83	18544.45	17420.98	39903.62	38951.49	37286.23	17949.47	14742.76	14197.3	25038.23	25552.01	26326.07	43235.88	40941.97	37842.11
353	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	µg	1.803571	70.09071	60.53088	49.6719	76.94912	72.41406	68.02702	155.8193	152.1013	145.5987	70.09071	57.56887	55.4389	97.77156	99.7778	102.8004	168.8314	159.8739	147.7693
354	Monoethanolamine	ng	194.355	7553.061	6522.882	5352.705	8292.132	7803.428	7330.675	16791.28	16390.62	15689.89	7553.061	6203.692	5974.164	10535.98	10752.18	11077.9	18193.48	17228.21	15923.8
355	Napropamide	ng	2.08392	80.98569	69.93987	57.39296	88.91019	83.67019	78.60122	180.04	175.7441	168.2307	80.98569	66.51745	64.05639	112.9693	115.2874	118.7798	195.0747	184.7249	170.7387
356	Neodymium, 4% in bastnasite, 0.4% in crude ore, in ground	pg	-2.1E-10	-8.2E-09	-7.1E-09	-5.8E-09	-9.1E-09	-8.5E-09	-8E-09	-1.8E-08	-1.8E-08	-1.7E-08	-8.2E-09	-6.8E-09	-6.5E-09	-1.2E-08	-1.2E-08	-1.2E-08	-2E-08	-1.9E-08	-1.7E-08
357	Nickel	µg	10.18173	395.6841	341.7159	280.4135	434.402	408.8002	384.0339	879.6489	858.6597	821.9502	395.6841	324.9944	312.97	551.9512	563.277	580.3407	953.1063	902.5385	834.2041
358	Nickel	ng	18.37301	714.0154	616.6293	506.0086	783.8822	737.6835	692.9926	1587.334	1549.459	1483.216	714.0154	586.4552	564.7571	996.0008	1016.438	1047.23	1719.889	1628.639	1505.329
359	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	µg	62.22161	2418.068	2088.262	1713.637	2654.677	2498.221	2346.872	5375.628	5247.361	5023.025	2418.068	1986.075	1912.593	3373.033	3442.246	3546.524	5824.534	5515.509	5097.91
360	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	µg	701.2563	27252.35	23535.34	19313.2	29919.01	28155.71	26449.96	60584.95	59139.33	56611.01	27252.35	22383.67	21555.5	38015.09	38795.15	39970.39	65644.25	62161.45	57454.98
361	Nickel, ion	mg	4.301136	167.1516	144.3534	118.457	183.5074	172.6923	162.2301	371.5961	362.7295	347.2221	167.1516	137.2896	132.2101	233.1645	237.949	245.1573	402.6273	381.2656	352.3986
362	Niobium-95	nBq	0.02358	0.916365	0.79138	0.64941	1.006031	0.94674	0.889384	2.037179	1.98857	1.903554	0.916365	0.752654	0.724807	1.278264	1.304493	1.344011	2.207299	2.090189	1.931933
363	Niobium-95	µBq	167.4982	6509.345	5621.521	4613.044	7146.287	6725.115	6317.689	14470.98	14125.69	13521.79	6509.345	5346.438	5148.627	9080.073	9266.393	9547.105	15679.42	14847.54	13723.38
364	Nitrate	µg	5.009536	194.6815	168.1285	137.9669	213.7312	201.1348	188.9495	432.7982	422.4713	404.4097	194.6815	159.9013	153.9851	271.5669	277.1393	285.5348	468.9402	444.0602	410.4388
365	Nitrate	mg	1.213999	47.17867	40.74387	33.43459	51.79513	48.74254	45.78958	104.8833	102.3807	98.00374	47.17867	38.75011	37.31641	65.81089	67.16131	69.19586	113.6419	107.6125	99.4648
366	Nitrite	µg	8.185956	318.1241	274.7345	225.4483	349.2527	328.6692	308.7576	707.2246	690.3496	660.8358	318.1241	261.2907	251.6232	443.7605	452.8664	466.5853	766.2833	725.6276	670.6877
367	Nitrogen	µg	73.41075	2852.902	2463.788	2021.795	3132.06	2947.469	2768.904	6342.312	6190.979	5926.302	2852.902	2343.226	2256.529	3979.595	4061.255	4184.285	6871.944	6507.347	6014.653
368	Nitrogen oxides	g	4.164736	161.8508	139.7756	114.7004	177.6879	167.2158	157.0854	359.8119	351.2264	336.2108	161.8508	132.9358	128.0174	225.7703	230.403	237.3827	389.8589	369.1747	341.2231
369	Nitrogen, organic bound	µg	6.559647	254.9222	220.1528	180.6583	279.8665	263.3723	247.4165	566.7199	553.1974	529.5471	254.9222	209.3799	201.6331	355.5984	362.8951	373.8885	614.0453	581.4667	537.4418
370	NMVOC, non-methane volatile organic compounds, unspecified origin	mg	49.77968	1934.547	1670.69	1370.975	2123.843	1998.673	1877.588	4300.709	4198.09	4018.613	1934.547	1588.937	1530.148	2698.555	2753.929	2837.355	4659.851	4412.619	4078.524
371	Noble gases, radioactive, unspecified	kBq	20.08145	780.409	673.9673	553.0605	856.7724	806.2778	757.4313	1734.934	1693.537	1621.135	780.409	640.9875	617.2718	1088.615	1110.953	1144.608	1879.815	1780.08	1645.303
372	o-Xylene	pg	3.189235	123.9406	107.0361	87.83428	136.0683	128.049	120.2914	275.5336	268.9591	257.4605	123.9406	101.7984	98.032	172.8884	176.436	181.7809	298.5427	282.7033	261.2988
373	Occupation, arable, non-irrigated	mm2a	8.773542	340.959	294.4548	241.6309	374.322	352.261	330.9201	757.9891	739.9027	708.2704	340.959	280.046	269.6847	475.6136	485.373	500.0767	821.2869	777.7129	718.8295
374	Occupation, construction site	mm2a	46.15543	1793.701	1549.054	1271.16	1969.216	1853.158	1740.889	3987.593	3892.445	3726.035	1793.701	1473.253	1418.744	2502.085	2553.427	2630.78	4320.587	4091.355	3781.584
375	Occupation, dump site	cm2a	13.76582	534.9697	462.004	379.1225	587.3168	552.7028	519.2185	1189.296	1160.918	1111.287	534.9697	439.3964	423.1393	746.2447	761.5574	784.6277	1288.611	1220.243	1127.854
376	Occupation, dump site, benthos	mm2a	4.9E-05	0.001904	0.001644	0.001349	0.00209	0.001967	0.001848	0.004233	0.004132	0.003955	0.001904	0.001564	0.001506	0.002656	0.00271	0.002793	0.004586	0.004343	0.004014
377	Occupation, forest, intensive	mm2a	67.1693	2610.346	2254.315	1849.9	2865.769	2696.873	2533.489	5803.083	5664.616	5422.442	2610.346	2144.003	2064.677	3641.247	3715.964	3828.533	6287.685	5954.087	5503.282
378	Occupation, forest, intensive, normal	mm2a	36.21088	1407.234	1215.298	997.2789	1544.932	1453.881	1365.801	3128.434	3053.787	2923.231	1407.234	1155.829	1113.065	1962.991	2003.271	2063.957	3389.683	3209.84	2966.812
379	Occupation, forest, intensive, short-cycle	mm2a	0.010732	0.417087	0.3602	0.295581	0.457899	0.430913	0.404807	0.92723	0.905105	0.86641	0.417087	0.342574	0.329899	0.581807	0.593745	0.611732	1.004661	0.951358	0.879327
380	Occupation, industrial area	mm2a	0.493889	19.19361	16.57575	13.60213	21.07171	19.82983	18.62849	42.66949	41.65135	39.87067	19.19361	15.76463	15.18136	26.77372	27.32311	28.15082	46.23271	43.7798	40.46508
381	Occupation, industrial area, benthos	mm2a	4.47E-07	1.74E-05	1.5E-05	1.23E-05	1.91E-05	1.8E-05	1.69E-05	3.87E-05	3.77E-05	3.61E-05	1.74E-05	1.43E-05	1.38E-05	2.43E-05	2.48E-05	2.55E-05	4.19E-05	3.97E-05	3.67E-05
382	Occupation, industrial area, built up	mm2a	0.002047	0.07957	0.068717	0.05639	0.087356	0.082208	0.077227	0.176893	0.172672	0.16529	0.07957	0.065355	0.062937	0.110994	0.113272	0.116703	0.191665	0.181496	0.167754
383	Occupation, industrial area, vegetation	mm2a	0.00759	0.294983	0.254749	0.209048	0.323847	0.304761	0.286297	0.655779	0.640131	0.612764	0.294983	0.242283	0.233319	0.41148	0.419923	0.432644	0.710541	0.672843	0.6219
384	Occupation, mineral extraction site	cm2a	13.47337	523.6046	452.189	371.0683	574.8396	540.961	508.1881	1164.03	1136.255	1087.678	523.6046	430.0617	414.15	730.3912	745.3786	767.9588	1261.236	1194.32	1103.894
385	Occupation, permanent crop, fruit, intensive	mm2a	0.008082	0.314098	0.271258	0.222595	0.344833	0.32451	0.30485	0.698275	0.681613	0.652473	0.314098	0.257984	0.248439	0.438145	0.447135	0.460681	0.756586	0.716445	0.6622
386	Occupation, shrub land, sclerophyllous	mm2a	46.13418	1792.875	1548.341	1270.575	1968.309	1852.305	1740.087	3985.757	3890.653	3724.32	1792.875	1472.575	1418.091	2500.933	2552.252	2629.568	4318.598	4089.472	3779.843
387	Occupation, traffic area, rail embankment	mm2a	0.000139	0.005396	0.00466	0.003824	0.005924	0.005575	0.005237	0.011995	0.011709	0.011209	0.005396	0.004432	0.004268	0.007527	0.007681	0.007914	0.012997	0.012308	0.011376
388	Occupation, traffic area, rail network	mm2a	0.000154	0.005966	0.005153	0.004228	0.00655	0.006164	0.005791	0.013264	0.012947	0.012394	0.005966	0.0049	0.004719	0.008323	0.008493	0.008751	0.014372	0.013609	0.012579
389	Occupation, traffic area, road embankment	mm2a	1.464344	56.90759	49.14584	40.32929	62.47603	58.79396	55.23206	126.5118	123.4931	118.2135	56.90759	46.74095	45.01159	79.38205	81.01094	83.46505	137.0765	129.8038	119.9759
390	Occupation, traffic area, road network	mm2a	0.000536	0.020832	0.017991	0.014763	0.02287	0.021523	0.020219	0.046312	0.045207	0.043274	0.020832	0.01711	0.016477	0.029059	0.029656	0.030554	0.050179	0.047517	0.043919
391	Occupation, urban, discontinuously built	mm2a	3.56E-08	1.38E-06	1.2E-06	9.81E-07	1.52E-06	1.43E-06	1.34E-06	3.08E-06	3E-06	2.87E-06	1.38E-06	1.14E-06	1.09E-06	1.93E-06	1.97E-06	2.03E-06	3.33E-06	3.16E-06	2.92E-06
392	Occupation, water bodies, artificial	cm2a	25.96245	1008.957	871.3435	715.0282	1107.684	1042.402	979.2506	2243.023	2189.502	2095.896	1008.957	828.7053	798.0443	1407.424	1436.304	1479.815	2430.332	2301.389	2127.142
393	Occupation, water courses, artificial	mm2a	1.626658	63.21547	54.59338	44.79956	69.40114	65.31093	61.35421	140.5349	137.1816	131.3168	63.21547	51.92191	50.00087	88.18109	89.99054	92.71667	152.2706	144.1918	133.2745
394	Oil, crude, in ground	g	1.118295	43.4594	37.53188	30.79882	47.71193	44.89999	42.17982	96.61499	94.30967	90.27774	43.4594	35.6953	34.37462	60.62278	61.86674	63.7409	104.6831	99.12904	91.62362
395	Oils, biogenic	ng	629.209	24452.43	21117.31	17328.96	26845.12	25262.98	23732.48	54360.43	53063.34	50794.77	24452.43	20083.96	19340.88	34109.41	34809.32	35863.82	58899.94	55774.96	51552.04
396	Oils, unspecified	mg	4.772652	185.4757	160.1783	131.443	203.6246	191.6238	180.0147	412.3327	402.4941	385.2866	185.4757	152.3401	146.7037	258.7254	264.0344	272.0329	446.7656	423.0621	391.0306
397	Oils, unspecified	mg	5.033618	195.6174	168.9367	138.6302	214.7586	202.1017	189.8578	434.8788	424.5022	406.3538	195.6174	160.67	154.7254	272.8723	278.4716	286.9075	471.1945	446.1949	412.4119
398	Olivine, in ground	ng	8.710137	338.4949	292.3269	239.8847	371.6168	349.7153	328.5286	752.5112	734.5556	703.1518	338.4949	278.0222	267.7357	472.1764	481.8653	496.4627	815.3516	772.0925	713.6346
399	Orbencarb	ng	648.7815	25213.07	21774.2	17868	27680.18	26048.82	24470.72	56051.4	54713.96	52374.83	25213.07	20708.71	19942.51	35170.44	35892.12	36979.42	60732.12	57509.93	53155.65
400	Ozone	mg	4.664849	181.2862	156.5602	128.474	199.0252	187.2955	175.9486	403.019	393.4026	376.5839	181.2862	148.8991	143.39	252.8814	258.0704	265.8883	436.6742	413.5061	382.1981
401	PAH, polycyclic aromatic hydrocarbons	µg	15.60716	606.5284	523.8026	429.8347	665.8775	626.6334	588.6703	1348.379	1316.205	1259.935	606.5284	498.1709	479.7392	846.0639	863.4249	889.5811	1460.979	1383.465	1278.718
402	PAH, polycyclic aromatic hydrocarbons	ng	412.5941	16034.31	13847.35	11363.2	17603.27	16565.81	15562.21	35646.02	34795.47	33307.89	16034.31	13169.75	12682.49	22366.72	22825.68	23517.15	38622.73	36573.57	33804.46
403	Paraffins	pg	0.000139	0.005412	0.004674	0.003836	0.005942	0.005592	0.005253	0.012032	0.011745	0.011243	0.005412	0.004445	0.004281	0.00755	0.007705	0.007938	0.013037	0.012345	0.011411
404	Paraffins	pg	0.000404	0.015707	0.013565	0.011131	0.017244	0.016228	0.015245	0.034919	0.034085	0.032628	0.015707	0.012901	0.012424	0.02191	0.02236	0.023037	0.037835	0.035827	0.033115
405	Particulates, < 2.5 um	mg	59.47974	2311.513	1996.24	1638.123	2537.695	2388.134	2243.455	5138.745	5016.13	4801.68	2311.513	1898.557	1828.312	3224.396	3290.559	3390.242	5567.869	5272.462	4873.265
406	Particulates, > 10 um	mg	273.105	10613.46	9165.865	7521.548	11651.99	10965.27	10300.96	23594.88	23031.88	22047.22	10613.46	8717.344	8394.813	14805.02	15108.81	15566.51	25565.23	24208.84	22375.91
407	Particulates, > 2.5 um, and < 10um	mg	8.507891	330.6352	285.5391	234.3146	362.988	341.595	320.9003	735.0381	717.4995	686.8249	330.6352	271.5666	261.519	461.2126	470.6765	484.935	796.4194	754.1648	697.0643
408	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	1.364684	53.03458	45.80108	37.58456	58.22404	54.79256	51.47308	117.9017	115.0884	110.1682	53.03458	43.55985	41.9482	73.97947	75.49751	77.78459	127.7473	120.9696	111.8106
409	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	3.279734	127.4576	110.0734	90.32669	139.9294	131.6826	123.7049	283.3522	276.5911	264.7663	127.4576	104.6871	100.8138	177.7943	181.4426	186.9391	307.0142	290.7254	268.7135
410	Peat, in ground	µg	208.9635	8120.777	7013.166	5755.034	8915.399	8389.963	7881.676	18053.37	17622.6	16869.2	8120.777	6669.985	6423.204	11327.91	11560.35	11910.56	19560.97	18523.15	17120.69
411	Pentane	mg	1.521874	59.14335	51.07666	41.91372	64.93056	61.10382	57.40198	131.4821	128.3448	122.8578	59.14335	48.57728	46.77998	82.50077	84.19366	86.74418	142.4619	134.9035	124.6894
412	Phenol	ng	338.9584	13172.66	11376.01	9335.206	14461.61	13609.31	12784.82	29284.27	28585.52	27363.43	13172.66	10819.34	10419.04	18374.93	18751.98	19320.04	31729.73	30046.28	27771.37
413	Phenol	µg	7.093428	275.6661	238.0674	195.3591	302.6402	284.8038	267.5496	612.8358	598.213	572.6382	275.6661	226.4178	218.0407	384.5346	392.4251	404.3131	664.0123	628.7826	581.1752
414	Phenol, pentachloro-	ng	2.615685	101.6512	87.78679	72.03822	111.5979	105.0207	98.6583	225.9818	220.5896	211.159	101.6512	83.49105	80.40199	141.7962	144.7058	149.0895	244.853	231.8621	214.307

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
415	Phosphate	mg	38.53314	1497.482	1293.237	1061.236	1644.011	1547.12	1453.391	3329.065	3249.631	3110.703	1497.482	1229.954	1184.447	2088.881	2131.744	2196.322	3607.068	3415.692	3157.078
416	Phosphine	pg	0.000179	0.006974	0.006023	0.004942	0.007656	0.007205	0.006768	0.015504	0.015134	0.014487	0.006974	0.005728	0.005516	0.009728	0.009928	0.010228	0.016798	0.015907	0.014703
417	Phosphorus	µg	2.257729	87.74028	75.77318	62.1798	96.32571	90.64867	85.15693	195.0562	190.402	182.2619	87.74028	72.06531	69.39899	122.3914	124.9029	128.6866	211.3449	200.1318	184.9791
418	Phosphorus	µg	1.421857	55.25648	47.71993	39.15918	60.66336	57.08811	53.62956	122.8412	119.9101	114.7837	55.25648	45.38481	43.70563	77.07886	78.6605	81.0434	133.0994	126.0377	116.4949
419	Phosphorus	ng	181.8243	7066.089	6102.329	5007.598	7757.509	7300.314	6858.041	15708.69	15333.86	14678.31	7066.089	5803.719	5588.989	9856.692	10058.95	10363.67	17020.48	16117.45	14897.14
420	Phosphorus, 18% in apatite, 12% in crude ore, in ground	µg	12.1175	470.9124	406.6836	333.7263	516.9914	486.5221	457.0473	1046.89	1021.91	978.2212	470.9124	386.783	372.4725	656.8893	670.3685	690.6763	1134.313	1074.131	992.8048
421	Phosphorus, 18% in apatite, 4% in crude ore, in ground	µg	20.79749	808.2359	697.9988	572.7808	887.3222	835.0271	784.4389	1796.797	1753.923	1678.94	808.2359	663.843	639.2817	1127.432	1150.566	1185.421	1946.843	1843.552	1703.97
422	Pirimicarb	pg	4.908756	190.765	164.7461	135.1914	209.4314	197.0884	185.1483	424.0914	413.9722	396.274	190.765	156.6845	150.8873	266.1036	271.564	279.7906	459.5063	435.1268	402.1818
423	Platinum	pg	0.139445	5.419139	4.68001	3.840437	5.949404	5.598771	5.259582	12.04734	11.75988	11.25712	5.419139	4.451	4.286318	7.559313	7.714428	7.948125	13.05338	12.36082	11.42494
424	Plutonium-238	nBq	0.284971	11.07458	9.564095	7.848338	12.15824	11.44168	10.74851	24.62	24.03255	23.00511	11.07458	9.096087	8.759544	15.44825	15.76525	16.24283	26.67596	25.26065	23.34807
425	Plutonium-alpha	nBq	0.653259	25.38707	21.92447	17.99132	27.87121	26.2286	24.6396	56.43823	55.09156	52.73628	25.38707	20.85162	20.08014	35.41316	36.13983	37.23463	61.15125	57.90682	53.52249
426	Polonium-210	mBq	18.2956	711.0069	614.0311	503.8766	780.5793	734.5752	690.0727	1580.646	1542.93	1476.967	711.0069	583.9842	562.3775	991.8041	1012.156	1042.817	1712.642	1621.776	1498.986
427	Polonium-210	µBq	160.8632	6251.496	5398.84	4430.312	6863.208	6458.719	6067.432	13897.76	13566.14	12986.16	6251.496	5134.654	4944.679	8720.392	8899.332	9168.924	15058.33	14259.39	13179.76
428	Polychlorinated biphenyls	pg	25.49279	990.7054	855.5809	702.0934	1087.646	1023.545	961.536	2202.446	2149.894	2057.982	990.7054	813.7141	783.6077	1381.964	1410.321	1453.045	2386.367	2259.757	2088.663
429	Potassium	µg	47.38091	1841.326	1590.183	1304.911	2021.501	1902.362	1787.111	4093.468	3995.794	3824.966	1841.326	1512.37	1456.414	2568.519	2621.224	2700.63	4435.304	4199.986	3881.99
430	Potassium	µg	1.011315	39.3019	33.94143	27.85248	43.14761	40.60467	38.14473	87.37242	85.28763	81.64141	39.3019	32.28054	31.08621	54.82336	55.94832	57.64319	94.66868	89.64596	82.85855
431	Potassium-40	mBq	10.53002	409.2197	353.4053	290.0059	449.262	422.7844	397.171	909.74	888.0327	850.0675	409.2197	336.1118	323.6761	570.8324	582.5456	600.193	985.7102	933.4126	862.7406
432	Potassium-40	µBq	75.18558	2921.876	2523.355	2070.676	3207.783	3018.73	2835.847	6495.649	6340.657	6069.581	2921.876	2399.877	2311.085	4075.809	4159.444	4285.448	7038.085	6664.674	6160.068
433	Potassium, ion	mg	446.9857	17370.84	15001.59	12310.37	19070.59	17946.65	16859.39	38617.28	37695.83	36084.26	17370.84	14267.51	13739.63	24231.09	24728.3	25477.41	41842.12	39622.15	36622.21
434	Praseodymium, 0.42% in bastnasite, 0.042% in crude ore, in ground	pg	-1.8E-12	-7E-11	-6.1E-11	-5E-11	-7.7E-11	-7.3E-11	-6.8E-11	-1.6E-10	-1.5E-10	-1.5E-10	-7E-11	-5.8E-11	-5.6E-11	-9.8E-11	-1E-10	-1E-10	-1.7E-10	-1.6E-10	-1.5E-10
435	Propanal	ng	6.117965	237.7575	205.3292	168.494	261.0222	245.6386	230.7572	528.5608	515.9489	493.891	237.7575	195.2817	188.0565	331.6548	338.4602	348.7134	572.6997	542.3147	501.2541
436	Propane	µg	470.9735	18303.06	15806.66	12971.02	20094.02	18909.76	17764.16	40689.7	39718.8	38020.74	18303.06	15033.18	14476.97	25531.47	26055.36	26844.67	44087.6	41748.5	38587.57
437	Propene	µg	176.5012	6859.222	5923.677	4860.995	7530.4	7086.59	6657.265	15248.8	14884.95	14248.59	6859.222	5633.809	5425.365	9568.127	9764.461	10060.26	16522.19	15645.59	14461.01
438	Propene	ng	605.5936	23534.69	20324.74	16678.57	25837.57	24314.81	22841.76	52320.18	51071.78	48888.35	23534.69	19330.17	18614.98	32829.22	33502.86	34517.78	56689.32	53681.62	49617.2
439	Propionic acid	ng	142.3593	5532.393	4777.818	3920.698	6073.741	5715.78	5369.502	12299.11	12005.65	11492.38	5532.393	4544.021	4375.898	7717.295	7875.652	8114.233	13326.18	12619.15	11663.71
440	Propylene oxide	ng	2.341808	91.00778	78.59502	64.49542	99.91293	94.02449	88.32822	202.3202	197.4927	189.0495	91.00778	74.74907	71.98345	126.9494	129.5543	133.479	219.2155	207.5849	191.8679
441	Propylene oxide	ng	5.634969	218.9872	189.1191	155.1919	240.4152	226.2461	212.5395	486.8324	475.2162	454.8997	218.9872	179.8647	173.21	305.4716	311.7398	321.1835	527.4867	499.5005	461.6815
442	Protactinium-234	µBq	283.849	11030.99	9526.45	7817.446	12110.38	11396.64	10706.2	24523.1	23937.95	22914.56	11030.99	9060.284	8725.066	15387.45	15703.19	16178.9	26570.96	25161.22	23256.17
443	Protactinium-234	mBq	5.230834	203.2816	175.5556	144.0617	223.1728	210.02	197.2964	451.9172	441.134	422.2747	203.2816	166.965	160.7875	283.5634	289.382	298.1484	489.6557	463.6767	428.5701
444	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	pg	31.41096	1220.698	1054.205	865.0849	1340.144	1261.162	1184.757	2713.746	2648.993	2535.743	1220.698	1002.618	965.5228	1702.788	1737.728	1790.37	2940.364	2784.361	2573.547
445	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	pg	112.6037	4376.024	3779.169	3101.202	4804.221	4521.08	4247.181	9728.38	9496.252	9090.268	4376.024	3594.24	3461.257	6104.243	6229.5	6418.214	10540.77	9981.525	9225.788
446	Radioactive species, alpha emitters	nBq	303.1574	11781.36	10174.47	8349.217	12934.17	12171.89	11434.48	26191.25	25566.3	24473.29	11781.36	9676.597	9318.576	16434.16	16771.38	17279.45	28378.42	26872.78	24838.14
447	Radioactive species, Nuclides, unspecified	Bq	2.029571	78.87356	68.11582	55.89614	86.59138	81.48805	76.55128	175.3445	171.1607	163.8432	78.87356	64.78265	62.38578	110.023	112.2807	115.682	189.9871	179.9072	166.2858
448	Radioactive species, other beta emitters	µBq	660.5984	25672.3	22170.79	18193.45	28184.34	26523.28	24916.42	57072.31	55710.52	53328.78	25672.3	21085.89	20305.74	35811.03	36545.86	37652.96	61838.29	58557.41	54123.82
449	Radium-224	mBq	3.539917	137.5689	118.8056	97.49235	151.0301	142.129	133.5184	305.8306	298.5332	285.7703	137.5689	112.9919	108.8114	191.8988	195.8365	201.7691	331.3698	313.7888	290.0307
450	Radium-226	mBq	11.74535	456.4499	394.1937	323.4771	501.1138	471.5802	443.0106	1014.738	990.5254	948.1784	456.4499	374.9043	361.0333	636.7152	649.7804	669.4645	1099.476	1041.143	962.3142
451	Radium-226	Bq	3.259356	126.6657	109.3895	89.76548	139.06	130.8644	122.9363	281.5917	274.8726	263.1213	126.6657	104.0366	100.1874	176.6897	180.3153	185.7776	305.1067	288.9191	267.044
452	Radium-228	mBq	3.174369	123.3629	106.5372	87.42485	135.434	127.4521	119.7307	274.2492	267.7054	256.2604	123.3629	101.3239	97.57504	172.0825	175.6136	180.9335	297.1511	281.3855	260.0808
453	Radium-228	mBq	7.080102	275.1482	237.6202	194.9921	302.0716	284.2688	267.047	611.6845	597.0892	571.5624	275.1482	225.9925	217.6311	383.8122	391.6879	403.5535	662.7649	627.6014	580.0834
454	Radon-220	mBq	1.135421	44.12495	38.10665	31.27048	48.4426	45.5876	42.82577	98.09458	95.75395	91.66028	44.12495	36.24195	34.90104	61.55117	62.81418	64.71704	106.2862	100.6471	93.02677
455	Radon-222	kBq	37.49498	1457.137	1258.395	1032.644	1599.718	1505.438	1414.234	3239.374	3162.079	3026.894	1457.137	1196.816	1152.536	2032.602	2074.31	2137.149	3509.886	3323.667	3072.02
456	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	pg	31.19616	1212.351	1046.996	859.1693	1330.98	1252.538	1176.656	2695.189	2630.879	2518.404	1212.351	995.7623	958.9204	1691.144	1725.845	1778.127	2920.258	2765.321	2555.949
457	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	pg	97.71038	3797.239	3279.325	2691.028	4168.8	3923.109	3685.436	8441.676	8240.25	7887.962	3797.239	3118.855	3003.461	5296.878	5405.568	5569.322	9146.62	8661.339	8005.558
458	Rhenium, in crude ore, in ground	pg	44.45105	1727.465	1491.852	1224.22	1896.498	1784.726	1676.603	3840.343	3748.709	3588.444	1727.465	1418.85	1366.354	2409.691	2459.137	2533.633	4161.041	3940.273	3641.941
459	Rubidium	ng	910.155	35370.61	30546.34	25066.45	38831.64	36543.07	34329.19	78632.73	76756.48	73474.98	35370.61	29051.59	27976.71	49339.49	50351.92	51877.26	85199.16	80678.85	74570.37
460	Ruthenium-103	nBq	0.005181	0.201331	0.173871	0.14268	0.221032	0.208005	0.195403	0.447581	0.436902	0.418223	0.201331	0.165363	0.159245	0.280843	0.286606	0.295288	0.484958	0.459228	0.424458
461	Ruthenium-103	nBq	5.033461	195.6113	168.9314	138.6259	214.752	202.0954	189.8519	434.8652	424.4889	406.3412	195.6113	160.665	154.7206	272.8638	278.4629	286.8985	471.1798	446.181	412.399
462	Samarium, 0.3% in bastnasite, 0.03% in crude ore, in ground	pg	-1.2E-11	-4.7E-10	-4E-10	-3.3E-10	-5.1E-10	-4.8E-10	-4.5E-10	-1E-09	-1E-09	-9.7E-10	-4.7E-10	-3.8E-10	-3.7E-10	-6.5E-10	-6.6E-10	-6.8E-10	-1.1E-09	-1.1E-09	-9.8E-10
463	Sand, unspecified, in ground	ng	652.2313	25347.13	21889.98	17963.01	27827.36	26187.33	24600.83	56349.44	55004.89	52653.32	25347.13	20818.82	20048.55	35357.45	36082.97	37176.05	61055.05	57815.73	53438.29
464	Scandium	ng	43.64559	1696.163	1464.819	1202.037	1862.133	1752.387	1646.223	3770.755	3680.781	3523.421	1696.163	1393.14	1341.596	2366.027	2414.577	2487.723	4085.642	3868.875	3575.949
465	Scandium	mg	2.606912	101.3103	87.49237	71.79662	111.2236	104.6685	98.32742	225.2239	219.8498	210.4508	101.3103	83.21103	80.13233	141.3207	144.2205	148.5895	244.0318	231.0845	213.5883
466	Selenium	µg	67.26409	2614.03	2257.496	1852.511	2869.814	2700.679	2537.064	5811.273	5672.611	5430.095	2614.03	2147.028	2067.591	3646.385	3721.208	3833.937	6296.559	5962.49	5511.048
467	Selenium	µg	607.8924	23624.03	20401.89	16741.88	25935.65	24407.11	22928.46	52518.79	51265.64	49073.93	23624.03	19403.55	18685.64	32953.84	33630.04	34648.81	56904.51	53885.39	49805.54
468	Shale, in ground	ng	73.22817	2845.807	2457.661	2016.767	3124.27	2940.139	2762.017	6326.539	6175.582	5911.563	2845.807	2337.398	2250.917	3969.698	4051.155	4173.879	6854.853	6491.163	5999.694
469	Silicon	µg	552.7538	21481.22	18551.35	15223.32	23583.17	22193.27	20848.74	47755.09	46615.61	44622.7	21481.22	17643.56	16990.77	29964.77	30579.64	31506	51743.01	48997.74	45287.95
470	Silicon	g	14.03086	545.2699	470.8993	386.422	598.6248	563.3444	529.2154	1212.194	1183.27	1132.683	545.2699	447.8564	431.2863	760.6127	776.2202	799.7347	1313.422	1243.737	1149.569
471	Silicon	µg	7.958901	309.3003	267.1141	219.195	339.5655	319.5529	300.1935	687.6082	671.2013	642.5061	309.3003	254.0432	244.6439	431.4519	440.3051	453.6435	745.0288	705.5007	652.0847
472	Silicon tetrafluoride	pg	157.2381	6110.617	5277.176	4330.474	6708.544	6313.171	5930.701	13584.57	13260.43	12693.52	6110.617	5018.944	4833.25	8523.877	8698.784	8962.3	14718.98	13938.06	12882.76
473	Silver	pg	6.516478	253.2446	218.704	179.4694	278.0247	261.6391	245.7883	562.9903	549.5569	526.0622	253.2446	208.002	200.3062	353.2582	360.5069	371.4279	610.0043	577.6401	533.9049
474	Silver-110	nBq	0.051344	1.995348	1.723198	1.414063	2.190593	2.061489	1.936598	4.435875	4.330031	4.144914	1.995348	1.638875	1.578239	2.783368	2.840482	2.92653	4.806305	4.551303	4.206707
475	Silver-110	mBq	3.109934	120.8588	104.3746	85.65025	132.6849	124.865	117.3003	268.6823	262.2713	251.0587	120.8588	99.26716	95.5944	168.5895	172.0489	177.2608	291.1193	275.6738	254.8015
476	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	pg	16.41483	637.9161	550.9093	452.0785	700.3365	659.0616	619.1338	1418.157	1384.318	1325.136	637.9161	523.9512	504.5657	889.8476	908.1069	935.6167	1536.584	1455.059	1344.892
477	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	pg	11.70974	455.0662	392.9987	322.4965	499.5947	470.1507	441.6677	1011.662	987.5227	945.3041	455.0662	373.7678	359.9389	634.785	647.8106	667.4351	1096.143	1037.987	959.3969
478	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	pg	1.081199	42.01774	36.28685	29.77714	46.1292	43.41054	40.78061	93.41003	91.18118	87.283	42.01774	34.51119	33.23432	58.61176	59.81446	61.62645	101.2105	95.84068	88.58424
479	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	pg	2.469344	95.96408	82.87533	68.00785	105.3542	99.14508	93.1386	213.3386	208.2482	199.3451	95.96408	78.81992	75.90369	133.8631	136.6099	140.7483	231.154	218.89	202.317
480	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	pg	2.420364	94.06063	81.2315	66.65892	103.2645	97.17854	91.2912	209.1071	204.1176	195.3911	94.06063	77.25653	74.39813	131.2079	133.9002	137.9566	226.5691	214.5483	198.3041
481	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	pg	1.597384	62.07781	53.61088	43.99332	68.15216	64.13556	60.25005	138.0058	134.7128	128.9536	62.07781	50.9875	49.10103	86.59414	88.37102	91.04809	149.5303	141.5968	130.876
482	Silver, ion	ng	73.52395	2857.301	2467.588	2024.913	3136.89	2952.015	2773.173	6352.093	6200.526	5935.441	2857.301	2346.839	2260.009	3985.732	4067.518	4190.738	6882.541	6517.382	6023.928
483	Sodium	µg	24.98816	971.0944	838.6447	688.1954	1066.116	1003.284	942.5024	2158.849	2107.337	2017.244	971.0944	797.6066	768.0962	1354.608	1382.404	1424.282	2339.129	2215.025	2047.317
484	Sodium	ng	4.532752	176.1527	152.1268	124.8359	193.3893	181.9917	170.9662	391.6066	382.2625	365.92	176.1527	144.6827	139.3296	245.7204	250.7625	258.359	424.3087	401.7967	371.3752
485	Sodium-24	nBq	180.4876	7014.142	6057.468	4970.784	7700.48	7246.646	6807.624	15593.2	15221.14	14570.4	7014.142	5761.053	5547.901	9784.23	9984.999	10287.48	16895.36	15998.96	14787.62
486	Sodium chlorate	ng	30.13206	1170.998	1011.283	829.8628	1285.58	1209.814	1136.52	2603.255	2541.139	2432.5	1170.998	961.7966	926.2114	1633.458	1666.976	1717.475	2820.647	2670.995	2468.765
487	Sodium chloride, in ground	mg	97.12464	3774.476	3259.667	2674.896	4143.81	3899.591	3663.343	8391.071	8190.853	7840.677	3774.476	3100.159	2985.457	5265.125	5373.164	5535.936	9091.79	8609.418	7957.568
488	Sodium dichromate	pg	657.0102	25532.85	22050.37	18094.63	28031.25	26379.21	24781.08	56762.31	55407.91	53039.11	25532.85	20971.36	20195.45	35616.51	36347.35	37448.44	61502.4	58239.34	53829.83
489	Sodium formate	ng	11.348	441.008	380.8579	312.5337	484.1608	455.6264	428.0233	980.4089	957.0154	916.101	441.008	362.2211	348.8194	615.1748	627.798	646.8162	1062.28	1005.92	929.7585
490	Sodium formate	ng	27.26287	1059.495	914.9879	750.843	1163.167	1094.615	1028.3	2355.373	2299.171	2200.877	1059.495	870.2141	838.0173	1477.92	1508.246	1553.936	2552.064	2416.662	2233.688

