

Lead, dross

Substance Name:	Substance Information Page: https://echa.europa.eu/registration-dossier/-/registered-dossier/15320	Legend Decisive substance sameness criterion Indicative substance sameness criterion No substance sameness criterion
Substance description:	(No EC description available)	
SIEF description:	Lead, dross is a solid mass which forms on top of molten lead during the refining process. Lead dross consists of variable amounts of lead, copper, zinc, tin, antimony and other metals in either alloy form or as compounds such as oxides, sulphides and sulphates.	

Substance Identity	EC/list name:	Lead, dross	SMILES:	not applicable
	IUPAC name:		InChI:	not applicable
	Other names:		Type of substance:	UVCB
	EC/List no.:	273-796-2	origin:	Inorganic
	CAS no.:	69029-52-3	Substance listed:	
	Molecular formula:	not applicable		

SID parameters	Sameness criteria	Indication of variability (fixed, low or high variation)
Sources (input materials)	(Rough) Lead bullion, made from primary and/or secondary sources, including intermediates and soft lead scrap.	medium
Process	Production: molten feed is agitated (stirred) in kettles and cooled successively to ~450C and ~340C in air. Constituents with low solubility in molten lead precipitate to form a solid, oxidic top layer known as 'lead, dross'.	low
	Separation: skimming	Fixed
	Post-treatment: skimmed lead dross is processed in a furnace for the recovery of non-lead mineral values, or is recycled on-site for the recovery of values including lead	medium

Elemental composition	Core	min (% w/w)	max (% w/w)	Typical (%w/w)	
	Lead	Minimum 5% Pb		98.2	high
	Copper	0	20	20	low
	Antimony	0	49	12.5	medium
	Zinc	0	43	35	medium
	Sulphur	0	27	6.3	low
	Tin	0	45	12.5	medium
	Iron	0	14	8.4	low
	Bismuth	0	20	5.1	low
	Silicon	0	1.5	0.9	low
	Calcium	0	12.5	3.9	low
	Aluminium	0	3	2.14	low
	Magnesium	0	28	8.8	low
	Cobalt	0	0.01	0.01	low
	Arsenic	0	15	10	low
	Cadmium	0	10	5	low
	Nickel	0	10	5	low
	Silver	0	10	5.9	low
	Selenium	0	0.15	0.05	low
	Tellurium	0	15	7.5	low
	Chromium	0	0.2	0.11	low
	Manganese	0	13	12.4	low
	Potassium	0	8	7.35	low
	Sodium	0	25	9.25	low
	Other constituents				
	Sum=			98.2	

Mineralogical composition				
	Lead oxides	5	50	25
	Metallic lead	5	25	15
	Antimony oxides	0	25	10
	Tin oxides	0	25	10
	Zinc oxides	0	20	1
	Lead sulphides	0	50	10
	Sum=			40

Physical characteristics	physical state (at 20°C, 1013 hPa)	Solid; coarse; granular or particulate form	low
	colour	variable; typically light grey to black; may be yellow to light red	high

Conclusion 'Lead, dross' is a solid in granular or particulate form. It is produced by chemical reactions during the cooling of molten lead bullion in air in kettles and skimming the resultant precipitate surface layer. 'Lead, dross' is composed primarily of lead oxides and may contain significant levels of oxides of antimony, tin, zinc and copper, as well as metal sulphides and/or some elements in metallic form.