

Aluminum LCI Dataset

Functional unit: 1000 kg primary aluminum ingot

1 Material Inputs		Unit
Main material inputs		
Bauxite rich soil	6.31E+03	kg
Explosives	3.50E-01	kg
Lube oil	1.25E+02	kg
Caustic Soda	1.42E+02	kg
Lime	8.10E+01	kg
Filter media	2.00E+00	kg
Aluminum fluoride	2.00E+01	kg
Cathode carbon	6.00E+00	kg
Calcined coke	3.33E+02	kg
Pitch	1.08E+02	kg
Alloying additives	1.50E+01	kg
Grain refiners	1.70E+00	kg
Treatment gases	1.40E-01	kg
Treatment salts	7.00E-01	kg
Packaging	2.00E-03	kg
Water treatment chemicals	1.00E-01	kg
Land use	4.00E+00	m ²
Primary ancillary materials		

2 Energy		Unit
Total	1.40E+05	MJ
Process Nonelectric	5.04E+04	MJ
Process Electric	6.30E+04	MJ
Transportation	4.83E+03	MJ
Feedstock	2.20E+04	MJ
Non-Fossil Energy	5.94E+04	MJ
Fossil Energy	8.08E+04	MJ
Coal	3.03E+03	MJ
Petroleum	2.42E+04	MJ
Natural gas	3.06E+04	MJ
Nuclear	1.06E+03	MJ
Other		
Feedstock	2.20E+04	MJ

3 Water Use		Unit
Total water	1.09E+04	L
Fuel related water	3.50E+01	L
Process related water	1.09E+04	L

4 Emissions to Air		Unit
Carbon dioxide	5.15E+03	kg
CO2 fossil fuel		
CO2 biomass		
Carbon monoxide	2.19E+01	kg
Sulphur oxides (reported as SO2)	4.76E+01	kg
Nitrogen oxides (reported as NO2)	1.73E+01	kg
Methane	6.53E+00	kg
Dust & particles (includes metals) (1)	1.00E+01	kg
Acid gases	8.10E-01	kg
NMHC (non-methane hydrocarbons)	1.24E+00	kg
VOC		
Hydrocarbons (unspecified)		
Nitrogen		
Other organic compounds		
Other		

5 Emissions to Water		Unit
Phosphates and ammonia	1.80E-03	kg
Oils and greases	1.20E-01	kg
Suspended solids	1.62E+00	kg
Other organics	5.00E-02	kg
Other		
Hydrocarbons		
Metals		
Heavy Metals	1.00E-02	kg
Acids		
BOD	2.40E-01	kg
COD	1.72E+00	kg
Salinity		
Dissolved solids	1.73E+01	kg

6 Wastes		Unit
Total waste	3.96E+03	kg
Process related wastes	3.95E+03	kg
Municipal wastes	1.20E+01	kg

Emissions to Land		
RCRA D		
RCRA C		
Emissions to Deepwell		
RCRA D		
RCRA C		

Footnotes

(1) Total of Particulate Matter and Lead.