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
491	Sodium hydroxide	pg	2.082488	80.93004	69.89181	57.35352	88.84909	83.61269	78.54721	179.9163	175.6233	168.1151	80.93004	66.47174	64.01237	112.8917	115.2082	118.6982	194.9407	184.598	170.6214
492	Sodium nitrate, in ground	pg	0.13002	5.052855	4.363684	3.580858	5.547279	5.220346	4.904083	11.23305	10.96502	10.49624	5.052855	4.150153	3.996602	7.048373	7.193003	7.410905	12.17109	11.52535	10.65272
493	Sodium sulphate, various forms, in ground	µg	43.80564	1702.383	1470.191	1206.445	1868.962	1758.813	1652.259	3784.583	3694.279	3536.341	1702.383	1398.249	1346.516	2374.703	2423.431	2496.845	4100.624	3883.063	3589.062
494	Sodium, ion	mg	519.4143	20185.57	17432.42	14305.12	22160.74	20854.68	19591.25	44874.73	43803.98	41931.27	20185.57	16579.38	15965.97	28157.44	28735.22	29605.71	48622.11	46042.43	42556.39
495	Solids, inorganic	mg	25.90449	1006.705	869.3983	713.4319	1105.212	1040.075	977.0644	2238.015	2184.614	2091.217	1006.705	826.8553	796.2627	1404.282	1433.097	1476.511	2424.906	2296.251	2122.394
496	Solved solids	mg	7.54802	293.3326	253.3243	207.879	322.0353	303.0559	284.6959	652.1103	636.5503	609.3365	293.3326	240.9281	232.0141	409.1781	417.5743	430.2241	706.5665	669.079	618.4207
497	Stibnite, in ground	pg	42.7979	1663.22	1436.37	1178.691	1825.967	1718.352	1614.249	3697.519	3609.293	3454.988	1663.22	1366.083	1315.539	2320.074	2367.681	2439.406	4006.29	3793.734	3506.496
498	Strontium	µg	10.86519	422.245	364.6541	299.2367	463.5619	436.2415	409.8128	938.6967	916.2986	877.1249	422.245	346.8102	333.9786	589.0018	601.0879	619.297	1017.085	963.1229	890.2014
499	Strontium	mg	43.27418	1681.729	1452.354	1191.808	1846.287	1737.475	1632.214	3738.667	3649.459	3493.438	1681.729	1381.285	1330.179	2345.893	2394.03	2466.553	4050.875	3835.952	3545.519
500	Strontium	ng	2.889242	112.2823	96.96783	79.57222	123.2691	116.0042	108.9763	249.6157	243.6596	233.2427	112.2823	92.22282	88.81069	156.6258	159.8397	164.6818	270.4605	256.111	236.7199
501	Strontium-89	µBq	130.846	5084.96	4391.411	3603.611	5582.527	5253.516	4935.243	11304.42	11034.69	10562.93	5084.96	4176.523	4021.997	7093.159	7238.708	7457.994	12248.43	11598.58	10720.41
502	Strontium-90	mBq	56.49824	2195.645	1896.176	1556.01	2410.49	2268.426	2130.998	4881.158	4764.689	4560.989	2195.645	1803.389	1736.666	3062.769	3125.616	3220.301	5288.772	5008.172	4628.986
503	Styrene	pg	922.6289	35855.37	30964.98	25409.99	39363.84	37043.9	34799.68	79710.41	77808.44	74481.97	35855.37	29449.74	28360.14	50015.7	51042	52588.24	86366.83	81784.57	75592.37
504	Sulfate	µg	185.4992	7208.904	6225.665	5108.808	7914.298	7447.863	6996.651	16026.18	15643.78	14974.98	7208.904	5921.02	5701.949	10055.91	10262.25	10573.13	17364.49	16443.2	15198.23
505	Sulfate	g	1.121774	43.59458	37.64862	30.89462	47.86034	45.03965	42.31102	96.91551	94.60302	90.55855	43.59458	35.80633	34.48154	60.81134	62.05917	63.93916	105.0087	99.43738	91.90862
506	Sulfide	ng	606.7355	23579.07	20363.07	16710.02	25886.29	24360.66	22884.83	52418.84	51168.08	48980.54	23579.07	19366.62	18650.08	32891.12	33566.04	34582.87	56796.21	53782.85	49710.75
507	Sulfite	µg	1.035317	40.23468	34.74699	28.51353	44.17167	41.56837	39.05005	89.44609	87.31182	83.57907	40.23468	33.04668	31.824	56.12452	57.27618	59.01128	96.91552	91.7736	84.82509
508	Sulfur	µg	12.00641	466.5955	402.9555	330.667	512.2521	482.0621	452.8574	1037.293	1012.542	969.2536	466.5955	383.2373	369.058	650.8675	664.2231	684.3447	1123.914	1064.284	983.7035
509	Sulfur	µg	3.530751	137.2127	118.498	97.23994	150.639	141.761	133.1727	305.0388	297.7603	285.0304	137.2127	112.6994	108.5297	191.402	195.3295	201.2467	330.5119	312.9763	289.2798
510	Sulfur dioxide	g	7.805065	303.3219	261.9511	214.9582	333.0021	313.3763	294.3911	674.3176	658.2278	630.0872	303.3219	249.1328	239.9153	423.1124	431.7946	444.8751	730.6283	691.8642	639.4807
511	Sulfur hexafluoride	µg	75.23226	2923.69	2524.921	2071.961	3209.774	3020.604	2837.607	6499.681	6344.593	6073.349	2923.69	2401.367	2312.52	4078.339	4162.026	4288.108	7042.454	6668.811	6163.892
512	Sulfur, in ground	µg	1.677664	65.19768	56.30523	46.20431	71.57731	67.35884	63.27806	144.9416	141.4831	135.4344	65.19768	53.55	51.56871	90.94613	92.81232	95.62393	157.0453	148.7131	137.4535
513	Sulfuric acid	pg	0.436155	16.94993	14.63809	12.01208	18.60848	17.51178	16.45087	37.68153	36.78242	35.20989	16.94993	13.92179	13.4067	23.64394	24.12911	24.86006	40.82823	38.66206	35.73481
514	Sulfuric acid	pg	0.000269	0.010461	0.009034	0.007413	0.011484	0.010807	0.010153	0.023255	0.0227	0.02173	0.010461	0.008592	0.008274	0.014592	0.014891	0.015342	0.025197	0.02386	0.022054
515	Suspended solids, unspecified	mg	1.267519	49.25856	42.54007	34.90857	54.07853	50.89137	47.80823	109.5071	106.8942	102.3243	49.25856	40.45842	38.96151	68.71218	70.12214	72.24638	118.6518	112.3567	103.8497
516	Sylvite, 25 % in sylvinite, in ground	µg	128.3472	4987.852	4307.548	3534.792	5475.916	5153.188	4840.994	11088.54	10823.96	10361.21	4987.852	4096.763	3945.188	6957.699	7100.469	7315.567	12014.52	11377.08	10515.68
517	t-Butyl methyl ether	pg	894.4074	34758.62	30017.82	24632.75	38159.77	35910.8	33735.22	77272.22	75428.43	72203.71	34758.62	28548.93	27492.66	48485.81	49480.72	50979.67	83725.03	79282.94	73280.14
518	t-Butyl methyl ether	ng	153.3151	5958.158	5145.512	4222.429	6541.167	6155.658	5782.731	13245.64	12929.58	12376.82	5958.158	4893.722	4712.661	8311.207	8481.75	8738.693	14351.75	13590.3	12561.33
519	Talc, in ground	µg	603.9783	23471.91	20270.53	16634.08	25768.65	24249.96	22780.83	52180.63	50935.55	48757.95	23471.91	19278.61	18565.33	32741.65	33413.5	34425.71	56538.11	53538.43	49484.85
520	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	pg	12.93883	502.831	434.2488	356.3464	552.0333	519.4988	488.0261	1117.848	1091.175	1044.525	502.831	412.9993	397.7189	701.4136	715.8063	737.4906	1211.197	1146.936	1060.097
521	Tebutam	ng	4.937924	191.8985	165.725	135.9947	210.6759	198.2595	186.2484	426.6113	416.432	398.6287	191.8985	157.6155	151.7839	267.6848	273.1776	281.4531	462.2366	437.7123	404.5715
522	Technetium-99m	nBq	549.5671	21357.38	18444.4	15135.55	23447.21	22065.33	20728.55	47479.78	46346.87	44365.45	21357.38	17541.84	16892.82	29792.03	30403.35	31324.37	51444.71	48715.27	45026.86
523	Teflubenzuron	ng	8.009501	311.2667	268.8123	220.5886	341.7243	321.5845	302.102	691.9798	675.4686	646.5909	311.2667	255.6583	246.1993	434.1949	443.1045	456.5277	749.7654	709.9861	656.2305
524	Tellurium-123m	µBq	109.4048	4251.71	3671.81	3013.103	4667.742	4392.645	4126.527	9452.016	9226.482	8832.031	4251.71	3492.134	3362.93	5930.834	6052.532	6235.885	10241.33	9697.969	8963.701
525	Tellurium-132	nBq	1.381208	53.67676	46.35567	38.03966	58.92906	55.45603	52.09635	119.3293	116.482	111.5022	53.67676	44.08731	42.45614	74.87527	76.41169	78.72646	129.2942	122.4344	113.1645
526	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	pg	1.75648	68.26066	58.95044	48.37499	74.94001	70.52336	66.25086	151.7509	148.13	141.7971	68.26066	56.06577	53.99141	95.21878	97.17263	100.1163	164.4233	155.6997	143.9111
527	Terpenes	pg	347.2734	13495.8	11655.08	9564.209	14816.37	13943.16	13098.44	30002.64	29286.75	28034.68	13495.8	11084.75	10674.63	18825.69	19211.98	19793.98	32508.09	30783.35	28452.63
528	Thallium	ng	54.78042	2128.887	1838.523	1508.7	2337.199	2199.455	2066.206	4732.747	4619.82	4422.313	2128.887	1748.557	1683.863	2969.646	3030.582	3122.389	5127.968	4855.899	4488.242
529	Thallium	µg	201.7786	7841.557	6772.03	5557.157	8608.858	8101.488	7610.677	17432.64	17016.68	16289.18	7841.557	6440.648	6202.353	10938.41	11162.87	11501.03	18888.4	17886.26	16532.02
530	Thiram	pg	1.581039	61.44263	53.06233	43.54318	67.45483	63.47932	59.63357	136.5937	133.3344	127.6341	61.44263	50.46579	48.59862	85.7081	87.46681	90.11648	148.0003	140.148	129.5369
531	Thorium	ng	65.81628	2557.765	2208.905	1812.637	2808.043	2642.549	2482.456	5686.19	5550.512	5313.216	2557.765	2100.815	2023.088	3567.9	3641.112	3751.414	6161.03	5834.152	5392.427
532	Thorium-228	µBq	688.1212	26741.89	23094.5	18951.45	29358.6	27628.33	25954.53	59450.14	58031.61	55550.64	26741.89	21964.4	21151.75	37303.04	38068.48	39221.71	64414.68	60997.11	56378.8
533	Thorium-228	mBq	14.16053	550.3092	475.2513	389.9933	604.1572	568.5507	534.1064	1223.397	1194.206	1143.151	550.3092	451.9954	435.2722	767.6422	783.394	807.1257	1325.56	1255.232	1160.194
534	Thorium-230	mBq	1.048098	40.73137	35.17592	28.86551	44.71695	42.08152	39.53211	90.55027	88.38966	84.61082	40.73137	33.45463	32.21685	56.81736	57.98323	59.73975	98.11191	92.90651	85.87222
535	Thorium-230	mBq	713.6962	27735.79	23952.85	19655.81	30449.75	28655.17	26919.16	61659.69	60188.43	57615.26	27735.79	22780.74	21937.88	38689.46	39483.35	40679.44	66808.75	63264.16	58474.2
536	Thorium-232	µBq	902.5787	35076.18	30292.06	24857.8	38508.4	36238.88	34043.43	77978.17	76117.54	72863.36	35076.18	28809.75	27743.83	48928.78	49932.78	51445.42	84489.94	80007.26	73949.63
537	Thorium-232	µBq	12.42624	482.9107	417.0454	342.2293	530.1638	498.9181	468.6923	1073.563	1047.947	1003.145	482.9107	396.6378	381.9627	673.6261	687.4487	708.2739	1163.214	1101.499	1018.1
538	Thorium-234	µBq	283.9277	11034.05	9529.092	7819.614	12113.74	11399.81	10709.17	24529.9	23944.59	22920.91	11034.05	9062.797	8727.485	15391.72	15707.55	16183.39	26578.33	25168.2	23262.62
539	Thorium-234	mBq	5.231675	203.3143	175.5838	144.0848	223.2087	210.0537	197.3281	451.9899	441.205	422.3426	203.3143	166.9918	160.8133	283.609	289.4286	298.1964	489.7345	463.7513	428.639
540	Tin	ng	237.4053	9226.087	7967.72	6538.346	10128.86	9531.911	8954.442	20510.6	20021.2	19165.25	9226.087	7577.829	7297.459	12869.74	13133.82	13531.69	22223.39	21044.31	19450.97
541	Tin	ng	4.318626	167.8312	144.9403	118.9387	184.2536	173.3945	162.8897	373.1071	364.2044	348.6339	167.8312	137.8479	132.7477	234.1126	238.9165	246.1542	404.2644	382.8158	353.8315
542	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	ng	241.1992	9373.526	8095.05	6642.833	10290.73	9684.238	9097.541	20838.37	20341.15	19471.52	9373.526	7698.929	7414.078	13075.4	13343.71	13747.93	22578.54	21380.61	19761.81
543	Tin, ion	µg	530.642	20621.91	17809.24	14614.34	22639.77	21305.48	20014.73	45844.75	44750.85	42837.66	20621.91	16937.77	16311.09	28766.1	29356.37	30245.67	49673.14	47037.69	43476.3
544	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	µg	95.68088	3718.368	3211.212	2635.134	4082.212	3841.624	3608.888	8266.338	8069.096	7724.125	3718.368	3054.075	2941.078	5186.859	5293.292	5453.644	8956.64	8481.439	7839.279
545	TiO2, 95% in rutile, 0.40% in crude ore, in ground	pg	240.0255	9327.916	8055.661	6610.51	10240.66	9637.116	9053.273	20736.97	20242.17	19376.78	9327.916	7661.466	7378.002	13011.78	13278.78	13681.04	22468.67	21276.58	19665.65
546	Titanium	µg	13.1286	510.2061	440.618	361.573	560.13	527.1183	495.184	1134.244	1107.18	1059.846	510.2061	419.0568	403.5523	711.7012	726.3051	748.3075	1228.962	1163.758	1075.646
547	Titanium	ng	25.58923	994.4535	858.8178	704.7495	1091.761	1027.417	965.1737	2210.779	2158.027	2065.767	994.4535	816.7925	786.5722	1387.192	1415.657	1458.542	2395.395	2268.306	2096.564
548	Titanium, ion	mg	168.5844	6551.556	5657.975	4642.959	7192.63	6768.726	6358.658	14564.82	14217.29	13609.48	6551.556	5381.109	5182.015	9138.956	9326.484	9609.016	15781.1	14943.82	13812.37
549	TOC, Total Organic Carbon	mg	5.63649	219.0463	189.1701	155.2338	240.4801	226.3072	212.5969	486.9638	475.3444	455.0225	219.0463	179.9133	173.2567	305.554	311.8239	321.2701	527.629	499.6353	461.8061
550	Toluene	mg	1.078377	41.9081	36.19216	29.69944	46.00883	43.29726	40.67419	93.16628	90.94324	87.05523	41.9081	34.42114	33.1476	58.45882	59.65837	61.46564	100.9464	95.59058	88.35308
551	Toluene	µg	8.958674	348.1536	300.6682	246.7296	382.2206	359.6942	337.9029	773.9835	755.5155	723.2157	348.1536	285.9553	275.3754	485.6496	495.6149	510.6289	838.617	794.1236	733.9976
552	Transformation, from arable	mm2	0.017836	0.693156	0.598615	0.491226	0.760982	0.716133	0.672748	1.540962	1.504194	1.439886	0.693156	0.569323	0.548259	0.966904	0.986745	1.016637	1.669645	1.58106	1.461353
553	Transformation, from arable, non-irrigated	mm2	16.09834	625.6166	540.2874	443.3621	686.8335	646.3544	607.1965	1390.814	1357.628	1299.587	625.6166	513.849	494.8373	872.6907	890.598	917.5774	1506.958	1427.005	1318.961
554	Transformation, from arable, non-irrigated, fallow	mm2	0.005684	0.220901	0.190772	0.156548	0.242517	0.228224	0.214397	0.491088	0.47937	0.458876	0.220901	0.181437	0.174724	0.308142	0.314465	0.323991	0.532097	0.503867	0.465717
555	Transformation, from dump site, inert material landfill	mm2	0.000259	0.010057	0.008685	0.007127	0.011041	0.01039	0.009761	0.022358	0.021824	0.020891	0.010057	0.00826	0.007955	0.014029	0.014317	0.01475	0.024225	0.02294	0.021203
556	Transformation, from dump site, residual material landfill	mm2	9.209305	357.8937	309.0798	253.6322	392.9138	369.7571	347.3562	795.6368	776.6521	743.4487	357.8937	293.9553	283.0794	499.2363	509.4805	524.9144	862.0785	816.3403	754.5322
557	Transformation, from dump site, sanitary landfill	mm2	0.002481	0.096431	0.083279	0.068339	0.105867	0.099627	0.093592	0.214377	0.209261	0.200315	0.096431	0.079203	0.076273	0.134514	0.137275	0.141433	0.232279	0.219955	0.203301
558	Transformation, from dump site, slag compartment	mm2	5.66E-05	0.002199	0.001899	0.001558	0.002414	0.002272	0.002134	0.004889	0.004772	0.004568	0.002199	0.001806	0.001739	0.003068	0.003131	0.003225	0.005297	0.005016	0.004636
559	Transformation, from forest	mm2	0.000378	0.014684	0.012682	0.010407	0.016121	0.015171	0.014252	0.032645	0.031866	0.030504	0.014684	0.012061	0.011615	0.020484	0.020904	0.021537	0.035371	0.033495	0.030959
560	Transformation, from forest, extensive	mm2	0.755043	29.34263	25.34052	20.79454	32.21382	30.31527	28.47869	65.23187	63.67538	60.95312	29.34263	24.10052	23.20883	40.93088	41.77077	43.03616	70.67923	66.92929	61.86183
561	Transformation, from forest, intensive, clear-cutting	mm2	0.000383	0.014896	0.012864	0.010557	0.016354	0.01539	0.014457	0.033115	0.032325	0.030943	0.014896	0.012235	0.011782	0.020779	0.021205	0.021848	0.035881	0.033977	0.031405
562	Transformation, from industrial area	mm2	0.086024	3.34308	2.88711	2.369175	3.670203	3.453896	3.24465	7.432033	7.254697	6.944544	3.34308	2.745833	2.644241	4.66336	4.75905	4.903219	8.052664	7.625424	7.048076
563	Transformation, from industrial area, benthos	mm2	4.15E-09	1.61E-07	1.39E-07	1.14E-07	1.77E-07	1.67E-07	1.56E-07	3.58E-07	3.5E-07	3.35E-07	1.61E-07	1.32E-07	1.27E-07	2.25E-07	2.29E-07	2.36E-07	3.88E-07	3.68E-07	3.4E-07
564	Transformation, from industrial area, built up	mm2	7.43E-06	0.000289	0.000249	0.000204	0.000317	0.000298	0.00028	0.000641	0.000626	0.000599	0.000289	0.000237	0.000228	0.000403	0.000411	0.000423	0.000695	0.000658	0.000608
565	Transformation, from industrial area, vegetation	mm2	1.27E-05	0.000492	0.000425	0.000349	0.00054	0.000509	0.000478	0.001094	0.001068	0.001023	0.000492	0.000404	0.000389	0.000687	0.000701	0.000722	0.001186	0.001123	0.001038
566	Transformation, from mineral extraction site	mm2	0.038071	1.479509	1.277715	1.048499	1.62428	1.528551	1.435948	3.28911	3.210629	3.073368	1.479509	1.215192	1.170231	2.06381	2.106159	2.169961	3.563776	3.374697	3.119186
567	Transformation, from pasture and meadow	mm2	9.225107	358.5078	309.6101	254.0674	393.588	370.3916	347.9522	797.002	777.9848	744.7243	358.5078	294.4597	283.5651	500.0929	510.3546	525.8151	863.5577	817.741	755.8269
568	Transformation, from pasture and meadow, intensive	mm2	0.013138	0.510564	0.440927	0.361827	0.560523	0.527488	0.495531	1.135039	1.107956	1.060589	0.510564	0.419351	0.403835	0.7122	0.726814	0.748832	1.229824	1.164574	1.0764
569	Transformation, from sea and ocean	mm2	6.12E-05	0.002379	0.002054	0.001686	0.002612	0.002458	0.002309	0.005288	0.005162	0.004942	0.002379	0.001954	0.001882	0.003318	0.003386	0.003489	0.00573	0.005426	0.005015

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
570	Transformation, from shrub land, sclerophyllous	mm2	9.222259	358.3971	309.5146	253.989	393.4665	370.2772	347.8448	796.7559	777.7446	744.4944	358.3971	294.3688	283.4776	499.9385	510.1971	525.6528	863.2911	817.4886	755.5936
571	Transformation, from tropical rain forest	mm2	0.000383	0.014896	0.012864	0.010557	0.016354	0.01539	0.014457	0.033115	0.032325	0.030943	0.014896	0.012235	0.011782	0.020779	0.021205	0.021848	0.035881	0.033977	0.031405
572	Transformation, from unknown	mm2	37.6702	1463.946	1264.275	1037.47	1607.194	1512.473	1420.843	3254.512	3176.856	3041.039	1463.946	1202.409	1157.922	2042.101	2084.004	2147.136	3526.288	3339.199	3086.376
573	Transformation, to arable	mm2	0.022766	0.884734	0.764063	0.626993	0.971306	0.914061	0.858685	1.96686	1.919929	1.837848	0.884734	0.726675	0.699788	1.234141	1.259465	1.297619	2.131108	2.01804	1.865247
574	Transformation, to arable, non-irrigated	mm2	16.11148	626.1271	540.7283	443.7239	687.394	646.8819	607.692	1391.949	1358.736	1300.647	626.1271	514.2684	495.2411	873.4029	891.3248	918.3262	1508.187	1428.169	1320.037
575	Transformation, to arable, non-irrigated, fallow	mm2	0.006133	0.238331	0.205824	0.1689	0.261652	0.246231	0.231314	0.529835	0.517193	0.495082	0.238331	0.195753	0.18851	0.332455	0.339276	0.349554	0.574081	0.543622	0.502463
576	Transformation, to dump site	mm2	9.511304	369.63	319.2154	261.9495	405.7985	381.8825	358.747	821.7279	802.1207	767.8284	369.63	303.5949	292.3623	515.6076	526.1877	542.1278	890.3485	843.1103	779.2754
577	Transformation, to dump site, benthos	mm2	4.9E-05	0.001904	0.001644	0.001349	0.00209	0.001967	0.001848	0.004233	0.004132	0.003955	0.001904	0.001564	0.001506	0.002656	0.00271	0.002793	0.004586	0.004343	0.004014
578	Transformation, to dump site, inert material landfill	mm2	0.000259	0.010057	0.008685	0.007127	0.011041	0.01039	0.009761	0.022358	0.021824	0.020891	0.010057	0.00826	0.007955	0.014029	0.014317	0.01475	0.024225	0.02294	0.021203
579	Transformation, to dump site, residual material landfill	mm2	9.209305	357.8937	309.0798	253.6322	392.9138	369.7571	347.3562	795.6368	776.6521	743.4487	357.8937	293.9553	283.0794	499.2363	509.4805	524.9144	862.0785	816.3403	754.5322
580	Transformation, to dump site, sanitary landfill	mm2	0.002481	0.096431	0.083279	0.068339	0.105867	0.099627	0.093592	0.214377	0.209261	0.200315	0.096431	0.079203	0.076273	0.134514	0.137275	0.141433	0.232279	0.219955	0.203301
581	Transformation, to dump site, slag compartment	mm2	5.66E-05	0.002199	0.001899	0.001558	0.002414	0.002272	0.002134	0.004889	0.004772	0.004568	0.002199	0.001806	0.001739	0.003068	0.003131	0.003225	0.005297	0.005016	0.004636
582	Transformation, to forest	mm2	9.220834	358.3418	309.4667	253.9497	393.4057	370.22	347.7911	796.6328	777.6244	744.3794	358.3418	294.3233	283.4338	499.8613	510.1183	525.5716	863.1578	817.3623	755.4768
583	Transformation, to forest, intensive	mm2	0.447461	17.3893	15.01754	12.32346	19.09086	17.96572	16.87731	38.65832	37.73589	36.12261	17.3893	14.28267	13.75423	24.25684	24.75458	25.50449	41.88658	39.66426	36.66113
584	Transformation, to forest, intensive, clear-cutting	mm2	0.000383	0.014896	0.012864	0.010557	0.016354	0.01539	0.014457	0.033115	0.032325	0.030943	0.014896	0.012235	0.011782	0.020779	0.021205	0.021848	0.035881	0.033977	0.031405
585	Transformation, to forest, intensive, normal	mm2	0.292753	11.37704	9.8253	8.062684	12.49029	11.75416	11.04206	25.2924	24.6889	23.6334	11.37704	9.344511	8.998776	15.87016	16.19581	16.68644	27.40451	25.95054	23.98573
586	Transformation, to forest, intensive, short-cycle	mm2	0.000383	0.014896	0.012864	0.010557	0.016354	0.01539	0.014457	0.033115	0.032325	0.030943	0.014896	0.012235	0.011782	0.020779	0.021205	0.021848	0.035881	0.033977	0.031405
587	Transformation, to heterogeneous, agricultural	mm2	4.38E-06	0.00017	0.000147	0.00012	0.000187	0.000176	0.000165	0.000378	0.000369	0.000353	0.00017	0.00014	0.000134	0.000237	0.000242	0.000249	0.00041	0.000388	0.000358
588	Transformation, to industrial area	mm2	0.006046	0.23498	0.202931	0.166526	0.257973	0.242769	0.228061	0.522386	0.509921	0.488121	0.23498	0.193	0.18586	0.32778	0.334506	0.34464	0.566009	0.535979	0.495398
589	Transformation, to industrial area, benthos	mm2	1.22E-05	0.000475	0.00041	0.000337	0.000521	0.000491	0.000461	0.001056	0.00103	0.000986	0.000475	0.00039	0.000376	0.000662	0.000676	0.000696	0.001144	0.001083	0.001001
590	Transformation, to industrial area, built up	mm2	0.170853	6.639706	5.734102	4.705429	7.289405	6.859798	6.444213	14.76079	14.40859	13.79259	6.639706	5.45351	5.251738	9.261918	9.45197	9.738303	15.99343	15.14489	13.99821
591	Transformation, to industrial area, vegetation	mm2	8.38E-05	0.003257	0.002812	0.002308	0.003575	0.003365	0.003161	0.00724	0.007067	0.006765	0.003257	0.002675	0.002576	0.004543	0.004636	0.004776	0.007844	0.007428	0.006866
592	Transformation, to mineral extraction site	mm2	11.12105	432.1881	373.241	306.2832	474.4779	446.5142	419.4631	960.8013	937.8757	897.7796	432.1881	354.9769	341.8432	602.8717	615.2424	633.8803	1041.036	985.8026	911.1639
593	Transformation, to pasture and meadow	mm2	8.23E-05	0.003197	0.002761	0.002266	0.00351	0.003303	0.003103	0.007108	0.006938	0.006642	0.003197	0.002626	0.002529	0.00446	0.004552	0.004689	0.007702	0.007293	0.006741
594	Transformation, to permanent crop, fruit, intensive	mm2	0.000114	0.004422	0.003819	0.003134	0.004854	0.004568	0.004291	0.00983	0.009595	0.009185	0.004422	0.003632	0.003497	0.006168	0.006294	0.006485	0.010651	0.010085	0.009322
595	Transformation, to sea and ocean	mm2	4.15E-09	1.61E-07	1.39E-07	1.14E-07	1.77E-07	1.67E-07	1.56E-07	3.58E-07	3.5E-07	3.35E-07	1.61E-07	1.32E-07	1.27E-07	2.25E-07	2.29E-07	2.36E-07	3.88E-07	3.68E-07	3.4E-07
596	Transformation, to shrub land, sclerophyllous	mm2	9.212102	358.0024	309.1737	253.7092	393.0331	369.8694	347.4617	795.8784	776.888	743.6745	358.0024	294.0446	283.1653	499.3879	509.6352	525.0738	862.3403	816.5882	754.7614
597	Transformation, to traffic area, rail embankment	mm2	3.23E-07	1.26E-05	1.08E-05	8.9E-06	1.38E-05	1.3E-05	1.22E-05	2.79E-05	2.72E-05	2.61E-05	1.26E-05	1.03E-05	9.93E-06	1.75E-05	1.79E-05	1.84E-05	3.02E-05	2.86E-05	2.65E-05
598	Transformation, to traffic area, rail network	mm2	3.55E-07	1.38E-05	1.19E-05	9.78E-06	1.52E-05	1.43E-05	1.34E-05	3.07E-05	2.99E-05	2.87E-05	1.38E-05	1.13E-05	1.09E-05	1.93E-05	1.96E-05	2.02E-05	3.32E-05	3.15E-05	2.91E-05
599	Transformation, to traffic area, road embankment	mm2	0.010265	0.398904	0.344497	0.282696	0.437937	0.412127	0.387159	0.886808	0.865647	0.828639	0.398904	0.327639	0.315517	0.556443	0.567861	0.585064	0.960863	0.909883	0.840993
600	Transformation, to traffic area, road network	mm2	6.07E-06	0.000236	0.000204	0.000167	0.000259	0.000244	0.000229	0.000524	0.000512	0.00049	0.000236	0.000194	0.000187	0.000329	0.000336	0.000346	0.000568	0.000538	0.000497
601	Transformation, to unknown	mm2	0.086164	3.348503	2.891793	2.373018	3.676156	3.459499	3.249913	7.444088	7.266465	6.955809	3.348503	2.750287	2.64853	4.670924	4.76677	4.911172	8.065726	7.637793	7.059508
602	Transformation, to urban, discontinuously built	mm2	7.09E-10	2.76E-08	2.38E-08	1.95E-08	3.03E-08	2.85E-08	2.68E-08	6.13E-08	5.98E-08	5.73E-08	2.76E-08	2.26E-08	2.18E-08	3.85E-08	3.92E-08	4.04E-08	6.64E-08	6.29E-08	5.81E-08
603	Transformation, to water bodies, artificial	mm2	16.91468	657.3412	567.685	465.8448	721.6624	679.1307	637.9871	1461.341	1426.472	1365.488	657.3412	539.906	519.9302	916.9443	935.7597	964.1072	1583.374	1499.367	1385.845
604	Transformation, to water courses, artificial	mm2	0.020134	0.782463	0.675741	0.554516	0.859028	0.8084	0.759425	1.739501	1.697995	1.625402	0.782463	0.642675	0.618897	1.091481	1.113878	1.147621	1.884763	1.784765	1.649634
605	Tributyltin compounds	ng	83.34541	3238.985	2797.212	2295.405	3555.921	3346.35	3143.619	7200.617	7028.803	6728.308	3238.985	2660.334	2561.905	4518.154	4610.865	4750.544	7801.923	7387.986	6828.615
606	Triethylene glycol	ng	328.5624	12768.65	11027.11	9048.892	14018.07	13191.91	12392.7	28386.11	27708.79	26524.18	12768.65	10487.51	10099.48	17811.36	18176.85	18727.49	30756.56	29124.75	26919.61
607	Tungsten	µg	546.6003	21242.08	18344.83	15053.84	23320.63	21946.21	20616.65	47223.46	46096.67	44125.94	21242.08	17447.14	16801.62	29631.19	30239.21	31155.27	51166.98	48452.28	44783.78
608	Ulexite, in ground	pg	59.28657	2304.006	1989.757	1632.803	2529.454	2380.378	2236.169	5122.056	4999.839	4786.086	2304.006	1892.391	1822.375	3213.924	3279.873	3379.232	5549.787	5255.339	4857.438
609	Uranium	ng	87.63697	3405.764	2941.244	2413.598	3739.02	3518.658	3305.488	7571.385	7390.725	7074.756	3405.764	2797.318	2693.821	4750.799	4848.284	4995.155	8203.653	7768.402	7180.229
610	Uranium-234	mBq	3.298444	128.1847	110.7013	90.842	140.7277	132.4338	124.4106	284.9687	278.1691	266.2768	128.1847	105.2843	101.3889	178.8086	182.4777	188.0056	308.7657	292.3839	270.2465
611	Uranium-234	mBq	6.277	243.9379	210.6667	172.874	267.8074	252.0239	236.7556	542.3006	529.3609	506.7296	243.9379	200.358	192.945	340.2761	347.2584	357.7781	587.5869	556.412	514.2841
612	Uranium-235	µBq	160.0635	6220.417	5372.001	4408.287	6829.088	6426.61	6037.269	13828.67	13498.7	12921.6	6220.417	5109.128	4920.097	8677.04	8855.09	9123.342	14983.47	14188.51	13114.24
613	Uranium-235	mBq	10.35705	402.4976	347.6	285.2421	441.8822	415.8395	390.6468	894.796	873.4454	836.1038	402.4976	330.5906	318.3592	561.4555	572.9764	590.3339	969.5183	918.0798	848.5687
614	Uranium-238	mBq	5.093161	197.9313	170.935	140.27	217.299	204.4923	192.1036	440.023	429.5236	411.1606	197.9313	162.5705	156.5556	276.1002	281.7656	290.3013	476.7682	451.4729	417.2903
615	Uranium-238	mBq	15.85933	616.3282	532.2658	436.7796	676.6363	636.7582	598.1816	1370.165	1337.471	1280.292	616.3282	506.22	487.4905	859.7341	877.3755	903.9543	1484.584	1405.818	1299.379
616	Uranium alpha	mBq	15.38755	597.9936	516.432	423.7863	656.5076	617.8158	580.3868	1329.405	1297.684	1242.206	597.9936	491.161	472.9886	834.1586	851.2753	877.0634	1440.421	1363.998	1260.725
617	Uranium alpha	mBq	301.3195	11709.93	10112.79	8298.598	12855.76	12098.09	11365.16	26032.46	25411.3	24324.91	11709.93	9617.931	9262.08	16334.52	16669.7	17174.69	28206.37	26709.86	24687.56
618	Uranium, in ground	mg	1.153408	44.82397	38.71033	31.76586	49.21002	46.30979	43.50421	99.64857	97.27087	93.11234	44.82397	36.81608	35.45394	62.52625	63.80927	65.74228	107.97	102.2416	94.50048
619	Vanadium	µg	10.74882	417.7226	360.7485	296.0318	458.597	431.5692	405.4236	928.643	906.4847	867.7306	417.7226	343.0957	330.4016	582.6934	594.6501	612.6641	1006.192	952.8075	880.667
620	Vanadium	pg	732.4454	28464.43	24582.1	20172.18	31249.69	29407.96	27626.35	63279.53	61769.62	59128.85	28464.43	23379.21	22514.21	39705.86	40520.61	41748.12	68563.86	64926.15	60010.36
621	Vanadium, ion	mg	16.05422	623.9021	538.8067	442.1471	684.9512	644.583	605.5324	1387.002	1353.907	1296.025	623.9021	512.4408	493.4811	870.299	888.1573	915.0627	1502.828	1423.094	1315.346
622	Vermiculite, in ground	pg	12.80945	497.8031	429.9066	352.7832	546.5134	514.3042	483.1462	1106.671	1080.264	1034.081	497.8031	408.8697	393.742	694.4	708.6488	730.1163	1199.086	1135.468	1049.497
623	VOC, volatile organic compounds, unspecified origin	µg	38.02565	1477.76	1276.205	1047.259	1622.359	1526.744	1434.25	3285.221	3206.833	3069.734	1477.76	1213.755	1168.848	2061.37	2103.668	2167.396	3559.562	3370.707	3115.499
624	Volume occupied, final repository for low-active radioactive waste	mm3	2.190045	85.10995	73.50161	60.31574	93.438	87.93115	82.60404	189.2087	184.694	176.798	85.10995	69.9049	67.31851	118.7223	121.1585	124.8288	205.0091	194.1322	179.4337
625	Volume occupied, final repository for radioactive waste	mm3	0.60605	23.55242	20.34005	16.69113	25.85703	24.33313	22.85896	52.35959	51.11024	48.92518	23.55242	19.34473	18.629	32.85395	33.5281	34.54378	56.73202	53.72206	49.65457
626	Volume occupied, reservoir	m3day	4.066984	158.0519	136.4948	112.0082	173.5173	163.2909	153.3983	351.3665	342.9826	328.3194	158.0519	129.8156	125.0126	220.4711	224.9951	231.811	380.7083	360.5096	333.2141
627	Volume occupied, underground deposit	mm3	0.376812	14.64374	12.64645	10.37773	16.07664	15.12915	14.21258	32.55463	31.77785	30.41928	14.64374	12.02761	11.5826	20.42698	20.84613	21.47764	35.27319	33.40175	30.87278
628	Water	mg	171.1149	6649.899	5742.904	4712.652	7300.595	6870.328	6454.105	14783.45	14430.7	13813.76	6649.899	5461.882	5259.799	9276.136	9466.48	9753.253	16017.98	15168.14	14019.7

				Zone 1			Zone 2			Zone 3			Zone 4			Zone 5			Zone 6		
No	Substance	Unit	1 kWh	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity	220mm Double Brick	270mm Double Brick with Cavity	280mm Double Brick with insulated cavity
629	Water, cooling, unspecified natural origin/m3	cu.in	80.58641	3131.764	2704.616	2219.419	3438.209	3235.575	3039.555	6962.253	6796.127	6505.579	3131.764	2572.269	2477.098	4368.588	4458.23	4593.286	7543.654	7143.42	6602.566
630	Water, lake	cm3	21.92828	852.1808	735.95	603.9237	935.5671	880.4287	827.0899	1894.491	1849.287	1770.226	852.1808	699.9371	674.0403	1188.732	1213.124	1249.874	2052.695	1943.788	1796.617
631	Water, river	cu.in	122.0062	4741.428	4094.734	3360.156	5205.379	4898.596	4601.825	10540.71	10289.2	9849.316	4741.428	3894.363	3750.276	6613.955	6749.671	6954.142	11420.94	10814.99	9996.152
632	Water, salt, ocean	cm3	77.15155	2998.278	2589.336	2124.82	3291.661	3097.664	2909.999	6665.499	6506.454	6228.29	2998.278	2462.63	2371.516	4182.384	4268.206	4397.505	7222.119	6838.944	6321.143
633	Water, salt, sole	mm3	878.9286	34157.08	29498.32	24206.45	37499.37	35289.32	33151.39	75934.92	74123.05	70954.14	34157.08	28054.86	27016.86	47646.7	48624.4	50097.4	82276.07	77910.85	72011.94
634	Water, turbine use, unspecified natural origin	dm3	617.1066	23982.11	20711.14	16995.65	26328.77	24777.06	23276	53314.85	52042.71	49817.77	23982.11	19697.66	18968.87	33453.34	34139.79	35174	57767.04	54702.17	50560.47
635	Water, unspecified natural origin/m3	cm3	10.31736	400.9551	346.268	284.149	440.1888	414.2459	389.1498	891.367	870.0982	832.8997	400.9551	329.3238	317.1392	559.3039	570.7807	588.0716	965.803	914.5616	845.3168
636	Water, well, in ground	cm3	229.0017	8899.506	7685.682	6306.904	9770.327	9194.505	8637.476	19784.57	19312.49	18486.85	8899.506	7309.592	7039.147	12414.18	12668.91	13052.7	21436.74	20299.39	18762.45
637	Wood, hard, standing	mm3	13.0235	506.1218	437.0907	358.6785	555.646	522.8986	491.22	1125.164	1098.316	1051.361	506.1218	415.7022	400.3217	706.0039	720.4909	742.3171	1219.124	1154.442	1067.035
638	Wood, primary forest, standing	mm3	0.003969	0.154233	0.133197	0.109302	0.169325	0.159346	0.149692	0.342878	0.334696	0.320388	0.154233	0.126679	0.121992	0.215145	0.219559	0.226211	0.371511	0.3518	0.325164
639	Wood, soft, standing	mm3	59.80689	2324.226	2007.22	1647.133	2551.653	2401.269	2255.794	5167.009	5043.719	4828.09	2324.226	1908.999	1838.368	3242.13	3308.658	3408.889	5598.493	5301.461	4900.068
640	Wood, unspecified, standing/m3	mm3	8.96E-05	0.003481	0.003006	0.002467	0.003821	0.003596	0.003378	0.007738	0.007554	0.007231	0.003481	0.002859	0.002753	0.004855	0.004955	0.005105	0.008384	0.00794	0.007338
641	Xenon-131m	µBq	614.7315	23889.81	20631.42	16930.24	26227.44	24681.7	23186.42	53109.65	51842.41	49626.04	23889.81	19621.85	18895.87	33324.59	34008.39	35038.63	57544.71	54491.63	50365.88
642	Xenon-133	mBq	20.90712	812.4963	701.6781	575.8001	891.9995	839.4288	788.5739	1806.268	1763.169	1687.79	812.4963	667.3423	642.6515	1133.375	1156.631	1191.669	1957.105	1853.269	1712.952
643	Xenon-133m	µBq	55.65553	2162.896	1867.893	1532.801	2374.536	2234.591	2099.213	4808.353	4693.621	4492.959	2162.896	1776.49	1710.762	3017.086	3078.995	3172.269	5209.887	4933.472	4559.942
644	Xenon-135	mBq	8.468905	329.1201	284.2307	233.241	361.3247	340.0298	319.4298	731.67	714.2117	683.6777	329.1201	270.3222	260.3206	459.0992	468.5198	482.7129	792.77	750.709	693.8701
645	Xenon-135m	mBq	5.161927	200.6038	173.243	142.1639	220.233	207.2533	194.6974	445.9641	435.323	416.712	200.6038	164.7655	158.6694	279.828	285.57	294.2209	483.2055	457.5686	422.9245
646	Xenon-137	µBq	131.45	5108.433	4411.683	3620.246	5608.296	5277.767	4958.025	11356.6	11085.63	10611.69	5108.433	4195.802	4040.563	7125.901	7272.122	7492.421	12304.97	11652.12	10769.89
647	Xenon-138	mBq	1.048458	40.74538	35.18802	28.87544	44.73233	42.096	39.5457	90.58142	88.42006	84.63992	40.74538	33.46614	32.22793	56.8369	58.00318	59.7603	98.14565	92.93846	85.90176
648	Xylene	mg	8.99625	349.6139	301.9293	247.7645	383.8238	361.2029	339.3202	777.2299	758.6845	726.2492	349.6139	287.1548	276.5304	487.6866	497.6938	512.7707	842.1346	797.4545	737.0763
649	Xylene	µg	7.252319	281.8409	243.4	199.7351	309.4192	291.1833	273.5427	626.5632	611.6128	585.4651	281.8409	231.4895	222.9247	393.1481	401.2153	413.3696	678.886	642.8671	594.1934
650	Zinc	µg	12.20825	474.4392	409.7294	336.2257	520.8634	490.1659	460.4703	1054.73	1029.563	985.5474	474.4392	389.6798	375.2621	661.809	675.3891	695.849	1142.808	1082.176	1000.24
651	Zinc	ng	860.8747	33455.47	28892.4	23709.23	36729.1	34564.44	32470.44	74375.16	72600.5	69496.68	33455.47	27478.59	26461.92	46668	47625.61	49068.36	80586.05	76310.5	70532.76
652	Zinc-65	nBq	0.991839	38.54504	33.2878	27.31611	42.31669	39.82272	37.41015	85.68983	83.64519	80.06919	38.54504	31.6589	30.48756	53.76759	54.87088	56.53311	92.84558	87.91959	81.26288
653	Zinc-65	µBq	2.447004	95.0959	82.12556	67.39259	104.4011	98.24812	92.29598	211.4086	206.3642	197.5417	95.0959	78.10684	75.21699	132.652	135.374	139.475	229.0628	216.9097	200.4867
654	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	µg	480.4281	18670.49	16123.98	13231.41	20497.4	19289.37	18120.77	41506.53	40516.14	38784	18670.49	15334.97	14767.6	26044	26578.42	27383.57	44972.64	42586.58	39362.2
655	Zinc, ion	µg	435.7774	16935.26	14625.42	12001.69	18592.38	17496.63	16436.63	37648.93	36750.59	35179.43	16935.26	13909.74	13395.1	23623.49	24108.23	24838.55	40792.91	38628.61	35703.9
656	Zirconium	pg	71.90487	2794.38	2413.249	1980.322	3067.812	2887.008	2712.105	6212.213	6063.983	5804.736	2794.38	2295.159	2210.241	3897.962	3977.947	4098.453	6730.98	6373.862	5891.274
657	Zirconium-95	nBq	0.969485	37.67631	32.53756	26.70046	41.36296	38.9252	36.567	83.75855	81.75999	78.26459	37.67631	30.94537	29.80043	52.55578	53.6342	55.25897	90.75303	85.93806	79.43138
658	Zirconium-95	nBq	28.33698	1101.237	951.0369	780.425	1208.994	1137.741	1068.813	2448.17	2389.755	2287.588	1101.237	904.4991	871.0338	1536.148	1567.669	1615.159	2652.611	2511.875	2321.692
659	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	pg	17.69364	687.6136	593.8285	487.2982	754.897	710.4065	667.3681	1528.64	1492.165	1428.372	687.6136	564.7702	543.8744	959.1721	978.854	1008.507	1656.293	1568.417	1449.667

Appendix 10: Summary of unit processes for clay brick for the demolition, waste and recycle phase

Building in components Unit Processes (per m² double clay brick wall)			
Brick Landfill	**Qty**	**Unit**	**Comment**
Waste treatment			
Disposal, building, brick, to final disposal/CH U	1	kg	All waste types
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0359	MJ	Energy for demolition.
Transport, lorry 20-28t, fleet average/CH U	0.015	tkm	Transport to disposal facilities.
Emissions to air			
Particulates, < 2.5 um	1.66E-05	kg	Emissions from dismantling
Particulates, > 2.5 um, and < 10um	6.34E-05	kg	Emissions from dismantling
Particulates, > 10 um	8.35E-05	kg	Emissions from dismantling
Brick Recycling			
Waste treatment			
Disposal, building, brick, to recycling/CH U	1	kg	All waste types
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0359	MJ	Energy for demolition.
Emissions to air			
Particulates, < 2.5 um	1.66E-05	kg	Emissions from dismantling
Particulates, > 2.5 um, and < 10um	6.34E-05	kg	Emissions from dismantling
Particulates, > 10 um	8.35E-05	kg	Emissions from dismantling
Mortar Landfill			
Waste treatment			
Disposal, building, cement (in concrete) and mortar, to final disposal/CH U	1	kg	All waste types
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0437	MJ	Energy for demolition.
Transport, lorry 20-28t, fleet average/CH U	0.015	tkm	Transport to disposal facilities.
Emissions to air			
Particulates, < 2.5 um	1.66E-05	kg	Emissions from dismantling
Particulates, > 2.5 um, and < 10um	6.34E-05	kg	Emissions from dismantling
Particulates, > 10 um	8.35E-05	kg	Emissions from dismantling
Plaster Landfill			
Waste treatment			
Disposal, building, concrete, not reinforced, to final disposal/CH U	1	kg	All waste types
Materials/fuels			
Diesel, burned in building machine/GLO U	0.0437	MJ	Energy for demolition.
Transport, lorry 20-28t, fleet average/CH U	0.015	tkm	Transport to disposal facilities.
Emissions to air			
Particulates, < 2.5 um	1.66E-05	kg	Emissions from dismantling
Particulates, > 2.5 um, and < 10um	6.34E-05	kg	Emissions from dismantling
Particulates, > 10 um	8.35E-05	kg	Emissions from dismantling
Paint Landfill			
Waste treatment			
Disposal, building, paint on walls, to final disposal/CH U	1	kg	All waste types
Materials/fuels			
Transport, lorry 20-28t, fleet average/CH U	0.015	tkm	Transport to disposal facilities.
Wall ties Landfill			
Waste treatment			
Disposal, building, reinforcement steel, to final disposal/CH U	1	kg	All waste types
Materials/fuels			
Diesel, burned in building machine/GLO U	0.626	MJ	Energy for demolition.
Transport, lorry 20-28t, fleet average/CH U	0.015	tkm	Transport to disposal facilities.
Insulation Landfill			
Waste treatment			
Disposal, building, polystyrene insolation, flame-retardant, to final disposal/CH U	1	kg	All waste types
Materials/fuels			
Transport, lorry 20-28t, fleet average/CH U	0.01	tkm	Transport to disposal facilities.

Appendix 11: Inventory of emitted substances for the demolition, waste and recycle phase

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
1	1-Butanol	pg	75.60194672	2.01931718	19.90372297	3.580888217	4.182777097	0.042195537
2	1-Butanol	µg	1.570827951	11.1236317	410.53959	73.86058808	89.99245369	599.0759875
3	1-Pentanol	pg	104.8287754	1.260102299	27.44781374	4.938163528	5.953822456	0.044641583
4	1-Pentanol	pg	251.5896857	3.024249246	65.8749162	11.85162183	14.28920976	0.107140032
5	1-Pentene	pg	79.21705422	0.952234848	20.74177575	3.73167355	4.499187104	0.033734773
6	1-Pentene	pg	190.1211817	2.285361743	49.78032721	8.956028286	10.79806383	0.080963517
7	1-Propanol	ng	7.240778669	362.1313626	1.922758006	345.9251797	383.7248033	5.560664768
8	1-Propanol	pg	720.0902007	6.272065364	188.3118061	33.87936486	41.13650387	0.285186182
9	1,4-Butanediol	ng	5.254244774	47.83476736	1.374244655	247.2409261	299.9517406	2.099544001
10	1,4-Butanediol	ng	2.101713114	19.13404528	549.7018387	98.8970859	119.9815643	0.839823675
11	2-Aminopropanol	pg	31.89764077	0.192690377	8.333281917	1.499249066	1.830730394	0.011866132
12	2-Aminopropanol	pg	80.17865993	0.483430843	20.94664351	3.768531537	4.601859029	0.029818703
13	2-Butene, 2-methyl-	pg	0.017600471	0.000211217	0.004600339	0.000827776	0.000998001	7.48283E-06
14	2-Methyl-1-propanol	pg	232.0742011	3.818775889	60.86561934	10.95039426	13.07786511	0.108096314
15	2-Methyl-1-propanol	pg	556.9687986	9.164992103	146.0750596	26.28050961	31.38634482	0.259427573
16	2-Methyl-2-butene	pg	0.042241761	0.000506928	0.011040978	0.001986691	0.002395238	1.79591E-05
17	2-Nitrobenzoic acid	pg	56.62829964	0.336562235	14.79364519	2.661539469	3.250672257	0.021016362
18	2-Propanol	µg	93.22529362	653.7207234	24.36402128	4.383355331	5.341505057	35.49586492
19	2-Propanol	pg	300.4998531	2.393284061	78.562151	14.13419479	17.18901472	0.116992526
20	2,4-D	ng	298.5876929	21.98452636	79.97759803	14.38884948	15.11826616	292.8010109
21	4-Methyl-2-pentanone	pg	267.5270307	2.874872133	70.01458259	12.59639346	15.22849537	0.110856791
22	Acenaphthene	pg	318.2382603	31.45227302	86.02453732	15.47676038	15.31081918	0.384297547
23	Acenaphthene	ng	327.1067999	40.05589855	89.17670582	16.04387015	14.96449891	464.5884621
24	Acenaphthylene	ng	20.45732235	2.505103622	5.57712838	1.003386733	935.8826474	29.05545203
25	Acetaldehyde	mg	18.43847596	7.190978384	4.806887153	864.8118655	1.068679641	5.920986177
26	Acetaldehyde	µg	2.960083776	21.57964572	773.6852623	139.1944889	169.5208328	1.134471191
27	Acetic acid	µg	962.4862995	73.52719813	258.0647097	46.42867937	48.46697071	967.7940196
28	Acetic acid	µg	47.17437291	2.291328856	12.52032947	2.252544861	2.506809933	35.61603406
29	Acetone	µg	192.3293984	6.982280396	50.81475382	9.14213311	10.45626893	123.9598074
30	Acetone	ng	27.23615936	162.8401024	7.115301348	1.280120966	1.56335888	10.11680567
31	Acetonitrile	ng	888.9150013	65.52927199	238.1063218	42.83794597	45.000069	872.407209
32	Acetonitrile	pg	267.4891948	1.55447485	69.87575015	12.57141594	15.35839386	0.098954846
33	Acetyl chloride	pg	197.6410037	2.375756073	51.74927791	9.310264169	11.22515712	0.084165867
34	Acidity, unspecified	µg	54.99112545	1.189346434	14.4502018	2.599750227	3.070408028	28.17555049
35	Aclonifen	ng	487.390319	2.820524026	127.3189892	22.90608641	27.98561731	180.1980525
36	Acrolein	µg	3.72834246	13.80463048	973.1805769	175.085889	214.8562815	1.308464739
37	Acrylate, ion	ng	570.8510221	4.005902243	149.1896955	26.84086705	32.70760622	217.3800673
38	Acrylic acid	ng	241.1959862	1.69257399	63.03563338	11.34080373	13.81961848	91.84743152
39	Actinides, radioactive, unspecified	µBq	77.29517808	3.142236232	20.45474346	3.680033631	4.168637218	52.84493776
40	Actinides, radioactive, unspecified	mBq	8.080243921	531.1795365	2.15808872	388.2638944	415.5014859	7.349537965
41	Aerosols, radioactive, unspecified	mBq	1.026710231	79.18627506	275.3580864	49.539948	51.62570433	1.039151033
42	Aldehydes, unspecified	µg	8.520809547	495.2395731	2.269416461	408.2929848	444.6489782	7.165833243
43	Aldrin	ng	6.203269811	43.59848858	1.62120718	291.6730025	355.4172004	2.362813394
44	Aluminium	mg	18.16488248	1.420763593	4.87365029	876.8232797	911.3991992	18.56305425
45	Aluminium	mg	337.5547211	28.45181666	90.76644249	16.32988102	16.73129151	363.4140113
46	Aluminium	mg	19.9987728	3.012411756	5.507158732	990.7984241	858.537426	33.47803238
47	Aluminium, 24% in bauxite, 11% in crude ore, in ground	mg	620.2439701	8.515016614	162.5024354	29.23597131	35.12066241	273.6684144
48	Ammonia	mg	32.72876244	3.020755974	8.826178892	1.587926647	1.596019128	37.59633207
49	Ammonium carbonate	ng	169.8604955	9.329456329	45.18723745	8.1296809	8.918296039	137.9593273
50	Ammonium, ion	mg	4.819220735	551.0965147	1.310014618	235.6860379	224.3755979	6.493156133
51	Anhydrite, in ground	µg	71.32629979	410.124215	18.63202083	3.352105464	4.095771248	26.34699696
52	Aniline	ng	1.042168386	45.44507758	276.0914909	49.67189554	55.897671	0.740227256
53	Aniline	ng	2.523985099	109.2066315	668.5712049	120.2833124	135.4618168	1.78502754
54	Anthranilic acid	pg	41.28208752	0.24579989	10.78462579	1.940272788	2.369698767	0.015324962
55	Antimony	µg	8.643708516	258.5813067	2.278330434	409.8966875	475.4510475	5.073797485
56	Antimony	µg	510.6898527	15.79308156	134.6594003	24.2267069	28.03918107	304.4136918
57	Antimony	pg	514.4230611	8.155731159	134.8877686	24.26779662	29.0200118	0.236827981
58	Antimony-122	µBq	25.04328301	162.9146151	6.543712062	1.177285767	1.436168465	9.420998518
59	Antimony-124	nBq	62.11711331	0.404091809	16.23095915	2.920128059	3.562258161	0.023367752
60	Antimony-124	mBq	2.152945354	86.34701242	569.6227236	102.4813925	116.2290017	1.461335019
61	Antimony-125	nBq	648.2442716	4.217037559	169.3836969	30.47398995	37.17515712	0.243862129
62	Antimony-125	mBq	2.039374633	78.6535586	539.2677608	97.02020082	110.4117358	1.355985685
63	AOX, Adsorbable Organic Halogen as Cl	µg	40.02544639	5.298515783	10.95063563	1.970139359	1.791350039	60.42465167
64	Argon-41	mBq	411.6439351	41.78595157	111.3811585	20.03869531	19.69442099	507.0170093
65	Arsenic	µg	89.6868453	5.401979292	23.90546284	4.300855555	4.661261962	77.12918092
66	Arsenic	µg	8.020080164	1.20399442	2.208130772	397.267011	344.7051196	13.38900929
67	Arsenic, ion	mg	1.396809403	97.65423011	373.6321324	67.22052903	71.24324209	1.322998335
68	Arsine	pg	2.8114584	0.019729187	0.734763726	0.132192076	0.161085942	0.001070603
69	Atrazine	ng	1.627370754	11.43766321	425.308786	76.51772833	93.240432	0.61986236
70	Barite	mg	124.0425944	23.87255782	34.66499992	6.236614734	4.806085009	254.3652482
71	Barite, 15% in crude ore, in ground	g	3.338191633	515.6504124	920.5061968	165.6091886	142.024509	5.703581644
72	Barium	µg	38.54952388	3.300586314	10.37074397	1.865810872	1.905616364	41.96486674
73	Barium	mg	51.50256211	6.16629806	14.02704119	2.52361898	2.370192408	71.88411786

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
74	Barium	mg	9.938394998	1.501477856	2.737219448	492.4558828	426.2043006	16.67706974
75	Barium-140	µBq	42.1673253	274.3120183	11.01815745	1.982287702	2.418188655	15.86286864
76	Barium-140	µBq	109.7028767	713.6525066	28.66493331	5.157136757	6.291180432	41.26897564
77	Basalt, in ground	mg	205.2007327	4.547418234	53.93196183	9.70295305	11.44636401	106.1223686
78	Benomyl	ng	1.900935292	140.1336524	509.187841	91.60849262	96.23216976	1.865633553
79	Bentazone	ng	248.7414899	1.439465096	64.97772695	11.6902077	14.28256548	91.96475664
80	Benzal chloride	pg	0.045078033	0.000484413	0.011797386	0.002122479	0.002565986	1.86793E-05
81	Benzaldehyde	µg	1.932803633	6.263692534	504.4176718	90.75028678	111.4725858	670.279981
82	Benzene	mg	8.557608585	718.6830569	2.300835677	413.9456426	424.4304221	9.189590192
83	Benzene	mg	3.890090444	460.6172512	1.058988604	190.5236966	179.5390805	5.383306006
84	Benzene, 1-methyl-2-nitro-	pg	48.90165689	0.290639705	12.7751277	2.298385973	2.807134635	0.018148784
85	Benzene, 1,2-dichloro-	ng	1.157972248	7.888752094	302.6083623	54.44257239	66.37116313	0.438819627
86	Benzene, 1,2-dichloro-	ng	677.3459306	4.848899794	177.0310721	31.84983727	38.79979036	258.794892
87	Benzene, chloro-	µg	13.93256673	99.7603932	3.641416517	655.1308882	798.0843699	5.323438288
88	Benzene, ethyl-	mg	1.351588948	134.2696371	365.4220908	65.74345309	64.95768605	1.638351633
89	Benzene, ethyl-	mg	1.262279899	154.5704206	344.1258112	61.91201816	57.74706669	1.792791205
90	Benzene, hexachloro-	ng	431.3010734	45.10120251	116.828836	21.01879231	20.50284572	543.113532
91	Benzene, pentachloro-	ng	6.321529369	143.7863794	1.661819421	298.9795892	352.2533864	3.302547731
92	Benzo(a)pyrene	µg	13.47377299	2.986447409	3.803805929	684.3465112	482.6950682	31.17181969
93	Beryllium	ng	529.938799	31.9790356	141.2578137	25.41383449	27.53634157	456.2788128
94	Beryllium	µg	247.1654482	20.82522233	66.46054482	11.95698281	12.25182969	266.0294324
95	BOD5, Biological Oxygen Demand	g	8.018571584	1.426654169	2.229487906	401.1093943	322.3431471	15.39354172
96	Borate	ng	22.28851374	248.5883263	5.834018827	1.049604143	1.267825554	9.317531748
97	Borax, in ground	µg	9.683201556	262.6021159	2.549681416	458.7157189	535.3383062	5.440160916
98	Boron	mg	1.113101985	117.4112257	301.610897	54.26311701	52.81229725	1.410798651
99	Boron	mg	15.86290739	657.1945172	4.199027661	755.4512405	854.2748451	10.95612163
100	Boron	µg	219.4385822	31.18446423	60.24523116	10.83877965	9.607412648	350.5063222
101	Boron trifluoride	pg	0.038381975	0.000269098	0.010028528	0.001802416	0.002204242	1.46672E-05
102	Bromate	µg	115.2904985	6.548794998	30.69137574	5.521715983	6.031508318	95.58804087
103	Bromide	µg	1.542921174	36.97523773	405.7905819	73.00618823	85.78773831	823.0015351
104	Bromine	µg	124.373603	12.86461933	33.67595816	6.058675082	5.926492704	155.3458196
105	Bromine	mg	37.84446519	4.534152134	10.30747858	1.854428759	1.741323966	52.84899422
106	Bromine, 0.0023% in water	µg	1.723038421	36.68640733	452.7118195	81.44783487	96.26310924	877.6075659
107	Butadiene	ng	2.952992932	43.58356028	773.9863971	139.2486635	166.9083447	1.330360431
108	Butane	mg	59.40490191	6.015227514	16.07211359	2.891549997	2.843627143	73.03361246
109	Butene	mg	1.348819205	134.1296943	364.6864577	65.61110459	64.81104549	1.636211776
110	Butene	ng	388.9489946	4.716337661	101.8443893	18.32292606	22.08653768	166.0036154
111	Butyl acetate	µg	2.041860716	14.45466372	533.6446716	96.00854638	116.9782902	778.6757541
112	Butyrolactone	ng	1.443852808	10.33792788	377.3654227	67.89219069	82.70672067	0.551672378
113	Butyrolactone	ng	3.465309873	24.81147788	905.6935148	162.9442262	198.4997461	1.324037819
114	Cadmium	µg	51.62916166	5.472860605	13.99229391	2.517367528	2.446903187	65.68003487
115	Cadmium	µg	1.793794799	8.039615953	468.3570315	84.26258098	103.2326611	642.1213606
116	Cadmium, 0.30% in sulfide, Cd 0.18%, Pb, Zn, Ag, In, in ground	mg	1.858852687	2.309477293	484.7553069	87.21281109	107.5791339	611.1854599
117	Cadmium, ion	µg	425.5140981	20.69240708	112.9359673	20.3184222	22.60900594	321.4785657
118	Calcite, in ground	g	39.79219634	2.246961732	10.59174457	1.905571313	2.083093464	32.87185766
119	Calcium	mg	1.268459713	88.18511002	339.2516044	61.03509595	64.74650002	1.196965733
120	Calcium	mg	80.84205866	12.13056356	22.25731043	4.004334933	3.475177611	134.9097735
121	Calcium, ion	g	5.01211409	504.4872518	1.355741388	243.9127848	240.2257901	6.134712793
122	Carbetamide	ng	90.38266155	540.7327984	23.61202237	4.248062509	5.18794068	33.57558302
123	Carbofuran	µg	1.042165104	76.82660374	279.1561614	50.22326359	52.75813944	1.022811347
124	Carbon	mg	60.14705174	9.040374818	16.56107341	2.979519247	2.584040533	100.5102429
125	Carbon-14	Bq	6.074124248	323.1885559	1.614855111	290.530194	319.9571889	4.839453964
126	Carbon dioxide, biogenic	g	5.850821434	423.4311931	1.566441329	281.8200207	296.9780021	5.671198492
127	Carbon dioxide, fossil	kg	2.275702072	335.9250448	626.0005731	112.6243878	98.38137425	3.747729829
128	Carbon dioxide, in air	g	6.338004196	462.9947116	1.697295928	305.3622014	321.2759882	6.182195385
129	Carbon dioxide, land transformation	mg	21.30555631	1.822050745	5.731504719	1.031160733	1.053409796	23.1740874
130	Carbon disulfide	mg	1.406563268	45.1534777	371.0458298	66.75522323	77.06097134	853.3359746
131	Carbon disulfide	ng	10.21601428	135.5761062	2.676154523	481.4696265	578.9475741	4.465538419
132	Carbon monoxide, biogenic	mg	3.215075697	72.28779016	845.1047061	152.0436292	179.2370939	1.6720765
133	Carbon monoxide, fossil	g	6.938805652	1.187118401	1.924636117	346.2632042	283.6812576	12.89362027
134	Carbon, in organic matter, in soil	mg	1.31638952	97.04195199	352.6103914	63.43848741	66.64036395	1.291943217
135	Carbonate	µg	887.1562456	11.75569018	232.3950384	41.8104235	50.27747389	387.6270275
136	Carboxylic acids, unspecified	mg	215.3431992	27.92518404	58.85935226	10.58944481	9.695941651	319.856358
137	Cerium-141	µBq	10.22231354	66.49943958	2.671050611	480.5513811	586.2236327	3.845518207
138	Cerium-141	µBq	43.86100326	285.3299391	11.46070888	2.061907573	2.51531677	16.50001105
139	Cerium-144	µBq	13.35272389	86.8637654	3.489014614	627.7121011	765.7446898	5.023143006
140	Cesium	µg	52.58951762	6.43985507	14.33709096	2.579400344	2.405867989	74.69267876
141	Cesium-134	nBq	489.5830863	3.184895501	127.9261488	23.01532109	28.07634245	0.184175594
142	Cesium-134	mBq	1.100338694	72.63599014	293.910241	52.87768458	56.55129768	1.003551935
143	Cesium-136	µBq	7.78447181	50.64049386	2.034052088	365.948341	446.4196219	2.928429842
144	Cesium-137	µBq	8.678716476	56.45784332	2.267714727	407.9868196	497.7022748	3.264834526
145	Cesium-137	mBq	940.7604221	61.10505237	251.1881335	45.19150767	48.44958671	849.0343996
146	Chloramine	pg	433.3993594	4.812291362	113.4401894	20.40913758	24.65497384	0.180985473

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
147	Chloramine	ng	3.901754946	43.14010263	1.021247603	183.7336744	221.979143	1.627702414
148	Chlorate	µg	923.4336479	55.00122157	246.0753022	44.27165278	48.05524156	788.5671252
149	Chloride	g	27.72638844	3.352049891	7.55462106	1.359159414	1.272748662	38.99077654
150	Chloride	g	1.680357579	11.70834499	439.1467832	79.00733606	96.28648799	639.1288811
151	Chlorinated solvents, unspecified	ng	942.9645665	35.18272309	249.2304548	44.83929968	51.17064427	616.3084666
152	Chlorine	µg	606.9517832	40.10286585	162.1258424	29.16822212	31.19031029	553.892758
153	Chlorine	µg	29.47031654	417.9037034	7.722573165	1.389375844	1.667419792	13.12319656
154	Chloroacetic acid	ng	78.34728189	707.9476921	20.49120733	3.686593561	4.473182127	31.25877453
155	Chloroacetic acid	µg	5.548646052	32.90541836	1.449527923	260.7860152	318.519869	2.058609449
156	Chloroacetyl chloride	pg	106.9320055	0.644738225	27.93594458	5.025983667	6.13736889	0.03976836
157	Chloroform	ng	305.4597507	5.17618479	80.12695454	14.41572024	17.19830764	143.6274948
158	Chloroform	ng	32.05601909	225.531975	8.377772701	1.507253424	1.836630542	12.21216693
159	Chlorosilane, trimethyl-	ng	105.7061053	2.276917736	27.7758382	4.997178757	5.902988389	54.07648912
160	Chlorosulfonic acid	pg	390.0534599	2.266739521	101.8930059	18.33167238	22.39565102	0.144296222
161	Chlorosulfonic acid	pg	972.6954395	5.652679109	254.0955852	45.71459031	55.84913318	0.359838562
162	Chlorothalonil	µg	2.313178864	30.82436992	605.9653647	109.0198326	131.0765938	1.012254843
163	Chromium	µg	784.7628027	123.5140057	216.6175862	38.97187834	33.15772116	1.361464169
164	Chromium	µg	108.4067444	15.11150945	29.73353097	5.349389233	4.775672383	170.5074661
165	Chromium-51	nBq	655.0440371	4.261272236	171.1604491	30.79364721	37.56510634	0.246420124
166	Chromium-51	mBq	8.464364743	91.01604654	2.215217375	398.5419686	481.8130935	3.507944794
167	Chromium VI	µg	19.19854022	2.911511109	5.288598313	951.4768092	822.1936361	32.31513802
168	Chromium VI	mg	8.991691383	933.8799594	2.435003432	438.0838931	428.0781243	11.2652666
169	Chromium VI	µg	116.1086602	6.408302404	30.89090656	5.557613759	6.093013136	94.58277622
170	Chromium, 25.5% in chromite, 11.6% in crude ore, in ground	mg	208.994934	33.23950019	57.72240578	10.38489338	8.795822372	365.6929384
171	Chromium, ion	µg	187.8630282	20.47959237	50.96902892	9.169888857	8.846982169	244.0821561
172	Chrysotile, in ground	µg	22.38292944	1.22705751	5.954206535	1.071227229	1.175416362	18.15845592
173	Cinnabar, in ground	µg	2.038088845	116.4467998	542.6239757	97.62402003	106.5562975	1.695898209
174	Clay, bentonite, in ground	mg	804.4377622	89.16463159	218.3951911	39.29169661	37.73608999	1.058408616
175	Clay, unspecified, in ground	g	12.9983981	343.8874733	3.421761185	615.6124598	719.4818223	7.225056504
176	Coal, brown, in ground	g	42.44534107	4.505915698	11.50398098	2.06969269	2.010989895	54.05600343
177	Coal, hard, unspecified, in ground	g	65.05188032	6.27805463	17.56971871	3.160985588	3.144846054	77.19384022
178	Cobalt	µg	47.55049894	6.651983898	13.04428392	2.346810048	2.092380578	75.00235453
179	Cobalt	mg	4.541985422	451.3885497	1.228005409	220.9316696	218.2699318	5.50724496
180	Cobalt	ng	90.13063436	7.07756751	24.18488832	4.351127373	4.519393385	92.35859112
181	Cobalt-57	µBq	247.1085001	1.607520298	64.56848617	11.61658078	14.1710428	92.95940986
182	Cobalt-58	nBq	912.1758944	5.933997692	238.3479994	42.88142643	52.31096314	0.343150207
183	Cobalt-58	mBq	39.0784653	684.0920601	10.25304154	1.844634935	2.198046405	18.57181343
184	Cobalt-60	µBq	8.058225317	52.42134852	2.10558281	378.8175046	462.118688	3.031412801
185	Cobalt-60	mBq	34.15975637	534.8745304	8.956351777	1.611346185	1.927697477	15.66590824
186	Cobalt, in ground	µg	16.02861961	2.692079506	4.441004842	798.9856239	660.3210618	29.33253962
187	COD, Chemical Oxygen Demand	g	8.344385596	1.45877528	2.317552405	416.9531659	338.0264206	15.78626807
188	Colemanite, in ground	mg	1.335987007	20.6391774	350.2587374	63.01539886	75.42093681	610.1782792
189	Copper	mg	1.642907686	173.7479775	445.2135509	80.09881368	77.90425392	2.086372309
190	Copper	µg	184.4387053	4.266983525	48.49270093	8.724370179	10.27025202	97.0028603
191	Copper, 0.99% in sulfide, Cu 0.36% and Mo 8.2E-3% in crude ore, in ground	mg	12.53005111	309.7614616	3.296343006	593.0483345	695.7313049	6.769000333
192	Copper, 1.18% in sulfide, Cu 0.39% and Mo 8.2E-3% in crude ore, in ground	mg	68.58067666	1.706095698	18.04290321	3.246116581	3.806874782	37.14490849
193	Copper, 1.42% in sulfide, Cu 0.81% and Mo 8.2E-3% in crude ore, in ground	mg	18.19200439	452.5662584	4.786137879	861.0788049	1.00982793	9.853217691
194	Copper, 2.19% in sulfide, Cu 1.83% and Mo 8.2E-3% in crude ore, in ground	mg	91.3703866	2.251949188	24.03659271	4.324447197	5.074028796	49.2984332
195	Copper, ion	mg	6.318382839	329.5151544	1.679140229	302.0957901	333.4905206	4.974000861
196	Cumene	µg	204.2118119	10.3190947	54.23799586	9.758011963	10.81162134	157.7812072
197	Cumene	µg	490.7174475	24.7966107	130.3329652	23.44833385	25.98013836	379.1455521
198	Cyanide	µg	20.44766155	1.672104334	5.493187881	988.2848286	1.018642616	21.55130991
199	Cyanide	µg	307.4597386	23.31751106	82.42037043	14.82833102	15.49947252	307.6221075
200	Cyanoacetic acid	pg	319.4390647	1.856374051	83.44652681	15.01294792	18.34119308	0.11817316
201	Cypermethrin	ng	149.1870193	10.86067141	39.94809892	7.187102344	7.566101494	145.1816155
202	Diatomite, in ground	ng	681.8273542	844.0577159	177.8077256	31.98956442	39.46028252	224.1550173
203	Dichromate	µg	3.027739984	167.0898389	805.5336116	144.9243542	158.8879692	2.466251683
204	Diethylamine	pg	480.1492485	20.26253236	127.1353157	22.87304147	25.82077623	0.334960387
205	Diethylamine	ng	1.15237536	48.63092837	305.1293147	54.89611938	61.97077332	0.803918041
206	Dimethyl malonate	pg	400.575791	2.327888525	104.6417367	18.82619928	22.9998104	0.148188849
207	Dimethylamine	ng	2.9755447	34.4517992	778.9727383	140.1457627	169.1298352	1.255293204
208	Dinitrogen monoxide	mg	54.68002421	11.53447075	15.37966748	2.766971327	2.017457519	121.2327541
209	Dioxin, 2,3,7,8 Tetrachlorodibenzo-p-	pg	494.7011996	53.30147766	134.1557832	24.13610066	23.35959862	0.637092021
210	Dipropylamine	pg	287.8253151	12.83479394	76.27847229	13.72333604	15.40938714	0.206991045
211	Dipropylamine	pg	690.7861448	30.80368719	183.0697559	32.93626239	36.98282349	0.496781857

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
212	DOC, Dissolved Organic Carbon	g	2.646015894	444.6362247	733.14618	131.9010609	108.9836516	4.844269872
213	Dolomite, in ground	mg	119.6275553	12.23714968	32.37755738	5.825078616	5.714001422	148.1881793
214	Energy, gross calorific value, in biomass	kJ	66.28131116	4.332132164	17.70011511	3.184445343	3.41082146	60.06165452
215	Energy, gross calorific value, in biomass, primary forest	J	91.26430981	6.727846614	24.44621712	4.398143318	4.620127046	0.089569466
216	Energy, kinetic (in wind), converted	kJ	17.23200515	1.851045713	4.672521883	840.6380725	814.2502482	22.14138298
217	Energy, potential (in hydropower reservoir), converted	kJ	317.4875899	13.62676325	84.08751173	15.12826793	17.05049477	223.5434692
218	Energy, solar, converted	J	381.7909505	26.66675503	102.1227691	18.37300926	19.47550134	0.361389757
219	Ethane	mg	21.85641073	2.601651154	5.951245909	1.07069459	1.007368658	30.36920792
220	Ethane, 1,1-difluoro-, HFC-152a	ng	137.4046458	9.816103704	36.77468035	6.616170312	6.987190525	132.0329778
221	Ethane, 1,1,1-trichloro-, HCFC-140	pg	746.5298465	30.33117654	197.5536894	35.54208453	40.26310792	0.510231594
222	Ethane, 1,1,1,2-tetrafluoro-, HFC-134a	mg	2.082903092	1.379275022	543.0655588	97.7034667	120.6667171	673.9696599
223	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-, CFC-113	ng	11.44706878	80.32890282	2.991646939	538.2301875	655.8737841	4.359043734
224	Ethane, 1,2-dichloro-	µg	13.5185021	749.5907485	3.596963598	647.133307	709.0613277	11.04353364
225	Ethane, 1,2-dichloro-	ng	741.2244245	71.92682767	200.2341147	36.0243199	35.79427079	883.1081197
226	Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro-, CFC-114	µg	2.771958422	131.2468898	735.3606276	132.2994775	147.6388694	2.062254317
227	Ethane, hexafluoro-, HFC-116	µg	15.13921205	144.310645	3.960234549	712.4896567	863.5978314	6.107775345
228	Ethanol	µg	100.4640606	9.708799273	27.13541207	4.881959049	4.85548498	119.3343307
229	Ethanol	µg	3.686731255	26.27754157	963.5525538	173.3537032	211.1951316	1.407564948
230	Ethene	mg	3.802207613	369.0731915	1.027138203	184.7934585	183.5998463	4.531055088
231	Ethene	µg	179.8158916	10.33709568	47.88069665	8.614263908	9.394899912	150.1949279
232	Ethene, chloro-	µg	4.651363199	218.0093954	1.233722618	221.9602647	247.961416	3.440451595
233	Ethene, chloro-	ng	44.22696271	1.862416003	11.71014602	2.106784016	2.378770554	30.8176106
234	Ethene, tetrachloro-	ng	1.760785558	73.73699872	466.1700054	83.86912309	94.74584523	1.223230052
235	Ethyl acetate	µg	432.842968	3.064180002	113.1244383	20.35233079	24.79759124	165.0673747
236	Ethyl acetate	ng	1.435437619	53.51371317	379.389467	68.25633755	77.89941795	0.937789872
237	Ethyl cellulose	ng	875.6377013	6.14371333	228.8444105	41.17162653	50.17083156	333.4337783
238	Ethylamine	pg	201.574996	2.108807153	52.74858419	9.490050279	11.48001478	0.083011446
239	Ethylamine	pg	483.7834031	5.061174526	126.5974953	22.77628136	27.55222966	0.199228891
240	Ethylene diamine	ng	5.397505621	31.13213079	1.409958071	253.6669658	309.9312975	1.994637404
241	Ethylene diamine	ng	13.04409059	74.93075149	3.407399794	613.0287027	749.0380544	4.817662872
242	Ethylene oxide	µg	2.446741864	132.8974351	650.7512916	117.0773143	128.6118913	1.973826019
243	Ethylene oxide	ng	288.6695592	2.105669718	75.45047522	13.5743703	16.5316759	110.6453338
244	Ethyne	µg	47.84795291	4.653714864	12.92662654	2.325642196	2.309537276	57.10277953
245	Feldspar, in ground	ng	74.52089889	2.192012409	19.63877388	3.533231361	4.102791971	43.40719936
246	Fenpiclonil	ng	107.8513838	1.310482013	28.24060934	5.080796174	6.124088346	46.0552516
247	Fluoride	mg	77.91962179	2.121704697	20.51781621	3.691380758	4.306944702	43.85355392
248	Fluoride	mg	1.072337746	154.4764523	294.6061625	53.00288869	46.74015156	1.731617595
249	Fluorine	µg	175.2550951	10.09959835	46.66863731	8.396201354	9.15413218	146.6077078
250	Fluorine, 4.5% in apatite, 1% in crude ore, in ground	mg	2.11647562	294.7739519	580.4766866	104.4341399	93.26320128	3.326599715
251	Fluorine, 4.5% in apatite, 3% in crude ore, in ground	µg	973.4736927	130.0404124	266.4491862	47.93713896	43.45074993	1.480175247
252	Fluorspar, 92%, in ground	mg	60.65449452	8.225844294	16.61377018	2.98899997	2.694953979	93.33670026
253	Fluosilicic acid	µg	16.76770286	161.9075945	4.38642701	789.1663519	956.284839	6.783444554
254	Fluosilicic acid	µg	30.18186522	291.4336733	7.895568634	1.420499436	1.721312714	12.21020025
255	Formaldehyde	mg	34.24028807	35.06376147	8.928520164	1.606338974	1.982368473	11.19077923
256	Formaldehyde	µg	28.17721084	1.332179595	7.474824395	1.344803116	1.500960012	20.94538958
257	Formamide	pg	191.7230825	2.304624254	50.19976112	9.03148906	10.88904421	0.081645751
258	Formamide	pg	460.1473938	5.531251498	120.4825685	21.67613899	26.13438651	0.195954994
259	Formate	ng	80.36029594	507.8956871	20.99637135	3.77747811	4.609944537	30.09668457
260	Formic acid	µg	6.48731398	442.0846197	1.734172046	311.9966236	332.0273973	6.041325316
261	Formic acid	pg	133.5732212	1.605628022	34.97410795	6.292226622	7.586382953	0.056882482
262	Furan	µg	1.688219187	124.4525838	452.2093337	81.35743252	85.46371741	1.656867684
263	Gallium, 0.014% in bauxite, in ground	ng	1.060438716	75.59579247	283.7792775	51.05325406	53.93580423	1.017528167
264	Gas, mine, off-gas, process, coal mining/m3	cm3	617.6913321	60.95379175	166.961914	30.03828417	29.72727076	745.0624906
265	Gas, natural, in ground	dm3	109.5472208	467.851554	29.30356259	321.7192825	340.91416	103.830599
266	Glutaraldehyde	µg	15.31390053	2.94722936	4.279629616	769.9524355	593.3438273	31.40311705
267	Glyphosate	µg	47.89492813	598.1642363	12.54275346	2.256579292	2.717981948	20.59824099
268	Gold, Au 1.1E-4%, Ag 4.2E-3%, in ore, in ground	ng	857.7243401	6.018720308	224.1628929	40.32937006	49.14439246	326.6187897
269	Gold, Au 1.3E-4%, Ag 4.6E-5%, in ore, in ground	µg	1.572880798	11.03702839	411.0661238	73.95532031	90.12016034	598.9480367
270	Gold, Au 1.4E-4%, in ore, in ground	µg	1.883266481	13.21503371	492.1843844	88.54938073	107.9041333	717.1421852
271	Gold, Au 2.1E-4%, Ag 2.1E-4%, in ore, in ground	µg	2.876491303	20.18456822	751.7597042	135.2498378	164.8121741	1.095358996

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
272	Gold, Au 4.3E-4%, in ore, in ground	ng	712.9109095	5.002554237	186.3164918	33.52039179	40.84713205	271.4743352
273	Gold, Au 4.9E-5%, in ore, in ground	µg	1.707512761	11.98175478	446.2518175	80.28561491	97.8341006	650.2156919
274	Gold, Au 6.7E-4%, in ore, in ground	µg	2.64350751	18.54970289	690.8703111	124.2951696	151.4630796	1.006639516
275	Gold, Au 7.1E-4%, in ore, in ground	µg	2.980828623	20.91671315	779.0278715	140.1556829	170.7903167	1.13509037
276	Gold, Au 9.7E-4%, Ag 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	ng	178.6175397	1.253373444	46.68098912	8.398423817	10.23411546	68.01700486
277	Granite, in ground	ng	1.759717023	17.57548597	460.4052423	82.83196466	100.3021338	0.717166083
278	Gravel, in ground	kg	20.9995922	5.223502699	5.474277101	984.8826569	42.94311411	6.716703884
279	Gypsum, in ground	µg	51.28974848	3.522578657	13.71331745	2.467176553	2.622321996	48.01029936
280	Heat, waste	MJ	34.30249534	4.940745908	9.423943785	1.695471131	415.339153	55.38533563
281	Heat, waste	kJ	746.710518	99.5078637	204.3583844	36.76632083	33.35330308	1.133212925
282	Heat, waste	kJ	18.04891761	1.00945187	4.803249075	864.1573331	945.8214244	14.8224396
283	Helium	mg	5.967147306	243.0607999	1.579143638	284.1053081	321.7686465	4.083941368
284	Heptane	mg	13.48663183	1.341282328	3.646456462	656.0376216	648.0214271	16.36149062
285	Hexane	mg	29.13589747	2.899981463	7.877864618	1.417314486	1.399721809	35.3676538
286	Hydrocarbons, aliphatic, alkanes, cyclic	µg	3.388512952	176.4737263	900.490649	162.0081725	178.8736542	2.665338099
287	Hydrocarbons, aliphatic, alkanes, unspecified	mg	8.688905262	811.9857355	2.344173165	421.7425315	422.7114332	10.0714646
288	Hydrocarbons, aliphatic, alkanes, unspecified	mg	6.836637292	837.1811592	1.863821825	335.3220447	312.7628387	9.71004824
289	Hydrocarbons, aliphatic, unsaturated	µg	325.0143078	31.42331406	87.78792817	15.79401356	15.7067084	386.1888765
290	Hydrocarbons, aliphatic, unsaturated	µg	631.0751961	77.27827575	172.0453496	30.95285056	28.87047149	896.3125921
291	Hydrocarbons, aromatic	mg	3.544903352	203.8795875	943.9323521	169.8238109	185.202336	2.961793797
292	Hydrocarbons, aromatic	mg	27.98924097	3.436734328	7.631408933	1.372974398	1.279522018	39.83682959
293	Hydrocarbons, chlorinated	µg	22.67301163	345.1105849	5.94367312	1.069332162	1.280470314	10.30882029
294	Hydrocarbons, unspecified	mg	2.870417824	468.0535283	793.926479	142.8361051	119.655953	5.126410753
295	Hydrogen	mg	2.752516193	232.2961657	740.1642186	133.1636833	136.4025719	2.966010643
296	Hydrogen-3, Tritium	Bq	27.06575181	1.869414369	7.23758599	1.302121315	1.382752427	25.43007856
297	Hydrogen-3, Tritium	kBq	2.140067316	139.969496	571.5039441	102.8198447	110.1177895	1.940105724
298	Hydrogen chloride	mg	18.54933511	1.441903723	4.975928144	895.2241829	931.5822015	18.87552445
299	Hydrogen fluoride	mg	2.614376442	239.529193	704.861588	126.8123484	127.6667764	2.987266343
300	Hydrogen peroxide	ng	648.792613	4.569894465	169.5610911	30.50590525	37.17165962	247.2136946
301	Hydrogen peroxide	µg	5.761546373	47.70231268	1.506467924	271.0301496	329.3874246	2.259471817
302	Hydrogen sulfide	mg	1.858475251	202.5738306	504.2194155	90.7146177	87.52311765	2.414410352
303	Hydrogen sulfide	µg	265.3375245	39.2214731	72.99571794	13.13273278	11.46576454	437.4577518
304	Hydroxide	µg	18.04123221	135.0645029	4.715832536	848.4301269	1.032847936	6.946296188
305	Hypochlorite	µg	75.03447885	7.541420268	20.2952006	3.651329767	3.597434432	91.74079133
306	Indium, 0.005% in sulfide, In 0.003%, Pb, Zn, Ag, Cd, in ground	µg	31.03273639	42.24345073	8.093138666	1.456044701	1.795617788	10.23668205
307	Iodide	mg	5.266637967	644.7683467	1.435789056	258.3142421	240.954271	7.478758417
308	Iodine	µg	64.73069692	6.827915422	17.53971623	3.15558777	3.071211952	82.04323367
309	Iodine-129	mBq	4.974669718	327.0251224	1.328645361	239.0379123	255.8069632	4.52480449
310	Iodine-131	mBq	155.3492	16.53652243	42.10876293	7.575829537	7.355691795	198.2487955
311	Iodine-131	µBq	492.0284554	15.65153019	129.7813337	23.34908923	26.97102531	297.2120761
312	Iodine-133	µBq	58.8433861	706.2369401	15.40714059	2.771914079	3.34216137	25.04874728
313	Iodine-133	µBq	68.86902816	448.0151862	17.99520814	3.237535855	3.949463273	25.90774584
314	Iodine-135	µBq	18.2718329	820.3839194	4.842882563	871.2879207	977.6635356	13.19071307
315	Iodine, 0.03% in water	ng	438.8919081	12.26359197	115.5997696	20.79766983	24.22812046	249.8276158
316	Iron	mg	3.642054168	249.4793828	973.7095491	175.1810608	186.2750691	3.403267194
317	Iron	mg	55.12954182	6.834285439	15.03770465	2.705448451	2.513726745	79.05118948
318	Iron-59	µBq	18.93356813	123.1689528	4.947267421	890.0678188	1.085791886	7.122593194
319	Iron, 46% in ore, 25% in crude ore, in ground	g	49.2484562	4.881318254	13.31395747	2.395327361	2.36800424	59.59717157
320	Iron, ion	mg	515.7411289	42.40940048	138.5759999	24.93134618	25.6694833	545.6931784
321	Isocyanic acid	µg	2.543134053	179.0403412	680.527032	122.434237	129.6178312	2.420124495
322	Isoprene	ng	78.34013869	5.775098676	20.98432607	3.775311044	3.965859146	76.8853017
323	Isopropylamine	pg	54.27396064	0.432257142	14.1892885	2.552809018	3.104546901	0.021130292
324	Isopropylamine	pg	130.2586322	1.037430717	34.0545874	6.126794717	7.450976548	0.05071318
325	Kaolinite, 24% in crude ore, in ground	mg	10.21660977	76.75609979	2.670560456	480.4631787	584.8655746	3.936059615
326	Kieserite, 25% in crude ore, in ground	µg	189.1247679	373.811508	49.3338224	8.875696967	10.93149029	63.43381528
327	Krypton-85	Bq	1.316948219	130.8075321	356.0542682	64.05807853	63.29489307	1.596173582
328	Krypton-85m	mBq	626.1599538	6.046521451	163.8058947	29.47048198	35.71128703	253.3221186
329	Krypton-87	mBq	149.4631036	2.469202237	39.20034714	7.052573572	8.421580965	69.70560849
330	Krypton-88	mBq	189.7530613	2.405372797	49.696118	8.940878182	10.76471275	81.9273041
331	Krypton-89	mBq	76.89642521	597.7271897	20.10225891	3.616617461	4.400061173	29.80545228

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
332	Lactic acid	pg	225.4660111	10.05401371	59.7522212	10.75008172	12.07084257	0.162144716
333	Lactic acid	pg	541.1215634	24.12980122	143.4061649	25.80034618	28.97018725	0.389149831
334	Lanthanum-140	µBq	3.603875498	23.44436977	941.6785954	169.4183359	206.6730764	1.355737013
335	Lanthanum-140	µBq	116.8426299	760.0988948	30.53052296	5.492776854	6.70062709	43.95486966
336	Lead	µg	548.570427	38.25930114	146.7278092	26.39794603	27.98867128	518.7490435
337	Lead	mg	1.236157361	85.78862018	330.5977267	59.47816707	63.11279823	1.165126445
338	Lead	µg	67.30728582	87.67488223	17.5529238	3.15796404	3.894932767	22.16692127
339	Lead-210	mBq	20.78687862	1.90934029	5.604827254	1.008370037	1.014593925	23.79537062
340	Lead-210	mBq	31.96501769	4.127389322	8.735201331	1.571558785	1.441017673	47.31879663
341	Lead, 5.0% in sulfide, Pb 3.0%, Zn, Ag, Cd, In, in ground	mg	132.9331164	373.0187509	34.68686691	6.240548844	7.672569507	45.57976997
342	Linuron	µg	3.756300368	21.73936483	981.2432205	176.5364471	215.6840184	1.388795331
343	Lithium, 0.15% in brine, in ground	ng	5.549366556	66.6696073	1.452176301	261.2833584	315.0291002	2.362028054
344	Lithium, ion	µg	68.60029394	737.196775	17.9534054	3.230015092	3.904947311	28.4264187
345	m-Xylene	µg	3.897452056	347.4326596	1.049851216	188.879779	191.28884	4.366437047
346	m-Xylene	ng	2.416677402	26.66091941	632.5368612	113.8003381	137.4958757	1.007636061
347	Magnesite, 60% in crude ore, in ground	mg	632.632901	65.83518161	171.3334759	30.8247764	30.10554061	793.7641827
348	Magnesium	µg	503.7782481	40.57405589	135.2782361	24.33804231	25.15921182	525.3664261
349	Magnesium	g	1.883378441	177.3270083	508.2443634	91.43874989	91.49307926	2.194976538
350	Magnesium	mg	16.04885974	2.415219084	4.419235432	795.0690573	689.1914923	26.84588866
351	Magnesium, 0.13% in water	µg	4.663319729	179.2518014	1.233053312	221.8397874	252.5320991	3.095243825
352	Mancozeb	µg	3.004342738	40.03450536	787.024156	141.5943002	170.2414884	1.314710476
353	Manganese	µg	142.6084916	10.91281568	38.23838755	6.879506463	7.17933287	143.5617126
354	Manganese	mg	137.8459875	11.63788594	37.0678325	6.668910667	6.830584372	148.578243
355	Manganese	µg	880.041032	127.898502	241.8857674	43.51790981	38.24609985	1.43121267
356	Manganese-54	nBq	335.4550779	2.182243225	87.65310198	15.76975705	19.23749391	0.126194389
357	Manganese-54	mBq	2.364276552	42.07591448	620.3839129	111.6138888	132.9146509	1.129802468
358	Manganese, 35.7% in sedimentary deposit, 14.2% in crude ore, in ground	mg	124.4726485	22.00670752	34.59488804	6.224000758	5.017695431	237.7002526
359	Mercury	µg	70.79771095	6.737378754	19.11230474	3.4385138	3.432145337	83.15490893
360	Mercury	µg	50.16767395	5.067961773	13.57179071	2.441714399	2.402645154	61.56981216
361	Mercury	ng	6.773491636	103.0087092	1.775644828	319.4580325	382.545718	3.078899461
362	Metaldehyde	ng	17.61075096	109.7086229	4.601146116	827.7967892	1.010417355	6.581246078
363	Metamorphous rock, graphite containing, in ground	µg	896.8753586	9.381214795	234.6940975	42.2240447	51.07817121	369.3292603
364	Methane, biogenic	mg	9.545096097	615.9986523	2.54820353	458.4498379	491.9751786	8.578569868
365	Methane, bromo-, Halon 1001	pg	0.010311513	0.000110809	0.002698629	0.000485513	0.000586964	4.27284E-06
366	Methane, bromochlorodifluoro-, Halon 1211	µg	1.30212021	185.1831838	357.5008065	64.31832653	56.99524614	2.081107134
367	Methane, bromotrifluoro-, Halon 1301	µg	44.4429582	3.472588168	11.92374753	2.14521332	2.230221778	45.38554178
368	Methane, chlorodifluoro-, HCFC-22	µg	5.626147701	701.133924	1.535004357	276.1641643	256.1663191	8.100503175
369	Methane, dichloro-, HCC-30	ng	24.12060579	790.499238	6.364509116	1.145045227	1.319871845	14.77923297
370	Methane, dichloro-, HCC-30	µg	503.1872679	76.02022435	138.5871095	24.9333452	21.57905075	844.3656575
371	Methane, dichlorodifluoro-, CFC-12	ng	36.27752981	1.233732186	9.576638688	1.722942623	1.980611993	22.63162147
372	Methane, dichlorofluoro-, HCFC-21	pg	76.59081096	0.659314684	20.02861212	3.603367551	4.37617467	0.030262969
373	Methane, fossil	g	4.410259826	221.0111314	1.171170335	210.7064234	233.6777045	3.390905804
374	Methane, monochloro-, R-40	ng	21.28283098	838.8874536	5.629538996	1.012816059	1.150445105	14.31365566
375	Methane, tetrachloro-, CFC-10	ng	893.5880159	64.39168347	239.2132627	43.03709675	45.38489662	863.6476123
376	Methane, tetrafluoro-, CFC-14	µg	129.1304437	1.24730986	33.7805355	6.077489015	7.364440691	52.24419484
377	Methane, trichlorofluoro-, CFC-11	pg	124.3410887	1.070362152	32.51538149	5.849874662	7.104485721	0.049130313
378	Methane, trifluoro-, HFC-23	ng	24.3698034	209.7819413	6.372740199	1.146526035	1.392419208	9.62912643
379	Methanesulfonic acid	pg	322.8024593	1.875919947	84.32514071	15.17102022	18.53430869	0.119417413
380	Methanol	µg	572.1223458	38.33138461	152.874147	27.50374032	29.34748319	526.8787442
381	Methanol	µg	33.91984755	2.738152325	9.109041581	1.638816746	1.693371028	35.42983564
382	Methyl acetate	pg	13.11299017	0.077935063	3.425653328	0.616312709	0.75273378	0.0048666
383	Methyl acetate	pg	31.47060421	0.187040855	8.22141852	1.479123611	1.806528217	0.011679629
384	Methyl acrylate	ng	273.6590403	1.920380705	71.51972636	12.86718537	15.67962882	104.2093605
385	Methyl acrylate	µg	5.346009534	37.51519999	1.39715881	251.3642362	306.306143	2.035760392
386	Methyl amine	pg	716.8497628	10.88288755	187.9175931	33.80844203	40.48731396	0.325676671
387	Methyl amine	ng	1.720414502	26.11813856	450.9956481	81.13907789	97.16818686	0.781608964
388	Methyl borate	pg	41.2584929	0.48132458	10.80153914	1.943304555	2.344782614	0.017438564
389	Methyl ethyl ketone	µg	432.841733	3.064152744	113.1241137	20.35227239	24.79752234	165.0667369
390	Methyl formate	ng	1.112040342	8.051806283	290.652148	52.29149136	63.6909212	0.425699711
391	Methyl formate	pg	443.9736846	3.214622782	116.0406689	20.8769819	25.42811792	0.169957387
392	Methyl lactate	pg	247.5232066	11.03764426	65.59774788	11.80175626	13.25172008	0.178007706
393	Metolachlor	µg	27.17798509	157.2787904	7.099594422	1.277295118	1.560541234	10.04825043
394	Metribuzin	ng	105.7848321	1.409640571	27.71162462	4.985626	5.994311846	46.29179787
395	Molybdenum	µg	19.5433643	2.426121041	5.331178696	959.1376862	890.7756594	28.05394451
396	Molybdenum	mg	1.013451281	78.2325512	271.8087214	48.90137789	50.9520918	1.026351612
397	Molybdenum	ng	24.30309369	1.541528188	6.485445299	1.166802932	1.255325347	21.60008144
398	Molybdenum-99	µBq	40.28483048	262.0657836	10.5262689	1.893791543	2.310232375	15.15469548

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
399	Molybdenum, 0.010% in sulfide, Mo 8.2E-3% and Cu 1.83% in crude ore, in ground	mg	1.698000164	41.84955473	446.6889096	80.36424406	94.29424629	916.1474513
400	Molybdenum, 0.014% in sulfide, Mo 8.2E-3% and Cu 0.81% in crude ore, in ground	µg	238.9534047	5.944493265	62.86629649	11.31033765	13.26416908	129.4227869
401	Molybdenum, 0.022% in sulfide, Mo 8.2E-3% and Cu 0.36% in crude ore, in ground	mg	1.367171162	240.8202491	379.8918417	68.34671937	55.20224185	2.60276977
402	Molybdenum, 0.025% in sulfide, Mo 8.2E-3% and Cu 0.39% in crude ore, in ground	µg	875.5989968	21.78245768	230.3615059	41.44456661	48.60400774	474.2450242
403	Molybdenum, 0.11% in sulfide, Mo 4.1E-2% and Cu 0.36% in crude ore, in ground	mg	2.753515742	485.9888295	765.2061987	137.6690088	111.081508	5.250785145
404	Monoethanolamine	µg	14.55359147	165.1103832	3.809675133	685.4024489	827.5648263	6.109144473
405	Napropamide	ng	31.15741761	194.0994676	8.140472336	1.464560501	1.787657753	11.64371883
406	Nickel	µg	706.9604696	79.53506536	192.0459738	34.5511825	33.04588857	940.7362951
407	Nickel	µg	21.98583311	50.62672037	5.735786506	1.031931075	1.270074857	7.438791224
408	Nickel, 1.13% in sulfide, Ni 0.76% and Cu 0.76% in crude ore, in ground	µg	240.1208046	11.32808665	63.69663663	11.45972544	12.79334554	178.2720544
409	Nickel, 1.98% in silicates, 1.04% in crude ore, in ground	mg	800.2960989	115.4780263	219.8830368	39.55937135	34.86286905	1.29403698
410	Nickel, ion	mg	19.47963214	2.145186183	5.287106528	951.2085802	915.1797624	25.50391343
411	Niobium-95	nBq	39.8214391	0.259051274	10.40518654	1.872007495	2.28365806	0.014980373
412	Niobium-95	µBq	199.3243164	6.559832123	52.59677665	9.462738549	10.90422044	122.3773744
413	Nitrate	µg	31.70124335	1.782082706	8.437343768	1.51797099	1.660339007	26.11594645
414	Nitrate	mg	146.6651151	14.30302697	39.62698052	7.129329569	7.075463723	175.3784107
415	Nitrite	µg	52.57207078	2.379752415	13.93593137	2.507227317	2.811020623	38.1266284
416	Nitrobenzene	ng	1.442177121	61.04228392	381.8816061	68.7047007	77.53715102	1.007723838
417	Nitrobenzene	ng	5.779511312	244.6263814	1.530386961	275.3334449	310.7294069	4.038443846
418	Nitrogen	mg	2.579382021	390.3224825	710.4716411	127.8216617	110.5524281	4.334020571
419	Nitrogen oxides	g	22.56293675	4.067281284	6.278579704	1.129585541	901.727212	43.79134823
420	Nitrogen, organic bound	mg	4.173150199	472.846965	1.133965318	204.0128312	194.7325024	5.583334266
421	NMVOC, non-methane volatile organic compounds, unspecified origin	g	4.349711285	588.1531765	1.191251957	214.3193285	193.4378227	6.677724339
422	Noble gases, radioactive, unspecified	kBq	47.80050046	3.142593407	12.76668674	2.296867347	2457.964353	43.48037877
423	o-Xylene	ng	1.408037002	15.13090588	368.4978027	66.29680764	80.14997555	0.583456794
424	Occupation, arable, non-irrigated	mm2a	130.3091433	0.812193329	34.04580094	6.125214021	7.476449482	0.048701061
425	Occupation, construction site	cm2a	81.42181469	12.54975521	21.23572015	382.0539606	470.976672	2.699041396
426	Occupation, dump site	cm2a	808.8125413	42.0518067	210.8666607	37.93723139	46.8676295	26.06731286
427	Occupation, dump site, benthos	mm2a	199.0807072	38.3139817	55.63518508	10.00938167	7.71346977	0.408240522
428	Occupation, forest, intensive	mm2a	605.2948912	5.636409003	158.3270093	28.48476984	34.54214956	0.243002039
429	Occupation, forest, intensive, normal	cm2a	61.35301284	439.6865381	16.42185975	295.4473108	311.8520668	5.907933423
430	Occupation, forest, intensive, short-cycle	mm2a	22.89322023	1.687648485	6.132217878	1.103253438	1.158937006	0.022468077
431	Occupation, industrial area	cm2a	20.48497987	329.3171774	566.132161	101.8534066	85.86503464	3.61606529
432	Occupation, industrial area, benthos	mm2a	1.853553054	0.295255079	0.511990149	0.092112659	0.077966032	0.003247426
433	Occupation, industrial area, built up	mm2a	447.8650834	27.26429242	119.4024346	21.4818078	23.24754405	0.387754244
434	Occupation, industrial area, vegetation	cm2a	21.57703437	11.0009222	563.4468276	101.3701529	124.0299336	0.784299271
435	Occupation, mineral extraction site	cm2a	61.5173495	38.89223081	16.07317604	289.1741206	352.899789	2.304070412
436	Occupation, permanent crop, fruit, intensive	mm2a	33.25731697	2.424505424	8.905709522	1.602235088	1.686322539	0.032395077
437	Occupation, shrub land, sclerophyllous	cm2a	402.23167	0.902358595	104.8468409	18.86309979	23.32782316	12.78338022
438	Occupation, traffic area, rail embankment	mm2a	111.909945	6.200228465	29.77618474	5.357063099	5.870320111	0.091375609
439	Occupation, traffic area, rail network	mm2a	123.7502951	6.856021993	32.92559818	5.923675013	6.49122051	0.10104034
440	Occupation, traffic area, road embankment	cm2a	14.85699784	5.463615566	387.7971831	69.7689782	85.62139902	0.521071103
441	Occupation, traffic area, road network	cm2a	855.6262131	137.7650985	223.1626348	40.14941235	49.48698901	28.41603968
442	Occupation, urban, discontinuously built	mm2a	0.177325741	0.00986792	0.047185779	0.008489241	0.009297411	0.000145179
443	Occupation, water bodies, artificial	cm2a	17.05972704	39.50897946	448.5392967	80.6971524	94.99098901	0.897604239

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
444	Occupation, water courses, artificial	mm2a	608.1008623	35.74214169	161.9992642	29.14544906	31.69316613	0.514990017
445	Oil, crude, in ground	g	995.3641645	101.007053	269.3190752	48.45346362	47.62480513	1.225687621
446	Oils, biogenic	µg	143.5331018	8.131838617	38.20780261	6.874003824	7.511176447	118.813249
447	Oils, unspecified	g	2.459340811	439.2584876	683.9620842	123.0523012	98.69482125	4.736554631
448	Oils, unspecified	g	2.399022851	464.0914142	670.6653611	120.6600745	92.71224683	4.941013193
449	Olivine, in ground	µg	34.16977043	144.524683	8.920831618	1.60495572	1.967328306	12.15405838
450	Orbencarb	ng	571.2486038	7.612199182	149.6455263	26.92287576	32.36987954	249.9803083
451	Ozone	mg	1.611812573	111.9618022	431.0727627	77.55473045	82.28177445	1.520122681
452	PAH, polycyclic aromatic hydrocarbons	mg	1.106893865	303.1245539	318.1340672	57.23581721	33.87383623	3.081142625
453	PAH, polycyclic aromatic hydrocarbons	µg	294.2739151	38.61718357	80.4779267	14.47886411	13.20417629	441.2050583
454	Particulates, < 2.5 um	g	4.640642593	2.11955514	1.246481219	224.2556802	57.11275387	3.916203074
455	Particulates, > 10 um	g	15.6343542	8.824318318	4.081137043	734.2414386	23.99676731	706.0822774
456	Particulates, > 2.5 um, and < 10um	g	11.78750961	6.68886468	3.075900007	553.3882401	14.51332913	408.09544
457	Pd, Pd 2.0E-4%, Pt 4.8E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	894.5784143	126.841169	245.5717889	44.18106558	39.1950123	1.426308761
458	Pd, Pd 7.3E-4%, Pt 2.5E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	µg	2.149832531	304.8221002	590.1530954	106.1750323	94.19265116	3.427676012
459	Peat, in ground	mg	39.46050387	67.46275678	10.29238943	1.851714054	2.281890551	13.14051547
460	Pentane	mg	75.3055008	7.422180832	20.3542112	3.661946452	3.625084776	90.7531572
461	Phenol	µg	54.14481474	742.1999495	14.1859223	2.552203435	3.066055129	23.88027893
462	Phenol	mg	4.857090448	617.0414039	1.326327651	238.6209315	219.9749908	7.099006078
463	Phenol, 2,4-dichloro-	pg	141.5365425	6.627703817	37.54042669	6.75393563	7.545845837	0.10463463
464	Phenol, pentachloro-	ng	832.5219883	89.36379522	225.7350736	40.61222225	39.34499606	1.069121833
465	Phosphate	mg	526.6987506	50.92600532	142.2642017	25.59489429	25.45302976	625.8639906
466	Phosphine	pg	208.4864526	1.463037285	54.48712414	9.8028329	11.94548588	0.07939164
467	Phosphorus	µg	22.85054926	2.627736917	6.212921839	1.117772964	1.062416252	30.91984721
468	Phosphorus	µg	352.0646075	36.53375096	95.33815835	17.15238321	16.76435538	440.7989726
469	Phosphorus	mg	1.034721353	153.8710623	284.7419475	51.22820796	44.61903708	1.714218889
470	Phosphorus, 18% in apatite, 12% in crude ore, in ground	mg	4.036923115	518.8992042	1.102955229	198.4337757	182.224672	5.95475997
471	Phosphorus, 18% in apatite, 4% in crude ore, in ground	mg	8.465902479	1.179095807	2.321906746	417.7365596	373.052805	13.30639885
472	Pirimicarb	ng	23.52932133	136.1640019	6.14646884	1.105817343	1.351037468	8.699265693
473	Platinum	pg	77.23510521	4.699813918	20.59124556	3.704591532	4.009337945	0.06685158
474	Plutonium-238	nBq	0.678625469	0.04461152	0.181248733	0.03260864	0.03489621	0.000617257
475	Plutonium-alpha	nBq	1.555662621	0.102266238	0.415489679	0.074751163	0.079995126	0.001414982
476	Polonium-210	mBq	35.98107111	3.373362218	9.708362105	1.746641061	1.749371061	41.80444039
477	Polonium-210	mBq	44.83812017	5.896878139	12.2635638	2.206349997	2.010618459	67.34134798
478	Polychlorinated biphenyls	ng	754.5300249	77.67974061	204.264279	36.74939003	35.99044895	939.1379993
479	Potassium	mg	1.296382235	101.6026888	347.8406682	62.58036214	65.02370207	1.326657195
480	Potassium	mg	7.184160455	1.071729152	1.977319177	355.7414666	309.4548318	11.93248806
481	Potassium-40	mBq	4.13884289	436.5678138	1.121477573	201.7661396	196.3717558	5.245749014
482	Potassium-40	mBq	12.30370073	1.364782013	3.340405938	600.9757625	577.0620874	16.19738805
483	Potassium, ion	g	1.192130244	113.5971731	321.8378957	57.90217656	57.77735096	1.401553919
484	Propanal	µg	1.936907588	6.466264139	505.5071981	90.94630448	111.6903428	673.4075554
485	Propanal	pg	364.21922	4.378141689	95.36524153	17.15725566	20.68607963	0.155103772
486	Propane	mg	60.07540471	6.177379398	16.2627268	2.925843409	2.866293702	74.7067192
487	Propene	mg	2.973035349	281.5195622	802.453316	144.3701769	144.268092	3.479297653
488	Propene	µg	372.2722317	9.880697001	98.00190497	17.63162053	20.60268496	207.2110764
489	Propionic acid	µg	13.799444	2.00160924	3.792495718	682.3116856	600.1055961	22.40696688
490	Propionic acid	pg	524.6175429	16.94895533	138.4027852	24.90018321	28.73134753	0.319245785
491	Propylamine	pg	60.71491078	0.729828248	15.89727207	2.860094063	3.448345148	0.025855589
492	Propylamine	pg	145.7147546	1.751571416	38.15318255	6.864177102	8.275970182	0.06205294
493	Propylene oxide	µg	100.6360622	326.2181821	26.26372542	4.725133053	5.804079429	34.90049291
494	Propylene oxide	µg	242.1476996	784.9017414	63.1950437	11.36948338	13.96561837	83.97627866
495	Protactinium-234	µBq	798.7500132	44.40895898	212.5406469	38.23840127	41.88347897	653.5851862
496	Protactinium-234	mBq	14.70509264	818.8706294	3.913027812	703.9967637	770.9507136	12.04425813
497	Pt, Pt 2.5E-4%, Pd 7.3E-4%, Rh 2.0E-5%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	20.75976933	3.089420086	5.713042847	1.02783924	894.9700561	34.41317809
498	Pt, Pt 4.8E-4%, Pd 2.0E-4%, Rh 2.4E-5%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	74.42202545	11.07531096	20.48077768	3.684717153	3.208392309	123.3683467
499	Radioactive species, alpha emitters	µBq	74.76382016	10.06942097	20.47160983	3.683067752	3.32884307	114.4190421
500	Radioactive species, Nuclides, unspecified	Bq	4.854333711	318.5476977	1.296450397	233.2456843	249.6757552	4.410246949
501	Radioactive species, other beta emitters	Bq	1.093617767	1.355727072	285.195091	51.30973195	63.29217539	359.550804

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
502	Radium-224	Bq	2.629475882	321.9927535	716.854548	128.9700172	120.2933995	3.734633939
503	Radium-226	mBq	30.9885378	1.928889309	8.265909438	1.487128053	1.604316901	27.21155093
504	Radium-226	Bq	13.38600385	1.028786071	3.589699498	645.8264349	673.4464893	13.51555539
505	Radium-228	mBq	3.340708258	383.2852073	908.2262769	163.3998836	155.4107268	4.512448504
506	Radium-228	Bq	5.259070641	643.9867845	1.433740207	257.9456317	240.5935659	7.469317137
507	Radon-220	mBq	170.8523945	17.74929931	46.26829191	8.324174375	8.133522861	214.0935796
508	Radon-222	kBq	105.4241745	5.871471591	28.05347013	5.047127988	5.527042011	86.35525261
509	Rh, Rh 2.0E-5%, Pt 2.5E-4%, Pd 7.3E-4%, Ni 2.3E+0%, Cu 3.2E+0% in ore, in ground	ng	16.88766246	2.901786014	4.685408313	842.956486	689.1653135	31.49374933
510	Rh, Rh 2.4E-5%, Pt 4.8E-4%, Pd 2.0E-4%, Ni 3.7E-2%, Cu 5.2E-2% in ore, in ground	ng	52.89405475	9.088719567	14.67522485	2.64023435	2.158543133	98.64195858
511	Rhenium, in crude ore, in ground	ng	30.81524006	4.07385968	8.430272948	1.51669882	1.379688144	46.47159445
512	Rubidium	µg	525.8951762	64.3985507	143.3709096	25.79400344	24.05867989	746.9267876
513	Ruthenium-103	nBq	8.749031081	0.056915262	2.286087659	0.411292312	0.501734638	0.003291286
514	Ruthenium-103	µBq	8.500461889	55.29823964	2.221137499	399.6070641	487.4798285	3.197777174
515	Sand, unspecified, in ground	mg	2.209659118	42.71143687	580.1432805	104.374156	123.8835289	1.086417268
516	Scandium	µg	9.757578575	548.869791	2.597031307	467.2345104	511.0141264	8.041572141
517	Scandium	µg	438.0183686	33.29432306	117.4263837	21.12629778	22.07356709	438.9281031
518	Selenium	µg	35.24509502	3.933327917	9.571228494	1.721969257	1.650669218	46.61308757
519	Selenium	µg	654.1397078	49.29086736	175.3232472	31.54257998	33.00794122	651.6162232
520	Shale, in ground	µg	201.9312612	1.161062565	52.74894705	9.490115711	11.59550568	74.59042312
521	Silicon	mg	1.677354228	138.2680281	450.7251766	81.0904145	83.45113194	1.777820493
522	Silicon	g	3.919079651	374.915011	1.058168773	190.3761925	189.7929152	4.62077437
523	Silicon	mg	2.390210036	332.6349592	655.5269942	117.9365157	105.3517884	3.754472107
524	Silicon tetrafluoride	ng	63.67199538	8.911216335	17.46726929	3.142553848	2.801401504	100.4667471
525	Silver	ng	425.197818	24.02348684	113.1789908	20.36214526	22.25744378	351.3739825
526	Silver-110	nBq	86.70959702	0.564073829	22.65687912	4.076221733	4.972574436	0.032619165
527	Silver-110	mBq	33.05312728	498.5750312	8.664351403	1.558812107	1.867146316	14.9875621
528	Silver, 0.007% in sulfide, Ag 0.004%, Pb, Zn, Cd, In, in ground	µg	19.04040996	141.0338592	4.976861813	895.3921885	1.090201312	7.31739726
529	Silver, 3.2ppm in sulfide, Ag 1.2ppm, Cu and Te, in crude ore, in ground	µg	13.5797491	100.7154507	3.549544205	638.6021881	777.5261724	5.219980682
530	Silver, Ag 2.1E-4%, Au 2.1E-4%, in ore, in ground	µg	1.253696674	9.290158749	327.6968539	58.95626932	71.78281972	481.8420441
531	Silver, Ag 4.2E-3%, Au 1.1E-4%, in ore, in ground	µg	2.863298696	21.21765136	748.4218339	134.6493202	163.9436828	1.10047167
532	Silver, Ag 4.6E-5%, Au 1.3E-4%, in ore, in ground	µg	2.806512533	20.79685424	733.5788118	131.9788967	160.6922812	1.07864665
533	Silver, Ag 9.7E-4%, Au 9.7E-4%, Zn 0.63%, Cu 0.38%, Pb 0.014%, in ore, in ground	µg	1.851889513	13.72289536	484.0551767	87.08684987	106.0335011	711.7496923
534	Silver, ion	µg	74.0050625	6.05568578	19.88174558	3.576944675	3.686361675	78.03507102
535	Sodium	µg	928.3651582	109.3337654	252.6683763	45.45781991	42.90597342	1.279388575
536	Sodium	mg	45.1985834	6.008561903	12.36843467	2.225217415	2.020352602	68.4615301
537	Sodium-24	µBq	304.8057661	1.982859579	79.64455649	14.32893164	17.47983398	114.6644657
538	Sodium chlorate	ng	735.8412533	96.05243115	201.1876554	36.19587195	33.06858072	1.09864519
539	Sodium chloride, in ground	g	3.89251431	84.80148611	1.022908778	184.0325387	217.2755139	1.999921094
540	Sodium dichromate	ng	823.5879843	45.060546	219.0783866	39.41461069	43.25880906	667.3411435
541	Sodium formate	ng	25.94376929	899.544787	6.850382308	1.232459098	1.41470208	16.34021539
542	Sodium formate	ng	62.32831726	2.161101169	16.45762405	2.960907521	3.398735138	39.25636607
543	Sodium hydroxide	µg	2.419364083	17.00374174	632.2939383	113.7566339	138.6178125	921.5283526
544	Sodium nitrate, in ground	ng	9.143373837	14.468608	2.384730904	429.039317	528.8521047	3.03430842
545	Sodium sulphate, various forms, in ground	mg	16.30667486	2.336317401	4.478730048	805.7727925	712.0374547	26.21727727
546	Sodium, ion	g	18.61091265	2.106069345	5.056862157	909.7851171	868.7126962	24.87578144
547	Solids, inorganic	mg	173.2450132	18.24530705	46.94041304	8.44509652	8.222672444	219.3199696
548	Solved solids	mg	47.21996627	6.897199722	12.98214169	2.335630041	2.048692828	77.10557378
549	Stibnite, in ground	ng	70.85656822	87.71580372	18.47805776	3.324405716	4.10077446	23.29454104
550	Strontium	µg	34.23780076	3.182733561	9.235330216	1.661537434	1.667332704	39.53417387
551	Strontium	mg	144.392186	16.41825786	39.24115804	7.059915888	6.732037518	193.7038056
552	Strontium	µg	200.4864427	30.31609278	55.2203355	9.934745674	8.595093962	336.667423
553	Strontium-89	µBq	723.2428782	8.887528159	189.3891007	34.07318208	41.05771326	309.7393123
554	Strontium-90	Bq	4.293551328	457.0697894	1.163807891	209.3818385	203.2938579	5.479504031
555	Styrene	µg	5.088744521	126.0460275	1.338747998	240.855488	282.5287576	2.751254993
556	Sulfate	mg	6.527127412	446.6322514	1.744993683	313.9435599	333.8814899	6.094920599
557	Sulfate	g	12.74562679	1.176929066	3.437248264	618.3987601	621.4854591	14.64616528
558	Sulfide	µg	68.83649252	7.693970052	18.69454405	3.363354077	3.222704221	91.14595217
559	Sulfite	µg	203.7993259	20.47369658	55.12238429	9.917123095	9.77184146	249.0905413
560	Sulfur	mg	6.400261506	1.178461184	1.783413625	320.8557252	253.3127987	12.64461743
561	Sulfur	mg	11.99280788	1.805615206	3.302433521	594.1441109	514.9312849	20.06827354
562	Sulfur dioxide	g	3.137901002	509.7929992	867.7259647	156.1134439	130.9939328	5.587222283
563	Sulfur hexafluoride	µg	19.33251267	1.667143617	5.202077893	935.9110186	954.4733717	21.15251895

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
564	Sulfur trioxide	ng	11.84529876	491.6783154	3.135631778	564.1346412	637.8196756	8.189653345
565	Sulfur, in ground	mg	1.418361604	17.47450324	371.4180712	66.8221959	80.51436193	607.8398134
566	Sulfuric acid	ng	506.6000656	3.581587529	132.4005507	23.82031543	29.02361166	193.152481
567	Sulfuric acid	pg	312.7296755	2.194555772	81.73068532	14.70424919	17.91822864	0.119087458
568	Suspended solids, unspecified	mg	522.3876634	93.40482198	145.2900977	26.13928648	20.95351585	1.007009102
569	Sylvite, 25 % in sylvinite, in ground	mg	2.816292384	81.0752866	742.0162945	133.4968924	155.2293492	1.624549394
570	t-Butyl methyl ether	µg	1.784894084	8.980177352	466.1288459	83.8617058	102.6223438	647.7640015
571	t-Butyl methyl ether	µg	72.354768	14.01644366	20.22922917	3.639460811	2.794269812	149.196147
572	t-Butylamine	pg	260.7230617	1.647828399	68.12118031	12.25574949	14.95662571	0.097646461
573	t-Butylamine	pg	625.7447665	3.95484853	163.4932936	29.41424152	35.89644191	0.234355041
574	Talc, in ground	µg	203.926836	8.167296245	53.95347392	9.706823247	11.01034563	138.31408
575	Tantalum, 81.9% in tantalite, 1.6E-4% in crude ore, in ground	µg	15.00962308	110.0733677	3.92316864	705.82119	859.5197167	5.758386174
576	Tebutam	ng	73.82861634	459.9256362	19.2891406	3.470328534	4.235919038	27.59020856
577	Technetium-99m	µBq	926.0306697	6.072776802	241.9729503	43.53359496	53.10063239	348.8002943
578	Teflubenzuron	ng	7.05232215	93.97603866	1.847441645	332.3750672	399.6207903	3.086119867
579	Tellurium-123m	µBq	156.5187153	9.388747594	41.71538511	7.505056544	8.138572264	134.2558002
580	Tellurium-132	µBq	2.332571268	15.17412658	609.4917641	109.6542715	133.7670183	0.877486806
581	Tellurium, 0.5ppm in sulfide, Te 0.2ppm, Cu and Ag, in crude ore, in ground	µg	2.036996326	15.10757022	532.4405079	95.7919253	116.6308703	783.0101636
582	Terpenes	ng	740.7625011	54.60772666	198.4219348	35.69828831	37.5000575	727.0060075
583	Thallium	ng	318.6856882	15.01370103	84.53522829	15.20881687	16.9812216	236.4130488
584	Thallium	µg	41.74206864	2.432638777	11.11813259	2.000274289	2.177606765	35.16313856
585	Thiram	ng	3.372485489	248.6137803	903.3598418	162.5243707	170.7273243	3.309856002
586	Thorium	ng	126.9305664	13.84419398	34.43799147	6.195773106	5.97676247	164.9786418
587	Thorium-228	µBq	923.1428441	99.20911606	250.3175964	45.03488642	43.61582614	1.186558616
588	Thorium-228	Bq	10.51820397	1.288012258	2.867500536	515.8948834	481.1868975	14.93900257
589	Thorium-230	mBq	3.065130965	180.324035	816.5734554	146.9105504	159.732822	2.597299898
590	Thorium-230	Bq	2.0063664	111.7269068	533.8944621	96.05348892	105.1887021	1.643321494
591	Thorium-232	mBq	1.2967945	137.2893059	351.4338269	63.22680789	61.47751516	1.648139383
592	Thorium-232	mBq	1.741686418	178.6444577	471.4394159	84.81713516	83.14337282	2.161837088
593	Thorium-234	µBq	798.9146053	44.41742241	212.5843763	38.24626866	41.89217835	653.7136738
594	Thorium-234	mBq	14.70685226	818.961109	3.913495313	704.0808724	771.0437169	12.04563175
595	Tin	µg	17.11951549	1.298992942	4.589243292	825.6552792	862.9456848	17.13448105
596	Tin	ng	38.50717946	575.8251963	10.09355578	1.815941698	2.175744071	17.41544607
597	Tin, 79% in cassiterite, 0.1% in crude ore, in ground	mg	1.254192074	9.132087722	327.8105491	58.9767224	71.82736348	480.5759715
598	Tin, ion	µg	409.5087543	14.44224572	108.1534822	19.45800057	22.3059837	260.1135483
599	TiO2, 54% in ilmenite, 2.6% in crude ore, in ground	mg	95.74676018	4.839383858	25.43014232	4.575162281	5.069019642	73.9878617
600	TiO2, 95% in rutile, 0.40% in crude ore, in ground	µg	1.042111298	1.77843858	271.8111089	48.90180791	60.26270119	346.9988332
601	Titanium	µg	214.4181132	12.32105058	57.09387951	10.27181708	11.20328449	179.0500137
602	Titanium	µg	5.763611468	525.406923	1.553671656	279.5226167	281.7187551	6.561774514
603	Titanium, ion	mg	23.07864826	927.3504826	6.106246281	1.098580805	1.245742262	15.68057727
604	TOC, Total Organic Carbon	g	2.653795628	445.3458605	735.2433707	132.2783685	109.3638718	4.853130932
605	Toluene	mg	15.60531031	870.7198891	4.152745799	747.1246413	817.9752109	12.7970712
606	Toluene	mg	6.557895612	817.032202	1.789196603	321.8961465	298.6119782	9.440079478
607	Toluene, 2-chloro-	pg	491.1672842	18.37400251	129.8228065	23.35655063	26.64872848	0.321453945
608	Toluene, 2-chloro-	pg	965.8085782	38.08909453	255.4689395	45.96167176	52.20481815	0.649735352
609	Transformation, from arable	mm2	0.371048406	0.012301836	0.097918421	0.017616599	0.020289278	0.000228623
610	Transformation, from arable, non-irrigated	mm2	240.7178555	1.499606142	62.89215402	11.31499019	13.81119197	0.089957932
611	Transformation, from arable, non-irrigated, fallow	mm2	0.075251705	0.001032646	0.019715723	0.003547075	0.004261093	3.31991E-05
612	Transformation, from dump site, inert material landfill	cm2	80.43375448	0.048416493	20.9659602	377.2006826	466.4967152	2.555087375
613	Transformation, from dump site, residual material landfill	mm2	1.211302332	0.128310444	0.328271093	0.059059577	0.057417082	0.001540132
614	Transformation, from dump site, sanitary landfill	mm2	0.021320172	0.00324242	0.005874252	0.001056843	0.000912209	3.59691E-05
615	Transformation, from dump site, slag compartment	mm2	0.023391018	0.000297062	0.006126136	0.001102159	0.00132692	1.01042E-05
616	Transformation, from forest	mm2	861.2802478	130.3363158	237.2336925	42.68095039	36.91413016	1.447206134
617	Transformation, from forest, extensive	mm2	50.94027557	3.263661016	13.59695831	2.446242286	2.627960828	0.045567829
618	Transformation, from forest, intensive, clear-cutting	mm2	0.817618655	0.060273429	0.219008758	0.039402084	0.041390792	0.000802435
619	Transformation, from industrial area	mm2	0.778942929	0.072430876	0.210108168	0.037800796	0.037929916	0.000899618
620	Transformation, from industrial area, benthos	mm2	0.000739672	0.00010322	0.000202886	3.65014E-05	3.25737E-05	1.1644E-06
621	Transformation, from industrial area, built up	mm2	0.003006733	0.000420807	0.000824843	0.000148398	0.000132288	4.74426E-06

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
622	Transformation, from industrial area, vegetation	mm2	0.005129133	0.000717848	0.001407086	0.00025315	0.000225668	8.09315E-06
623	Transformation, from mineral extraction site	mm2	168.0028373	0.296148124	43.82056994	7.883802467	9.714222862	0.056025932
624	Transformation, from pasture and meadow	cm2	128.7339802	0.431635817	33.55630169	603.714773	746.5911504	4.092598614
625	Transformation, from pasture and meadow, intensive	mm2	0.196427931	0.001223675	0.051320561	0.009233133	0.011270058	7.34063E-05
626	Transformation, from sea and ocean	mm2	199.2308128	38.32708221	55.67559143	10.01665122	7.720865082	0.408406165
627	Transformation, from shrub land, sclerophyllous	cm2	80.45962772	0.249740364	20.97290098	377.3255548	466.6266348	2.557722016
628	Transformation, from tropical rain forest	mm2	0.817618655	0.060273429	0.219008758	0.039402084	0.041390792	0.000802435
629	Transformation, from unknown	mm2	821.9412269	4.854790334	214.7212912	38.63072052	47.18532625	0.304771947
630	Transformation, to arable	mm2	3.622688154	0.390536037	0.982440097	0.176751776	0.1710407	0.004667306
631	Transformation, to arable, non-irrigated	mm2	240.9145249	1.500831527	62.94353769	11.32423468	13.82247587	0.09003143
632	Transformation, to arable, non-irrigated, fallow	mm2	0.128898393	0.002376491	0.033830544	0.006086486	0.007238064	6.23388E-05
633	Transformation, to dump site	mm2	3.368318012	0.309964722	0.908265517	0.163406952	0.164347946	0.003860985
634	Transformation, to dump site, benthos	mm2	199.0807072	38.3139817	55.63518508	10.00938167	7.71346977	0.408240522
635	Transformation, to dump site, inert material landfill	cm2	80.43375448	0.048416493	20.9659602	377.2006826	466.4967152	2.555087375
636	Transformation, to dump site, residual material landfill	mm2	1.211321674	0.128310678	0.328276157	0.059060488	0.05741818	0.00154014
637	Transformation, to dump site, sanitary landfill	mm2	0.021320172	0.00324242	0.005874252	0.001056843	0.000912209	3.59691E-05
638	Transformation, to dump site, slag compartment	mm2	0.023391018	0.000297062	0.006126136	0.001102159	0.00132692	1.01042E-05
639	Transformation, to forest	cm2	82.09064512	0.229909643	21.39802363	384.9739788	476.0882313	2.609346085
640	Transformation, to forest, intensive	mm2	4.034871483	0.037544347	1.055398789	0.189877847	0.230259358	0.001619592
641	Transformation, to forest, intensive, clear-cutting	mm2	0.817618655	0.060273429	0.219008758	0.039402084	0.041390792	0.000802435
642	Transformation, to forest, intensive, normal	mm2	45.85962184	3.159475432	12.26245545	2.206150549	2.343714616	0.043015994
643	Transformation, to forest, intensive, short-cycle	mm2	0.817618655	0.060273429	0.219008758	0.039402084	0.041390792	0.000802435
644	Transformation, to heterogeneous, agricultural	mm2	46.87198082	6.057463923	12.80938442	2.304549122	2.112511088	0.069433351
645	Transformation, to industrial area	mm2	6.42034915	0.559864259	1.728264714	0.310933937	0.316370589	0.007080693
646	Transformation, to industrial area, benthos	mm2	0.150105915	0.013100522	0.04040642	0.007269559	0.007395326	0.000165643
647	Transformation, to industrial area, built up	mm2	9.733839096	0.61426645	2.597192432	0.467263404	0.503086356	0.00862287
648	Transformation, to industrial area, vegetation	mm2	44.0428359	0.307254174	11.50967558	2.07071592	2.523541776	0.016754485
649	Transformation, to mineral extraction site	cm2	14.04239994	125.1339099	378.2536407	68.05199002	68.92525581	1.572808385
650	Transformation, to pasture and meadow	mm2	0.14808186	0.020350769	0.040587047	0.007302056	0.006552629	0.000230287
651	Transformation, to permanent crop, fruit, intensive	mm2	0.46816774	0.03413009	0.125366875	0.02255488	0.02373859	0.00045603
652	Transformation, to sea and ocean	mm2	0.000739672	0.00010322	0.000202886	3.65014E-05	3.25737E-05	1.1644E-06
653	Transformation, to shrub land, sclerophyllous	cm2	80.44631462	0.18026642	20.96936292	377.2619012	466.5563714	2.55667358
654	Transformation, to traffic area, rail embankment	mm2	0.260405836	0.014427455	0.069286892	0.012465474	0.013659783	0.000212624
655	Transformation, to traffic area, rail network	mm2	0.286249805	0.015858277	0.076158363	0.013701716	0.015014478	0.000233711
656	Transformation, to traffic area, road embankment	mm2	4.027057623	0.034337747	1.053049868	0.189455252	0.230127191	0.001588237
657	Transformation, to traffic area, road network	cm2	48.59244271	1.638434084	12.66773704	227.9065215	281.6636714	1.558095304
658	Transformation, to unknown	mm2	1.901647417	0.090813459	0.504482853	0.090762049	0.101191249	0.00142165
659	Transformation, to urban, discontinuously built	mm2	0.003532214	0.000196563	0.00093991	0.0001691	0.000185198	2.89188E-06
660	Transformation, to water bodies, artificial	mm2	129.9816277	0.347676967	33.91505484	6.101691366	7.503923598	0.044414152
661	Transformation, to water courses, artificial	mm2	5.986034608	0.346364055	1.594156223	0.286806234	0.312529427	0.005020166
662	Tributyltin compounds	µg	53.30266466	6.497887868	14.52864793	2.613863547	2.441423476	75.44175444
663	Triethylene glycol	µg	13.52711219	1.883766283	3.709998189	667.4694728	596.0996412	21.25931688
664	Trimethylamine	pg	23.2289568	0.138741623	6.068427424	1.091776834	1.333358995	0.008627078

No	Substance	Unit	Brick Landfill 63,3 %	Brick Recycled 36,7 %	Mortar Landfill 100 %	Plaster Landfill 100 %	Paint Landfill 100 %	Wall ties 100 %
665	Trimethylamine	pg	55.7494964	0.3329799	14.56422584	2.620264406	3.200061592	0.020704988
666	Tungsten	µg	1.090559086	60.72908392	290.1979701	52.20980826	57.17524711	893.2262757
667	Tungsten	µg	460.5660255	15.99908491	121.6141248	21.87971805	25.11145911	290.348808
668	Ulexite, in ground	µg	39.04298943	3.424896187	10.51152019	1.891138032	1.92180209	43.24099409
669	Uranium	ng	111.0077186	12.72199203	30.17785904	5.429328344	5.16551702	149.8161035
670	Uranium-234	mBq	9.392127117	532.5833149	2.500181726	449.8102054	491.447892	7.778844697
671	Uranium-234	mBq	17.64611135	982.644766	4.695633424	844.7961254	925.1408661	14.45310991
672	Uranium-235	µBq	449.9758408	25.05744157	119.7386526	21.54230126	23.59109216	368.5543035
673	Uranium-235	mBq	29.11608369	1.62136386	7.747795138	1.393913605	1.526482427	23.8476313
674	Uranium-238	mBq	12.64035994	874.2609278	3.380243488	608.1429871	645.6585822	11.88725873
675	Uranium-238	mBq	60.62311662	4.572341416	16.24869989	2.923319888	3.058623706	60.42758712
676	Uranium alpha	mBq	43.33851984	2.41396385	11.53244726	2.074814168	2.272068	35.50203084
677	Uranium alpha	mBq	847.1805568	47.17715563	225.434987	40.55823493	44.41543849	693.8942948
678	Uranium, in ground	mg	3.413267132	180.8686894	907.3720162	163.2462105	179.8696111	2.712775681
679	Urea	pg	447.9921283	5.206928663	117.2824933	21.10041028	25.46184843	0.189173904
680	Vanadium	µg	931.3172267	113.4868288	253.8435931	45.66925413	42.66173173	1.317723828
681	Vanadium	ng	164.9727781	15.03880995	44.47099402	8.000820872	8.063680931	187.8187551
682	Vanadium, ion	mg	3.210499416	283.5227006	864.544932	155.5411387	157.8398426	3.572754424
683	Vermiculite, in ground	µg	56.52734013	774.0095483	14.810061	2.664492853	3.201055403	24.92343212
684	VOC, volatile organic compounds, unspecified origin	mg	18.441952	2.255998659	5.027466972	904.4966009	843.914724	26.17220542
685	Volume occupied, final repository for low-active radioactive waste	mm3	6.67866083	0.372668672	1.77726991	0.319750855	0.350069276	0.00547702
686	Volume occupied, final repository for radioactive waste	mm3	1.551920718	0.094164134	0.413722873	0.074433295	0.080588624	0.001340836
687	Volume occupied, reservoir	m3day	2.149389319	218.2582835	568.0429728	279.9896073	319.6988459	3.835676962
688	Volume occupied, underground deposit	mm3	15.62759911	1.567050062	4.226575429	0.760407401	0.749608154	0.019074479
689	Water	mg	23.00333537	1.849658946	6.17673968	1.111263384	1.149114742	23.96191745
690	Water, cooling, unspecified natural origin/m3	cu.in	558.4292736	814.5281466	150.4159416	443.45813	449.2585833	10.24112861
691	Water, lake	cm3	59.18564776	814.9910076	15.50697866	2.789876005	3.351132456	26.1367642
692	Water, river	cu.in	129.5963932	155.4592622	568.7517869	102.3247013	107.6191798	2.07439119
693	Water, salt, ocean	cm3	330.3927571	44.97595187	90.51381978	16.28443163	14.66288145	509.9362993
694	Water, salt, sole	cm3	607.7987621	80.14756553	166.258385	29.91171198	27.23344107	914.7572253
695	Water, turbine use, unspecified natural origin	m3	2.199376252	116.283999	584.6486129	105.1847132	115.926804	106.5265952
696	Water, unspecified natural origin/m3	dm3	31.19585828	328.2890685	498.173595	89.62690867	108.4064607	12.8642816
697	Water, well, in ground	cm3	530.2545883	37.80491836	141.9094099	25.53106347	26.97188648	508.8403755
698	Wood, hard, standing	cm3	1.644422949	133.3771952	441.6658268	79.46053865	82.03095419	1.723322933
699	Wood, primary forest, standing	mm3	8.465623566	0.624071085	2.267616685	0.407969181	0.428560261	0.008308411
700	Wood, soft, standing	cm3	4.082567639	277.3378558	1.091255896	196.3289356	209.0372626	3.794039591
701	Wood, unspecified, standing/m3	mm3	0.137630521	0.003444739	0.036211358	0.006514822	0.007637722	7.4732E-05
702	Xenon-131m	mBq	769.6005412	11.30844654	201.7092113	36.28970549	43.50419313	346.2628904
703	Xenon-133	Bq	27.72101046	358.3672773	7.260782658	1.306294654	1.571919155	12.0314862
704	Xenon-133m	mBq	37.40565268	1.571177894	9.903658973	1.781777167	2.012283651	26.02856251
705	Xenon-135	Bq	11.11850739	147.0393663	2.912520475	523.9944651	630.1442072	4.855405443
706	Xenon-135m	Bq	6.959149163	86.53161628	1.822428926	327.8750067	394.9618751	2.989492783
707	Xenon-137	mBq	210.5140783	1.638795131	55.03281601	9.901008847	12.04550228	81.61830267
708	Xenon-138	Bq	1.590053904	14.58119157	415.8887976	74.82296861	90.76163895	636.3170559
709	Xylene	mg	9.553159621	620.7505926	2.550770165	458.9116058	491.9676075	8.623922039
710	Xylene	mg	5.251070307	660.0659718	1.433225523	257.8530344	238.5210288	7.611566392
711	Zinc	mg	2.04092404	179.7402477	549.5457765	98.86932793	100.3889721	2.266744974
712	Zinc	mg	4.878575377	49.52466518	1.276490309	229.6546455	277.9943927	1.995442084
713	Zinc-65	µBq	1.6750088	10.89647115	437.6732588	78.74223277	96.0574864	0.630119277
714	Zinc-65	mBq	4.132476641	26.88309016	1.07980001	194.2678974	236.987005	1.554590756
715	Zinc, 9.0% in sulfide, Zn 5.3%, Pb, Ag, Cd, In, in ground	mg	175.7459572	2.626799153	46.06663859	8.287894897	9.93017241	79.47241103
716	Zinc, ion	mg	72.8943813	3.565202182	19.34895192	3.481089228	3.871087216	55.25594289
717	Zirconium	ng	868.4612025	85.50382664	234.7259486	42.22977941	41.81555005	1.045778125
718	Zirconium-95	µBq	1.637257511	10.65088688	427.8089944	76.96754312	93.89254618	0.615917671
719	Zirconium-95	µBq	47.85523562	311.3137047	12.5043862	2.249676601	2.744375818	18.00259586
720	Zirconium, 50% in zircon, 0.39% in crude ore, in ground	µg	20.55368619	144.8964073	5.37169068	966.4262351	1.177582259	7.83280954

Appendix 12: Langkloof Emissions Study and permission to use data

Permission to incorporate and publish the appended emissions study was granted by Mr Nico Blake on 13 March 2017, please see the extracted email below:

From: Nico Blake [mailto:nico@langkloofbricks.co.za]
Sent: Monday, 13 March 2017 1:56 PM
To: Jonathan Prior <jonathan@claybrick.org.za>
Subject: RE: Langkloof Air Emissions study.

Hi Jonathan

They may use the report data.

I received the pamphlets the same day of the regional meeting, thanx.

Regards
Nico

EMISSION SURVEY

Langkloof Steenwerwe (Pty) Ltd

Humansdorp, Eastern Cape

Report No. LSW 01/16

BY

Lethabo Air Quality Specialists CC

PO Box 2174

Noorsekloof

6331

April 2016

SUMMARY

Lethabo Air Quality Specialists CC (LAQS) conducted an emission survey on the stacks serving the brick drying oven and vertical shaft brick kiln (VSBK) at Langkloof Steenwerwe (Pty) Ltd's (LSW) operations in Humansdorp, Eastern Cape.

The objective of the measurement program was to quantify the emission of pollutants and record operating parameters in the stack in accordance with LSW's Atmospheric Emissions License (AEL). LSW's operations are included under two sub-categories of the List of Activities Which Result in Atmospheric Emissions as described in Government Notice No. 893 of 22 November 2013 (GN893). The relevant sub-categories and controlled pollutants are listed in the Tables below.

	Brick drying oven	VSBK
	Sub-category 8.1	Sub-category 5.9
	Thermal treatment of waste	Ceramic production
Particulate matter	X	X
Carbon monoxide (CO)	X	
Sulphur dioxide (SO_2)	X	X
Nitrogen oxides (as NO_2)	X	
Hydrogen chloride (HCl)	X	
Hydrogen fluoride (HF)	X	
Heavy metals	X	
Total organic compounds (TOC)	X	
Ammonia (NH_3)	X	
Dioxins / Furans	X	
Total fluorides as HF		X

In addition to quantification of the pollutants mentioned above, the following parameters were measured as part of the emissions survey, where applicable:

Combustion gases (O_2, CO_2, NO, NO_2, SO_2)

Gas velocity

Gas volumetric flow rate

Gas temperature as well as absolute and static pressure

Water vapour content of the stack gas

The average results obtained are shown in the tables below.

Stack parameter	Units	Drying oven	Emission limit
Date		16-17/02/16	N/A
Barometric pressure	kPa	101.5	
Duct static pressure	kPa	-0.017	
Gas temperature	°C	101.3	
Gas velocity	m/s	9.4	
Volumetric flow rate (Actual)	m^3/h	6650	
Volumetric flow rate (NTP, wet)	m^3/h	5020	
Volumetric flow rate (NTP, dry)	m^3/h	4520	
Particulate concentration (Actual)	mg/m^3	62.7	
Particulate concentration (NTP, wet)	mg/Nm^3	83.8	
Particulate concentration (NTP, dry)	mg/Nm^3	87.3	New: 10 Existing: 25
Particulate emission rate	kg/h	0.406	N/A
Water vapour content	% (V/V)	4.0	

Table A1: Average Stack Parameters and Particulate Concentrations - Drying Oven

METAL	Concentration	Emission limit
	mg/Nm^3, dry	mg/Nm^3, dry
Arsenic (As)	Sum of metals: 0.453	0.5
Antimony (Sb)		
Chromium (Cr)		
Cobalt (Co)		
Copper (Cu)		
Manganese (Mn)		
Nickel (Ni)		
Vanadium (V)		
Mercury (Hg)	<0.002	0.05
Cadmium (Cd)	Sum of metals: 0.017	0.05
Thallium (Tl)		

Table A2: Average Heavy Metals Concentrations - Drying Oven

GAS	Concentration	Emission limit
	mg/Nm^3, dry	mg/Nm^3, dry
CO	2.1	25
SO_2	67.5	50
NOx (as NO_2)	9.2	200
HCl	0.382	10
HF	0.016	1
TOC	0.031	10
NH_3	0.013	10
Dioxins/furans (*)	0.16 ng/Nm^3(#)	0.1 ng/Nm^3

(*): at NTP corrected to 10% oxygen
(#): Estimated, please see Section 4.5.1

Table A3: Gas Analysis - Drying Oven

Stack	Drying Oven		
	Concentration		
Gas	% (V/V)	ppm	mg/Nm^3
O_2	20.9	-	-
CO	-	1.7	2.1
CO_2	0.5	-	990
SO_2	-	23.6	67.5
NO	-	4.5	6.0
NO_2	-	0	0.0
NOx as NO_2	-	4.5	9.2

Table A4: Average Combustion Gas Concentrations - Drying Oven

Stack parameter	Units	VSBK	Emission limit
Date		17/02/16	N/A
Barometric pressure	kPa	101.2	
Duct static pressure	kPa	-0.151	
Gas temperature	°C	77.9	
Gas velocity	m/s	5.6	
Volumetric flow rate (Actual)	m^3/h	12830	
Volumetric flow rate (NTP, wet)	m^3/h	9960	
Volumetric flow rate (NTP, dry)	m^3/h	8970	
Particulate concentration (Actual)	mg/m^3	50.4	
Particulate concentration (NTP, wet)	mg/Nm^3	64.8	
Particulate concentration (NTP, dry)	mg/Nm^3	67.8	New: 50 Existing: 150
Particulate emission rate	kg/h	0.648	N/A
Water vapour content	% (V/V)	4.5	
SO_2	mg/Nm^3	52.9	New: 400 Existing: 1000
Total fluorides as HF	mg/Nm^3	0.339	New: 50 Existing: 50

Table B1: Average Stack Parameters and Concentrations - VSBK

Stack	VSBK		
Compound	Concentration		
Gas	% (V/V)	ppm	mg/Nm^3
O_2	19.9	-	-
CO	-	231	288.5
CO_2	0.9	-	1740
SO_2	-	18.5	52.9
NO	-	11.7	15.6
NO_2	-	0.0	0.0
NOx as NO_2	-	11.7	24.0

Table C2: Average Combustion Gas Concentrations - VSBK

1 INTRODUCTION

Langkloof Steenwerwe (Pty) Ltd (LSW) operates a brick manufacturing process at their premises in Humansdorp in the Eastern Cape. The process consists of two main activities, both of which are included in the "*List of Activities Which Result in Atmospheric Emissions*" as published in Government Notice 893 on 22 November 2013 (GN893).

LSW was issued with a provisional atmospheric emissions license (PAEL) by the Eastern Cape Province's Department of Economic Development, Environmental Affairs and Tourism (DEDEAT).

GN893 defines various categories and sub-categories of activities and emission limits for each. The following two sub-categories are relevant to LSW's operations:

8.1: "Thermal Treatment of General and Hazardous Waste." This sub-category refers to the brick drying oven which derives its energy from the burning of scrapped tyres.

Lethabo Air Quality Specialists CC (LAQS) conducted an emission survey on one of the drying oven stacks on 16 and 17 February 2016 in order to determine the concentrations of various pollutants emitted from the stack, as specified in LWS's PAEL.

The stack serving the second drying chamber was selected as the bricks contained in this chamber were approximately mid-way through its 72-hour drying cycle, thus posing the closest approximation of average conditions during the drying process.

The concentrations of all listed pollutants were determined, the only exclusion being dioxins and furans due to the very high analytical costs associated with such measurements. The concentration of dioxins / furans was estimated from USEPA information (see Section 4.5.1 below).

5.9: "Ceramic Production." This sub-category refers to the brick vitrification process

in vertical shaft brick kilns (VSBK).

LAQS measured the concentration of listed pollutants in the horizontal duct leading to the VSBK stack on 17 February 2016 as specified in LWS's PAEL.

During the test program the brick manufacturing process was operating at 66% of full capacity due to a shortage in market demand. Please see confirmation in Appendix A.

This report details the methodology applied by LAQS and the results obtained from the emissions survey.

2 METHOD OF MEASUREMENTS

Acceptable emission measurement methods are included in Appendix A of GN893. These methods include both isokinetic and anisokinetic methods, depending on the pollutant concerned.

All of LAQS's methods comply fully with methods included in GN893. A minimum of three (3) tests were conducted with a minimum duration of sixty (60) minutes each for all pollutants and sources included in the sub-categories listed above.

2.1 ISOKINETIC SAMPLING

Isokinetic sampling techniques were applied to measure the concentration of total particulate matter (TPM), metals and total fluorides.

The sampling method for particulate matter complies with the specifications of USEPA Method 17: "*Determination of Particulate Matter Emissions from Stationary Sources*". This reference method entails in-stack filtration, with the filter at stack temperature.

High-purity glass microfiber thimbles (filters) manufactured from 100% pure borosilicate glass are utilised by LAQS for all isokinetic sampling applications.

A Tecora Model IsoStack G4 automated isokinetic sampler was used for all isokinetic sampling activities. The system complies fully USEPA Method 17. It also complies

fully with the following EU methods:

ISO EN 13284, "*Stationary source emissions – Determination of low range mass concentration of dust - Part 1: Manual gravimetric method*"

ISO EN 9096, "*Stationary source emissions — Determination of the mass concentration of particulate matter*".

The Tecora equipment formed the base of all other isokinetic sampling activities, i.e.:

-- USEPA Method 13b, "*Determination of Total Fluoride Emissions from Stationary Sources (Specific Ion Electrode Method)*"

-- USEPA Method 29, "*Determination of Metals Emissions from Stationary Sources*"

Both of these methods allow the simultaneous determination of total particulate matter concentration.

2.2 ANISOKINETIC SAMPLING

Anisokinetic sampling techniques were applied to measure the concentrations of the combustion gases in the flue gas.

An ECOM J2KN Pro portable emissions analyser was used to measure the concentrations of O_2, CO, CO_2, SO_2, NO, NO_2 and NOx present in the stack gas streams on a volume/volume basis. The ECOM analyser complies with the following international requirements:

-- EN 503792:2004, "*Specifications for portable electrical apparatus designed to measure combustion gas parameters of heating appliances*"

-- USEPA Method 3A: "*Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources (Instrumental Analyzer Procedure)*".

The analyser utilises calibrated electrochemical sensors and an infrared bench (NDIR)

to detect and quantify the concentrations of the various gases.

Anisokinetic sampling techniques were also followed to measure the concentrations of the various inorganic and organic gases listed in the two sub-categories in Section 1 above. The applicable methods are:

HCl and HF: USEPA Method 26, "*Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources - Non-isokinetic Method*"

NH_3: USEPA Provisional Test Method No 27, "*Procedure for Collection and Analysis of Ammonia in Stationary Sources*"

VOCs: USEPA TO-14 Compound List Collected on Activated Carbon.

2.3 STACK GAS VELOCITY

The gas velocities were calculated from data obtained from a minimum of 12 point velocity pressure measurements. The location of the sampling points was determined according to the requirements of USEPA Method 1: "*Sample and Velocity Traverses for Stationary Sources*".

Velocity pressure measurements were taken by means of an S-type pitot tube and digital manometer internal to the Tecora sampling system. Volumetric flow rates were calculated by the Tecora sampler from the individual point velocities and internal dimensions of the stack. This procedure complies with the specifications of USEPA Method 2: "*Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)*".

2.4 STACK GAS TEMPERATURE

The gas temperatures were measured by means of a Type-K thermocouple connected to a digital thermometer internal to the Tecora sampling system.

2.5 WATER VAPOUR CONTENT

The water vapour content of the gas stream was calculated from the temperature of the gas leaving the condenser unit and the mass of water condensed during each test. This

procedure complies with the specifications of USEPA Method 4: "*Determination of Moisture Content in Stack Gases*".

3 RESULTS

All raw data collected during the test period are available at LAQS's offices and will be made available to interested parties on written authorisation by Langkloof Steenwerwe.

All of the international isokinetic methods referred to in Section 2.1 above state that isokinetic results will be acceptable if the isokinetic sampling deviation is less than 10%.

Results obtained are reported at the following conditions:

Actual temperature and pressure (actual): The results refer to actual stack conditions of temperature and pressure.

Normal temperature and pressure (NTP): This condition is also referred to as NTP and refer to conditions at 0ºC (273.15 K) and 101.325 kPa.

Where concentrations are reported at NTP or mg/Nm^3 it refers to the conversion of concentrations to NTP conditions. As these conditions imply a reduction in the sampled gas volume due to the effect of reduced temperature and increased pressure, the resulting calculated concentration is higher than at actual stack gas conditions.

NTP, dry: Current emission limits imposed by the Department of Environmental Affairs, and published in GN893, require results to be reported at NTP on a dry basis, i.e. based on the gas volume with water vapour removed. The removal of the water vapour content from the stack gas implies a further reduction in gas volume, resulting in even higher calculated concentrations.

The following results were obtained:

3.1 DRYING OVEN

Description	Unit	Test 1	Test 2	Test 3	Avg
Date	-	16 - 17/02/2016			
Time of Day	-	16/02/16	16/02/16	17/02/16	
Test Duration	min	12h00	13h50	09h30	
Barometric Pressure	kPa	101.50	101.48	101.52	101.5
Duct Static Pressure	kPa	-0.017	-0.005	-0.029	-0.017
Gas Temperature (Average)	°C	164.7	78.2	61.0	101.3
Gas Velocity	m/s	11.4	8.2	8.7	9.4
Stack Diameter	m	0.5			
Volumetric Flow Rate (Actual)	m^3/h	8068	5768	6118	6650
Volumetric Flow Rate (NTP, wet)	Nm^3/h	5515	4530	5010	5020
Volumetric Flow Rate (NTP, dry)	Nm^3/h	4960	4080	4510	4520
Total Particulate Concentration					
Actual	mg/m^3	46.4	64.7	77.0	62.7
NTP, wet	mg/Nm	74.3	83.1	94.0	83.8
NTP, dry	mg/Nm^3	77.7	86.9	97.3	87.3
Emission limit, dry	**mg/Nm^3**	**New: 10, Existing: 25**			
Total Particulate Emission Rate	kg/h	0.38	0.37	0.47	0.41
Water Concentration	% (v/v)	4.4	4.3	3.4	4.0
Total Isokinetic Volume Sampled (NTP, wet)	Nm^3	0.948	0.784	0.835	
Total Isokinetic Volume Sampled (NTP, dry)	Nm^3	0.906	0.751	0.806	
Isokinetic Deviation	%	0.0	-0.2	-1.2	

Table 1a: Drying Oven Stack; Stack Conditions and Particulate Emissions

	Test 1	Test 2	Test 3	Average
Metal	Individual Concentrations, µg/Nm3, dry			
As	16.4	8.6	8.9	11.3
Cd	<3.0	<2.7	<2.7	<2.8
Co	<10.5	<13.7	<12.6	<12.3
Cr	3.9	201.1	11.1	72.0
Cu	98.8	127.2	90.8	105.6
Hg	<1.4	<2.0	<1.1	<1.5
Mn	18.6	80.0	13.3	37.3
Ni	15.3	203.0	27.3	81.9
Pb	82.3	93.3	142.6	106.1
Sb	<14.9	<17.8	<14.5	<15.7
Tl	<13.6	<16.1	<13.1	<14.3
V	<10.8	<12.8	<10.4	<11.3
Hg	<0.0014	<0.0020	<0.0011	<0.0015
Emission limit	**New and existing: 0.05 mg/Nm^3, dry**			
Sum of Cd, Tl	0.017	0.019	0.016	0.017
Emission limit	**New and existing: 0.05 mg/Nm^3, dry**			
Sum of rest	0.272	0.757	0.332	0.453
Emission limit	**New and existing: 0.5 mg/Nm^3, dry**			

Values preceded by "<": Concentration below minimum detection limit of laboratory. Concentration calculated using minimum detection limit.

Table 1b: Drying Oven Stack; Metals Concentrations

Combustion Gas Test 1 on 16/02/2016						
Component	O_2	CO	NO	NO_2	NOx	SO_2
Unit	%	ppm				
Average	21.0	1.1	4.3	0.0	4.3	18.3
Maximum	21	2.0	5.0	0.0	5.0	25.0
Minimum	21	1.0	3.0	0.0	3.0	11.0
Combustion Gas Test 2 on 16/02/2016						
Component	O_2	CO	NO	NO_2	NOx	SO_2
Unit	%	ppm				
Average	21.0	1.2	4.2	0.0	4.2	20.0
Maximum	21.0	3.0	5.0	0.0	5.0	30.0
Minimum	21.0	0.0	3.0	0.0	3.0	13.0
Combustion Gas Test 3 on 17/02/2016						
Component	O_2	CO	NO	NO_2	NOx	SO_2
Unit	%	ppm				
Average	20.6	2.8	4.9	0.0	4.9	32.7
Maximum	20.8	4.0	6.0	0.0	6.0	43.0
Minimum	20.4	2.0	4.0	0.0	4.0	24.0

Table 1c: Drying Oven Stack; Summary of Combustion Gas Components per Test

Component	CO	NO	NO_2	NOx as NO_2	SO_2
Unit	mg/Nm^3, dry				
Test 1	1.4	5.7	0.0	8.7	52.2
Test 2	1.5	5.7	0.0	8.7	57.0
Test 3	3.5	6.6	0.0	10.1	93.4
Average	2.1	6.0	0.0	9.2	67.5
Limit	**New: 50 Existing: 75**			**New: 200 Existing: 200**	**New: 50 Existing: 500**

Table 1d: Drying Oven Stack; Summary of Combustion Gas Components per Test

Component	HCl	HF	TOC	NH_3
Unit	mg/Nm^3, dry			
Test 1	0.37	0.02	0.61	0.01
Test 2	0.30	0.02	0.10	0.01
Test 3	0.48	0.01	0.03	0.01
Limit	**New: 10 Existing: 10**	**New: 1 Existing: 1**	**New: 10 Existing: 10**	**New: 10 Existing: 10**

Table 1e: Drying Oven Stack; Inorganic and Organic Gas Components per Test

3.2 VSBK STACK

Description	Unit	Test 1	Test 2	Test 3	Avg
Date	-	17/02/2016			
Time of Day	-	17/02/16	17/02/16	17/02/16	
Test Duration	min	12h00	14h10	15h40	
Barometric Pressure	kPa	101.39	101.24	101.02	101.2
Duct Static Pressure	kPa	-0.15	-0.203	-0.1	-0.151
Gas Temperature (Average)	°C	79.4	77.9	76.6	77.9
Gas Velocity	m/s	5.4	5.7	5.7	5.6
Stack Diameter	m	0.9			
Volumetric Flow Rate (Actual)	m^3/h	12470	13026	13008	12830
Volumetric Flow Rate (NTP, wet)	Nm^3/h	9655	10110	10120	9960
Volumetric Flow Rate (NTP, dry)	Nm^3/h	8688	9100	9107	8970
Total Particulate Concentration					
Actual	mg/m^3	43.0	63.4	44.7	50.4
NTP, wet	mg/Nm	55.5	81.6	57.5	64.8
NTP, dry	mg/Nm^3	58.2	84.8	60.5	67.8
Emission limit, dry	**mg/Nm^3**	**New: 50, Existing: 150**			
Total Particulate Emission Rate	kg/h	0.54	0.83	0.58	0.65
Water Concentration	% (v/v)	4.7	3.8	5.0	4.5
Total Fluoride Concentration, as HF					
NTP, wet	mg/Nm^3	3.0	16.7	60.6	26.8
NTP, dry	mg/Nm^3	3.8	21.2	76.6	33.9
Emission limit, dry	**mg/Nm^3**	**New: 50, Existing: 50**			
Total Isokinetic Volume Sampled (NTP, wet)	Nm^3	1.097	1.139	1.149	
Total Isokinetic Volume Sampled (NTP, dry)	Nm^3	1.046	1.096	1.092	
Isokinetic Deviation	%	-1.0	-0.6	-0.8	

Table 2a: VSBK Stack; Stack Conditions and Particulate Emissions

Combustion Gas Test 1 on 17/02/2016						
Component	O_2	CO	NO	NO_2	NOx	SO_2
Unit	%	ppm				
Average	19.9	796.8	20.3	0.0	20.3	34.8
Maximum	20.1	856	21	0	21	47
Minimum	19.7	724	19	0	19	22
Combustion Gas Test 2 on 17/02/2016						
Component	O_2	CO	NO	NO_2	NOx	SO_2
Unit	%	ppm				
Average	20.0	819.1	21.1	0.0	21.1	19.5
Maximum	20.2	946.0	24.0	0.0	24.0	30.0
Minimum	19.9	705.0	19.0	0.0	19.0	1.0
Combustion Gas Test 3 on 17/02/2016						
Component	O_2	CO	NO	NO_2	NOx	SO_2
Unit	%	ppm				
Average	19.9	882.9	21.4	0.0	21.4	15.1
Maximum	20.0	990.0	23.0	0.0	23.0	21.0
Minimum	19.7	843.0	20.0	0.0	20.0	9.0

Table 2b: VSBK Stack; Summary of Combustion Gas Components per Test

Component	CO	NO	NO_2	NOx as NO_2	SO_2
Unit	mg/Nm^3, actual conditions				
Test 1	1.4	5.7	0.0	8.7	52.2
Test 2	1.5	5.7	0.0	8.7	57.0
Test 3	863.3	35.5	0.0	54.5	49.3
Average	288.7	15.6	0.0	24.0	52.9
Limit					**New: 400 Existing: 1000**

Table 2c: VSBK Stack; Summary of Combustion Gas Components per Test

4 DISCUSSION

4.1 Applicable Emissions Limits

The emission limits applicable to LSW's operations, as published in GN893, are:

Sub-category 8	Thermal treatment of general and hazardous waste		
Application	All installations treating 10 kg waste per day		
Substance of mixture of substances			
Common name	Chemical symbol	Plant status	mg/Nm^3 under normal conditions of 273 Kelvin and 101.3 kPa
Particulate matter	N/A	New	10
		Existing	25
Carbon monoxide	CO	New	50
		Existing	75
Sulphur dioxide	SO_2	New	50
		Existing	50
Oxides of nitrogen	NOx expressed as NO_2	New	200
		Existing	200
Hydrogen chloride	HCl	New	10
		Existing	10
Hydrogen fluoride	HF	New	1
		Existing	1
Sum of Pb, As, Sb, Cr, Co, Cu, Mn, Ni, V		New	0.5
		Existing	0.5
Hg		New	0.05
		Existing	0.05
Sum of CD, Tl		New	0.05
		Existing	0.05

Total organic compounds	TOC	New	10
		Existing	10
Ammonia	NH_3	New	10
		Existing	10
Dioxins & Furans	PCDD/PCDF	New	0.1 ng i-TEQ/Nm^3
		Existing	0.1 ng i-TEQ/Nm^3

Sub-category 5.9	Ceramic production		
Application	All installations producing more than 100 ton per annum		
Substance of mixture of substances			
Common name	Chemical symbol	Plant status	mg/Nm^3 under normal conditions of 273 Kelvin and 101.3 kPa
Particulate matter	N/A	New	50
		Existing	100
Sulphur dioxide	SO_2	New	400
		Existing	1000
Total fluorides as HF	HF	New	50
		Existing	50

4.2 Sample Port Location

The stacks serving the various drying chambers are short and fitted with in-line radial fans. As a result the sampling location is far from ideal, but the best that could be achieved under the circumstances.

Measurement of the VSBK emissions were done in the horizontal duct leading from the VSBK shafts to the stack. The sampling location conformed to the sample port location as detailed in the methods referred to in Section 2 above, unless stated otherwise.

4.3 Isokinetic Sampling Efficiency

The parameter which must be controlled to establish isokinetic sampling is the gas velocity as it enters the nozzle of the sample probe. This velocity must be equal to the actual gas velocity at the specific sample point in the duct/stack.

All isokinetic methods referred to in Section 2.1 above specify an allowable isokinetic deviation of ±10%.

The velocity of the sample gas stream entering the probe nozzle is controlled by the Tecora sampling system using continuous pitot tube and thermocouple measurements. The isokinetic sampling efficiencies were calculated to be within the specified limit of the prescribed method for all isokinetic measurements conducted on LSW's drying oven stack, the largest deviation being -1.2%. The largest isokinetic deviation on the VSBK stack was -1.0%. Both are well within the allowable deviation of ±10%.

4.4 Representativeness of Sampling Results

It is LAQS's opinion that the emissions reported are representative of the operating conditions that prevailed in the drying oven and VSBK at the time that the samples were taken.

The results may vary should plant operating conditions change due to, e.g. fuel feed rate, raw material feed rate, composition changes, etc., as well as upset process conditions.

4.5 Compliance with Emission Standards

4.5.1 Drying Oven

The following can be seen from Tables 1a to 1e above:

Total particulate matter: The measured concentrations are in excess of the emission limits for existing plant. LSW is in the process of upgrading the oven doors and plan to install a scrubber to reduce emissions to below the limits set for new plant.

Metals: The measured metals concentrations are generally lower than the emission limits for both existing and for new plant. One test result (Test 2) exceeded the limit for total metals and the average of the three tests was only marginally lower than the limit. LAQS is of the opinion that a reduction in total particulate matter by means of the planned scrubber will result in a concomitant reduction in metals concentration as most of the metals are in the solid phase, i.e. part of the total particulate matter.

Inorganic gases: The concentrations of all inorganic gases are well below the limits set for both new and existing plant. The measured SO_2 concentration is lower than the limits set for existing plant, but exceed those set for new plant. The introduction of a scrubber in the system should reduce the SO_2 emissions to below the new plant emission limits.

Dioxins / furans: Due to the very high costs associated with dioxin analysis and the weak economic conditions currently experienced by the construction industry, LSW elected not to have the concentrations measured, but rather have it estimated from internationally published information.

LAQS found relating information in USEPA Report "*Air Emissions from Scrap Tire Combustion*", Report No. EPA-600/R-97-115, October 1997. The report discusses emissions from various industrial sources that use scrap tyres as fuel.

Most of the industries discussed in the report use tyres as supplementary fuel, but one plant uses tyres as a solitary fuel in a fuel-to-energy operation, i.e. similar to LSW's operation. The emissions of particulates and dioxins were reported to be 14.2 and 1.9×10^{-7} kg/day respectively.

LSW's daily emission of particulate matter was calculated to be 15.6 kg/day which is in the same order of magnitude as the fuel-to-energy plant in the USA. Applying the dioxin to particulate matter ratio reported for the USA plant, LAQS estimates that the dioxin emissions from LSW's drying operations would be approximately 2.08×10^{-7} kg/day in total.

LSW was operating at about 66% of full capacity at the time of the tests which implies that 12 of the 18 possible drier stacks were in operation. This means that that the dioxin emission rate per stack is estimated to be 1.74×10^{-8} kg/day.

The measured volumetric flow rate during the measurement period was 4 520 Nm^3/h or 108 480 Nm^3/day, resulting in an estimated dioxin concentration of 0.16 ng/Nm^3.

This estimated concentration is in excess of the emission limit of 0.1 ng/Nm^3. However, LAQS is of the opinion that a reduction in total particulate matter by means of the planned scrubber will result in a concomitant reduction in dioxins as most of the dioxins are in the solid phase due to the high melting point of dioxins. The melting point for 2,3,7,8-Tetrachlorodibenzo-1,4-dioxin, for example, is approximately 300 ºC.

Incidentally, this dioxin congener is the most thoroughly research of all congeners and forms the basis on which the toxicity equivalency of other congeners are based.

General: As was stated in Section 1 above the plant was operating at 66% of maximum capacity due to a shortage in market demand. LSW compensates by using only a sufficient number of chambers in the drying oven to handle the brick drying demand with each chamber used operating at full capacity. As the measurements were conducted in the stack serving a single chamber, the concentration of pollutants per chamber is not expected to change when all drying chambers are used, but the total mass of pollutants emitted during the whole drying process will increase.

4.5.2 VSBK

The following can be seen from Tables 2a to 2c above:

Total particulate matter: The measured concentrations are generally lower than the emission limits for existing plant, but exceed the limits set for existing plant.

The average concentration of 67.8 mg/Nm^3, dry conditions, compares very favourably with those reported in a comprehensive brick production emissions study conducted in Nepal in 2003 ("*Stack & Energy Monitoring of Pilot Demonstration Vertical Shaft Brick Kilns (VSBK) in Kathmandu Valley - Nepal*", IEM Project Report Reference No. ES-1/47/003). This study reported average particulate concentrations varying from 155 mg/Nm^3 to 214 mg/Nm^3.

Sulphur dioxide: The measured SO_2 concentrations are generally lower than the emission limits for both existing and for new plant.

Total fluorides: Except for one test result, the measured concentrations of total fluorides are generally lower than the limits set for both new and existing plant. The single excursion was not of such a magnitude to drive the average concentration over the test period to a level in excess of the limit.

General: As was stated in Section 1 above the plant was operating at 66% of maximum capacity due to a shortage in market demand. LSW compensates by limiting the number of shafts used for vitrification using only a sufficient number of shafts to handle the brick demand with each shaft used operating at full capacity. As the shafts are connected to a common duct which leads to the stack, the concentrations of the various pollutants are not expected to, but the volume of flue gas (and the flue gas velocity) will increase with each shaft added. As a result the total mass of pollutants emitted will increase as more shafts are brought on line.

5 QUALITY CONTROL AND QUALITY ASSURANCE

The Tecora and ECOM emissions measuring equipment described in Section 3 above are both new and their factory calibrations are regarded as valid.

The 4-decimal figure chemical balance used for gravimetric analysis is also new and its calibration is also regarded as valid.

Please see Appendix B for copies of the factory calibration certificates.

6 CONCLUSIONS

It is LAQS's opinion that the emissions reported are representative of the operating conditions that prevailed at the time of the test period. Concentrations in the flue gas are not expected to change when production increases, but the total flue gas volumes will increase, thus resulting in increased mass emission rates.

APPENDIX A

DECLARATION OF PRODUCTION CAPACITY

LAQS

DECLARATION

I, NICOLAAS PETRUS BLAKE....., hereby declare that the emission measurements conducted by Lethabo Air Quality Specialists CC were carried out under the operating conditions given below. I also declare that the process/es were operating normally during the time of the measurements.

Date	Process	Percentage of maximum capacity
16/2/2016	DRYING	66%
17/2/2016	USBK	66%

Atmospheric Emissions License No: EC/CAR/NMMM/007/2011....

..... 17/2/2016.....

Signature Date

...DIRECTOR.....

Designation

LANGKLOOF STEENWERWE PTY LTD

Company

LANGKLOOF BRICKS
P.O. BOX 201
HUMANSDORP
6300

PARADISE BEACH ROAD.....

Address

APPENDIX B

CALIBRATION CERTIFICATES

tecora
A DIVISION OF OMNISENSE TECHNOLOGIES

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

TCR Tecora s.r.l. - 20094 Corsico - Milano - Via A. Volta, 22 - Tel ++39 02 4505501 - Fax ++39 0248601811 - www.tecora.it
C.C.I.A.A. 1023629 di Milano - N. Pos. M. 1037198 - Reg. Imp. 191048 Trib di Milano - Cod. fisc. E P. Iva IT:04579990153

Strumento - *Instrument:* **Isokinetic Sampler**
Modello - *Type* : **Isostack G4**
Matricola - *Serial Number* : **15193104P**
Anno di costruzione - *Construction year* : **2015**

Dichiarazione di conformità
Certificate of Conformity

CE

In qualità di costruttori dichiariamo sotto la nostra responsabilità che la strumentazione di cui sopra è conforme alle direttive 2006/95/CE, 2004/108/CE, 2006/42/CE, ed è stata realizzata in conformità alle norme armonizzate applicabili CEI EN 61010-1

As manufacturer we declare under our sole responsibility that the equipment is in accordance with the provisions of the Directives 2006/95/EC, 2004/108/EC, 2006/42/EC, and with the harmonized norm EN 61010-1

Persona Autorizzata alla costituzione del fascicolo tecnico : TCR Tecora S.r.l. Via Volta 22 Corsico (MI)
Technical Reference

Data : 20/05/2015
Date

Presidente : Patrick Lopez
President

TCR Tecora Pag.3 di 3 mod. R14/039 rev. 1

TECORA ISOSTACK PLUS AUTOMATED ISOKINETIC SAMPLER

tecora
A DIVISION OF OMNISENSE TECHNOLOGIES

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001 =

Rapporto di taratura
Calibration report N° P-15193104P

Strumento - *Instrument:* **Isostack G4**
Firmware version : **1.9.2000**
Destinatario - *Customer* : **C & M CONSULTING ENGINEERS**

Costruttore - Constructor : **TCR Tecora**
S.N.: **15193104P**

Rapporto di taratura dello strumento rilasciato da Ente di prova non accreditato UNI EN 17025. Rappresenta la registrazione delle prove eseguite durante il collaudo dello strumento, in accordo ai requisiti qualitativi previsti dal nostro sistema di qualità.

Condizioni ambientali della prova - *Ambient condition*

Temp. - *Temperature* (°C) : **23**

Pressione - *Pressure* (KPa) : **100,1**

Riferimenti utilizzati - *Reference used*

Temperatura - *Temperature* :	Eurotron Microcal 8	S.N. 2109 U V07 1601A	TCR std 58S
	Testo Mod. 720	S.N 01214729/604	TCR std 60S
Flow - *Flow Rate*	BGI Deltacal	S.N. 237	TCR std 43S
Pressione - *Pressure* :	Eurotron Microcal P2	S.N. 84488-CELLA84521	TCR std 59S
	Flowcal Air	S.N. 1043009FC	TCR std 57S
Volume - *Volume* :	Actaris Gallus 2000 G4	S.N. A307A1202382	TCR std 53S
Rischi. Elett. - Electr. Risk :	Fulltest HT 4050	S.N. 01021626	TCR std 39S

Pressione assoluta Pitot - Pitot *Absolute pressure*

Campo di misura - *Range* : 0 - 105 KPa
Dmax = Deviazione massima della misura - *Max reading deviation*
E max = Max errore di indicazione percentuale sul campo di misura - *Max full range percent indication error (%)*
DUT = Strumento in prova = Device under test

Point	Riferimento *Reference*	DUT	Dmax (kPa)	Accett. *Accept.*	Emax (%)
1	89,95	90	-0,05	1% ±0.1kPa	0,06
2	50,92	50,9	0,02	1% ±0.1kPa	-0,04

Pressione assoluta CV - DGM *Absolute pressure*

Campo di misura - *Range* : 0 - 105 KPa

Point	Riferimento *Reference*	DUT	Dmax (kPa)	Accett. *Accept.*	Emax (%)
1	90,5	90,48	0,02	1% ±0.1kPa	-0,02
2	50,4	50,43	-0,03	1% ±0.1kPa	0,06

Pressione differenziale Pitot - Pitot *Differential pressure*

Campo di misura - *Range* : 0 - 2500 Pa

Point	Riferimento *Reference*	DUT	Dmax (Pa)	Accett. *Accept.*	Emax (%)
1	50,1	50	0,1	1%fs ±2Pa	-0,20
2	499,6	500	-0,4	1%fs ±2Pa	0,08

Pressione differenziale OM - OM *Differential pressure*

Campo di misura - *Range* : 0 - 10000 Pa

Point	Riferimento *Reference*	DUT	Dmax (Pa)	Accett. *Accept.*	Emax (%)
1	1000,6	1000	0,6	1%fs ±10Pa	-0,06

TCR Tecora Pag.1 di 3 mod. R14/039 rev. 1

Temperature - *Temperature (°C)*

Campo di misura ingresso Termocoppie - Thermocouple input *Range* : 0 + 1200 °C
Campo di misura sonda Pt100 - Pt100 sensor *Range* : - 20 +80 °C

	Riferimento *Reference*	DUT	Dmax (°C)	Accett. *Accept.*	Emax (%)
TC Fumes	100	99,2	0,8	1%fs ±0.2 °C	-0,80
	600	600	0	1%fs ±0.2 °C	0,00
TC Aux1	100		0	1%fs ±0.2 °C	-100,00
	600		0	1%fs ±0.2 °C	-100,00
TC Aux2	100		0	1%fs ±0.2 °C	-100,00
	600		0	1%fs ±0.2 °C	-100,00
TC Probe	100		0	1%fs ±0.2 °C	-100,00
	600		0	1%fs ±0.2 °C	-100,00
TC Box	100		0	1%fs ±0.2 °C	-100,00
	600		0	1%fs ±0.2 °C	-100,00
DGM Pt100	27,1	26,9	0,2	1%fs ±0.2 °C	-0,74

Verifica misura del Volume - *Volume Measure Verifying*

Flusso di Taratura - *Reference Flow rate : 15 l/min [4 mc/h pump] - 30 l/min [8mc/h pump]*
Ref DGM Volume riferimento alle condizioni attuali - *Reference volume @ actual condition*
G4 Volume Volume attuale indicato dallo strumento - *Instrument volume reading @ actual condition*

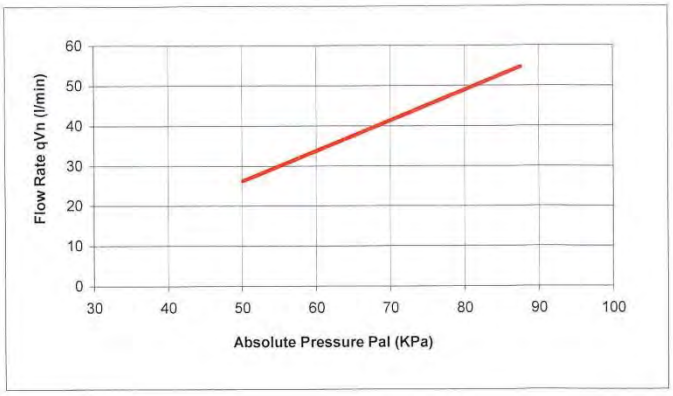
Ref DGM ini	Ref DGM fin	Ref DGM corr.	Ref Volume (@actual)	DUT (@actual)	Dmax (l)	Emax (%)	Accett. *Accept.*
257986	258426	0,996	438,24	436,877	-1,4	-0,31	± 2 %

Misura Portata - Flow rate measure

Flusso di Taratura - Reference Flow rate : 15 - 30 l/min [4 mc/h pump] ; 30 - 40 l/min [8 mc/h pump]

Point	Riferimento *Reference*	DUT	Dmax (l/min)	Accett. *Accept.*	Emax (%)
1	15,3	15,2	0,1	±2 %	-0,65
2	30,2	30	0,2	±2 %	-0,66

Curva caratteristica Pompa - *Pump performance curve*



Pal (KPa)	qVn (l/min)
87,5	54,6
50,1	26,23

Data - *Date :* 20/05/2015 Eseguito da - *Tested by:* Paolo Della Monica

TCR Tecora Pag.2 di 3 mod. R14/039 rev. 1

ECOM J2KN PRO GAS ANALYSER

WIR PRODUZIEREN LEBENSQUALITÄT!
WE PRODUCE QUALITY OF LIFE!

rbr

Datenblatt Abschlusskalibrierung

Data sheet final calibration/ Fiche technique d` étalonnage

Geräte-Typ	Geräte-Nr.	Auftrags-Nr	Datum
type/ type	ser. nr./ no série	order nr/ cde. no.	date/ date
J2KNK	8839	227827	20.04.15

Abgleichtabelle/ alignment table/ Tableau d´étalonnage

Messgröße parameter paramètre	Messbereich range plage	Dim. dim. unité	Auflösg.1) resolution résolution	Toleranz 2) tolerance tolérance	Abgleichwert 3) alignm. val. val. étalon	Bemerkungen remarks remarques
1.) Gasabgleich gas calibr./étonnage gaz		**Prüfmittel:** Prüfgas; Westfalen AG Münster control mean/ moyen de controle				Charge: Haltbark. durability/ conservation
O2	21	vol-%	0,1	0,3 (total)	21,0	Referenz-Frischluft
CO	4000 (10000)	ppm	1	5	404	502757746-11/16
CO/H2	4000 (10000)	ppm	-	-	403/390	502679862-04/16
CO	6,3	vol-%	0,1	5	3,09	502949928-01/16
NO	5000	ppm	1	5	88	502578380-01/16
NO2	1000	ppm	1	5	83	502987281-07/15
SO2	5000	ppm	1	5	620	503248020-02/16
CxHy	4	vol-%	1	5	2,46	502699457-11/15
H2S	500 (1000)	ppm	1	5		
NH3	1000	ppm	1	5		
CO2	20	vol-%	0,1	5	12,00	502257548-10/15
HCL	100	ppm	1	5		
2.) Temp-abgleich temp. calibr/étal. temp.		**Prüfmittel:** Microcal 0; EUROTRON control mean/ moyen de controle				elektrischer Abgleich electr. cal./étal électr.
T-1	500 (1100)	°C	1	1	50/222	NiCr/Ni
T-2	99	°C	1	2	25,7	PT 2000
T-3	99	°C	1	1		
3.) Zugabgleich draught cal./étal. tirage		**Prüfmittel:** DP200D; NECOTEC control mean/ moyen de controle				Umgebungsdruck sur. air/ air ambiant
Zug	+/- 100	hPa	0,01	2	2,00	
4.) Rußabgleich smoke cal./ étal. suie		**Prüfmittel:** Acrylglaszylinder 1,63 Liter control mean/ moyen de controle				Strömungswiderstand 50 Pa flow resistor/résist. courant
Ruß	1,63	Ltr.	-	-	t<1min.	

1) in [Dim.]/in [dim.]/[unité]
2) zul. Abw. in [%] bez. auf Messwert/ tol. rel. to meas. val/tol. réfère à val.mes.
3) Abgleichwert = Einstellwert/ cal. val. = adj. val./val. étal. = val. ajusté

Prüf-/Servicestelle:
Inspection made by
Controle effectué par

(Stempel)/(stamp)/(tampon)

Prüfender:
Inspector
Technicien

Nächste Überprüfung notwendig bis (Monat/Jahr):
Next check necessary until/ Prochain controle á effectuer avant 24.04.16

Bemerkungen:
remarks/ remarques

rbr Messtechnik GmbH · Am Großen Teich · D-58640 Iserlohn · Telefon +49(0)2371/945-5 · Fax +49(0)2371/ 40305

rbr

ENDKONTROLLE/FINAL CHECK ABGASANALYSEGERÄT/FLUE GAS ANALYSIS

Gerätetyp/Model – Geräte-Nr./Serial no:	32112-8839

ERSTER TAG / FIRST DAY:

I. Einstellungen überprüfen / Adjustment check

- [x] Fehlermeldung T-Gas überprüfen / Check error message T-Gas
- [x] Fehlermeldung T-Raum überprüfen / Check error message T-Room
- [ ] Fehlermeldung Kondensatabscheider überprüfen / Check error message Condensation trap
- [x] Fehlermeldung Peltierkühler überprüfen / Check error message Peltier cooler
- [x] Einheit auf ppm / Unit set on ppm
- [x] Datum und Uhrzeit einstellen / Set date and time
- [x] Papiereinzug auf Funktion prüfen / Check Paper feed function
- [x] Bezugs-O_2 auf 0,0% einstellen / Set O_2 ref. on 0,0%
- [x] Einstellung Luftdruck ca. 1000 hPa überprüfen / Check air pressure on approx. 1000 hPa
- [x] Tastenpieps auf „ja" / Key beep set on "yes"
- [x] Sondenheizung auf „ja" / Probe heating set on "yes"
- [x] Sprache auswählen und kontrollieren / Language selection and check
- [x] Druckkontrast einstellen / Set printing contrast
- [x] Nachladefunktion auf „ja" / Recharging function set on "yes"
- [x] Matrix kontrollieren / Check matrix
- [x] Analogewerte prüfen / Check analogue values
- [x] Pumpenausschaltung bei Kondensat überprüfen / Check Pump switch-off by condensate
- [x] Peristaltikpumpe überprüfen / Check peristaltic pump
- [x] Pitot Faktor einstellen (0,93) / Set pitot value (0,93)

II. Kalibrieren / Calibration

- [x] T-Gas kalibrieren / Calibrate T-Gas
- [ ] T-Raum kalibrieren / Calibrate T-Room
- [x] Verbindung Basis-Bedieneinheit mit Datenkabel prüfen / Check connection basic-control module with data cable
- [x] Einstellung auf PT 2000 Bedieneinheit / Adjustment to PT 2000 control module
- [x] Einstellung auf PT 2000 Basiseinheit / Adjustment to PT 2000 basic module
- [x] T-Sensor intern kalibrieren / Internal T-sensor calibration
- [x] Dichtprüfung t > 30 sek (CH 60 sek) / Leakage test t > 30 sec (CH 60 sec)
- [x] Rußmessung kalibrieren / Calibrate soot meas. (with probe)
- [x] interner Flow kalibrieren / Calibrate internal flow
- [x] Zugsensor kalibrieren (mit Sonde) / Calibrate draught meas. (with probe)
- [x] WLAN überprüfen / Check WLAN
- [ ] Bluetooth überprüfen / Check Bluetooth
- [ ] 4Pa-Messung kalibrieren / Calibrate 4Pa measurement
- [ ] Heizungs-Check überprüfen / Calibrate Heating check

III. Sonde prüfen / Probe check

- [x] Positiven Temperaturverlauf prüfen / Check positive temperature course
- [x] Zugkontrolle / Draught check
- [x] Sitz des Thermoelementes prüfen / Check thermocouple fitting
- [x] CO Frischluftspülung überprüfen / Check CO fresh air purging

IV. Abgleich der Sensoren / Calibrate sensors

- [x] O_2/CO [x] CO/H_2 [x] NO [x] NO_2
- [x] SO_2 [ ] CO% [ ] CxHy [ ] ____ [ ] ____

V. Abgleich der IR Bank / Calibrate IR bench

- [x] CO_2 [ ] C_xH_y [x] CO% [x] CH_4

ZWEITER TAG / SECOND DAY:

I. Überprüfen / Check

- [x] MMC-Karte / MM card
- [x] Funkverbindung Basis-Bedienteil prüfen / Check radio connection basic-control module
- [x] Überprüfen der Sensoren / Sensors check
- [x] Versandliste prüfen / Check shipment note
- [x] Protokollausdruck kontrollieren / Check protocol printout
- [x] Akku-Laufzeit überprüfen / Battery performance check
- [x] Betriebsstundenzähler auf Null setzen / Zero operation hours counter

SONSTIGES / OTHERS:

Kontrolleur/Inspector	Datum/Date: 20.04.15	Unterschrift/Signature

rbr Messtechnik Gmbh - Am Grossen Teich 2 - D-58640 Iserlohn - Tel.: +49 23 71-94 55 - Fax: +49 23 71-40 305 - info@rbr.de
Gesellschaft mit beschränkter Haftung - Registergericht Iserlohn HRB 967 - Geschäftsführer Frank Binz, Jennifer Binz

RADWAG BALANCE

RADWAG WAGI ELEKTRONICZNE
WITOLD LEWANDOWSKI
POLAND, 26-600 Radom, 28 Bracka Street
tel. 048/384 88 00 · fax 048/385 00 10
e-mail: radom@radwag.pl · http://www.radwag.pl

CONFORMITY DECLARATION

Manufacturer : **RADWAG WAGI ELEKTRONICZNE**
Witold Lewandowski

Address: POLAND, 26-600 Radom, 28 Bracka Street

Non-automatic balances series: AS xxx.R2 ; AS xxx.R1

We hereby declare in sole responsibility, that the designated product, marked with CE sign, fulfils the safety requirements of the European Directives:

Directive 2004/108/EC
Harmonized norms:
EN 61326-1:2006

Directive 2006/95/EC
Harmonized norms:
EN 61010-1:2010

Additionally, balances with the following symbols adjacent to CE sign,

- two last digits of the year, when CE sign was inserted and the number of notified body supervising over quality control system of the manufacturer
- green, square sticker with a black letter M

are conformable with the Type Approval Certificate EC no. TCM 128/13-5095 and with:

Directive 2009/23/EC
Harmonized norms:
EN 45501:1992/AC:1993

Additional information:
Type Approval Certificate EC no. TCM 128/13-5095 issued by
Notified Body no. 1383 ČESKÝ METROLOGICKÝ INSTITUT

With the authorisation of:
The Managing Director of RADWAG WAGI ELEKTRONICZNE – Dr. Eng Witold Lewandowski

Radom 02.10.2013	*Attorney for QMS Jacek Pilecki*	
.....	.....	.....
Place and date of issue	*Position, Name*	*Signature*

54/1/13/UK

Q.C. TEST REPORT

RADWAG WAGI ELEKTRONICZNE

Bracka 28, 26-600 Radom, Polska
www.radwag.pl

Certificate number	448618
Date of issue	20.12.2014

Product specification

Model	AS 220.R2	Max capacity [Max]	220 g
Serial number	448618	Readability [d]	0.1 mg
Software version	UEr r3.0.8	Verification interval [e]	1 mg
Product code			

Test ambient conditions

Temperature	23 °C	Date of test	20.12.2014
Humidity	43 %	Time	10:14
Pressure	999 hPa		

1/4

RADWAG

Quality Control Department
AS 220.R2 - 448618

REPEATABILITY

Repeatability is a degree of consistency, i.e. precision and compatibility of successive measurements performed for the same ambient conditions.
Repeatability is determined via standard deviation, which informs on how much values of a particular series of measurements differ from the mean value. The lower deviation, the smaller the difference and the better precision.

P.	Obciążenie (g)	SD (10)	Tolerance (g)
1.	100,0000	0,00003	0,00010
2.	200,0000	0,00009	0,00010
3.	0,0100	0,00007	0,00010

TEST RESULT:

The device meets the GMP requirements (SD10 ≤ T)

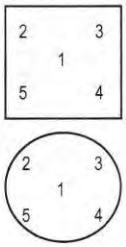
The result of repeatability tests is used for determining so called Minimum Capacity which specifies weighing range low limit (USP 41, 1251 requirements and recommendations)

ECCENTRICITY

Eccentricity deviation as a differential error of eccentricity means difference between indications obtained upon placing the load outside the very centre of a weighbridge and indications gained upon placing the load centrally.

For the tests, recommendations of OIML R76, in terms of mas standards positioning (2-5), are used; mass standards usually weigh more than 1/3 of Max.

P.	Obciążenie (g)	RESULT (Ri) (g)	Odchylenie (g)	Tolerance (g)
1.	100,0000	100,0001	X	0,0003
2.	100,0000	99,9999	-0,0002	
3.	100,0000	99,9998	-0,0003	
4.	100,0000	100,0000	-0,0001	
5.	100,0000	100,0001	0,0000	



TEST RESULT:

The device meets the GMP requirements (EECC ≤ T)

SENSITIVITY

One of the most important metrological parameters, it is a decisive factor as far as measuring accuracy of electronic weighing equipment is concerned.

Sensitivity is a quotient of the change of the observed variable (ΔR) and the corresponding change of the measured mass (Δm).
For a model electronic weighing equipment the sensitivity is 1.

1.	Number pattern	182/06
2.	Klasa wzorca (OIML R111)	E2
3.	Nominal mass	200 g
4.	Mass of standard (MW)	200,00006 g
5.	Uncertainty (U)	0,0001g
6.	Tolerance (T)	0,0002 g
7.	Weighing result (R)	200,0000 g

TEST RESULT:

The device meets the GMP requirements (MW-R ≤ T)

2/4

RADWAG®

Quality Control Department
AS 220.R2 - 448618

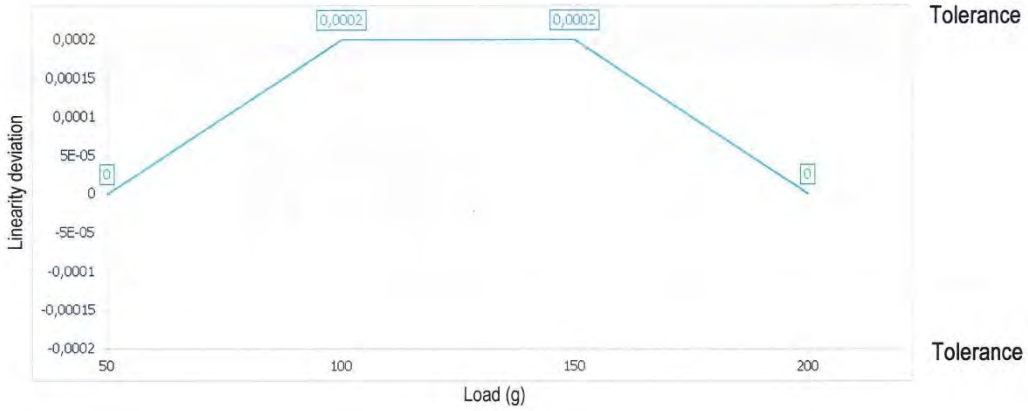
LINEARITY

Linearity is a deviation of a real characteristic curve from a straight line joining two points A-B, which describe a model balance equation.

For a model linearity, assumption that the same sample weighed with different initial loads should result in the same indication is true. The sample mass variations for different loads used are deviations of linearity.

P.	Obciążenie (g)	RESULT (Ri) (g)	Odchylenie (g)	Tolerance (g)
1.	50,0000	50,0000	0,0000	0,0002
2.	100,0000	100,0002	0,0002	0,0002
3.	150,0000	150,0002	0,0002	0,0002
4.	200,0000	200,0000	0,0000	0,0002

TEST RESULT:
The device meets the GMP requirements (Max δmLIN≤T)



Comment:
While testing linearity two different methods may be used. The choice of the right method depends on the value of a reading unit.
DIRECT METHOD (M-01)
The method involves direct comparison of each measurement result with mass of a mass standard placed on a weighing pan. Mass standard error together with uncertainty is smaller than the reading unit. (Δwz ≤ d)
BALLAST WEIGHT METHOD (M-02)
One precise mass standard and a right quantity of ballast weights are in use.

3/4

RADWAG

QUALITY SYSTEM

All procedures for the determination of metrological parameters for balances constitute part of our system of quality management ISO 9001:2008. For mass measurement control procedures, recommendations of OIML R-76, USP 41, USP 1251 and self-designed systems of tolerance for manufactured products are used.
This contributes to compliance of RADWAG weighing equipment with legal requirements of different countries and requirements of used quality systems.

AMBIENT CONDITIONS

Ambient conditions in RADWAG Quality Control department are adjusted and monitored by an automatic system of sensors installed on a measuring position.
The tests were carried out for optimal ambient conditions after specified warm-up time.

MASS STANDARDS

All used mass standards have valid calibration certificates issued by accredited Calibration Laboratory AP069.

Experimentally estimated deviations of repeatability, eccentricity, sensitivity, linearity are smaller than applicable tolerances. The balance complies with GMP RADWAG in terms of mass measurement.

Model	AS 220.R2
Serial number	448618

The device meets RADWAG GMP requirements for mass measurement.

20.12.2014

Manager of Quality Control Department
Jacek Pilecki

4/4

Appendix 13: Critical Review: Final Statement

Prof. Piet Vosloo
Pr LArch Pr CPM
BSc(Bouk) BArch ML PhD
Associate Professor
Department of Architecture
Building Science, Room 2-16
University of Pretoria, South Africa

Dr. Rainer Zah
Quantis Switzerland/Germany
Reitergasse 11
8004 Zürich
Schweiz

Zürich, 16th of December, 2016

Critical Review of the study „ LIFE CYCLE ASSESSMENT OF CLAY BRICK WALLING IN SOUTH AFRICA “: Technical Report 7A, dated from December 2016

Dear Prof. Vosloo,

this is my review of the above-mentioned report. Substantial improvements have been implemented after my initial review of the previous report and also my feedback on the final report has been widely integrated in this updated final Version from December 2016. This final version of the report is compliant with the ISO 14’044ff. standard for Life Cycle Assessment. The Report is extensively documented which allows the detailed analysis of the results. Part of the documentation is in confidential annexes, which have been disclosed to the reviewer in accordance to the ISO-standard.

Goal of the study
The reasons for carrying out the study, its intended applications and the target audience are clearly and extensively presented.

Scope of the study
The scope of the study comprising among others the definition of the functional unit, the system boundaries and the applied cut-off criteria, is adequately presented and all important information is given.

Inventory Analysis
The data collection procedures are described in detail. Literature citations follow scientific standards. All modelling assumptions are described in sufficient details. Parts of the inventory data were confidential. However, the reviewer could check and acknowledge the quality and availability of the inventory data in the confidential annexes.

Life Cycle Impact Assessment Results

The study presents a lot of different LCA results, which makes the interpretation quite complex. Nevertheless, all the results are based on scientifically and technically valid methods. As the goal of the study is an analysis of the different kiln technologies, the results are compliant with this goal.
A weak point of the study is that it considers different fuel types for drying bricks in the different value chains. It is therefore difficult to compare the environmental performance of the different kilns, as kiln efficiency is mixed with different emissions caused by different fuel types in the results. However, the fuel-kiln combinations reflect the real-world situation and the results are documented and scientifically correct.

Discussion of the results
The concrete analysis and discussion of the findings is rather short in relation to the very substantial presentation of results. Nevertheless, the discussion of the results is sound and summarizes the key findings adequately.

Overall, I found no critical issues in this report. It is an impressive piece of LCA work and it represents the standard for measuring environmental impacts of clay brick production in South Africa. I can state that it fulfils the ISO 14'044ff standard.

With best regards

Rainer Zah
Managing Director Switzerland/Germany
Quantis International

Quantis Switzerland/Germany, Reitergasse 11, 8004 Zürich (Switzerland) TEL +41 (0) 445 52 08 39
info.schweiz@quantis-intl.com- www.quantis-intl.com