

# Speiss, lead - General Grade

Substance Name: <b>Speiss, lead</b>	Substance Information Page: <a href="https://echa.europa.eu/registration-dossier/-/registered-dossier/13723">https://echa.europa.eu/registration-dossier/-/registered-dossier/13723</a>	<b>Legend</b>	Decisive substance sameness criterion
Substance description:	Substance resulting from the smelting of lead and its alloys obtained from primary and secondary sources and including recycled plant intermediates. Composed primarily of arsenic, lead and iron and may contain other residual non-ferrous metals and their compounds.		Indicative substance sameness criterion
Original SIEF description:	Speiss, lead is a solid, initially formed as a liquid phase in some lead smelting operations. Speiss, lead may contain copper, arsenic and other metals in the form alloys, sulphides and other compounds.		No substance sameness criterion

<b>Substance Identity</b>	EC/list name:	Speiss, lead	SMILES:	not applicable
	IUPAC name:		InChI:	not applicable
	Other names:		Type of substance:	UVCB
	EC/List no.:	282-366-3	origin:	Inorganic
	CAS no.:	84195-61-9	Substance listed:	
	Molecular formula:	not applicable		

SID parameters	Sameness criteria	Indication of variability (fixed, low or high variation)
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<b>Sources (input materials)</b>	Lead-bearing materials from primary and/or secondary sources, including intermediates. Additives (usually calcium oxide) and reductants (usually coke) may also be used.	Medium
<b>Process</b>	Produced during smelting of lead-containing materials under reducing conditions. Production methods are described in Section 5.1 of the NFM BREF. The molten material forms up to four layers form: 'speiss', 'matte', 'slags, lead smelting' and 'lead, bullion'. The 'lead, speiss' layer is formed above the molten lead and slag layers. 'Speiss, lead' can also be formed as a separate phase to 'matte, lead' as a frozen layer from cooled molten 'lead, bullion'.	Low
	Separation: Tapping	Fixed
	Post-treatment: 'Speiss, lead' can be recycled through the lead smelter or be sent for processing in a copper smelter if there is sufficient Cu present for recover.	Medium

Elemental composition	Core	min (% w/w)	max (% w/w)	Typical (%w/w)	
	Lead	1	65	38.80	Medium
	Iron	0	60	6.55	Medium
	Arsenic	0	40	12.50	Medium
	Antimony	0	20	17.30	Low
	Copper	5	60	53.30	Medium
	Sulphur	0	15	11.20	Low
	Nickel	0	21	12.40	Low
	Tin	0	15	11.20	Low
	Aluminium	0	12	0.50	Low
	Silver	0	10	3.64	Low
	Zinc	0	5	1.50	Low
	Sodium	0	4	1.10	Low
	Bismuth	0	3	0.33	Low
	Silicon	0	3	0.78	Low
	Magnesium	0	1.5	0.10	Low
	Cobalt	0	1	0.56	Low
	Selenium	0	1	0.16	Low
	Tellurium	0	1	0.23	Low
	Calcium	0	0.3	0.30	Low
	Cadmium	0	0.2	0.18	Low
	Potassium	0	0.05	0.05	Low
	Other constituents			0.10	Low
	<b>Sum=</b>			<b>172.78</b>	

<b>Mineralogical composition</b>	Arsenides/intermetallic and/or alloyed As	50	100	
	Metallic lead	30	100	
	Antimonides/intermetallic and/or alloyed Sb	30	100	

<b>Physical characteristics</b>	physical state (at 20°C, 1013 hPa)	Solid
	colour	Black-grey

**Conclusion** Speiss, lead' is a solid at 20°C, 1013 hPa, initially formed as a molten metal arsenide, produced during smelting of lead-containing materials under reducing conditions and removed by tapping. 'Speiss, lead' is composed primarily of metal arsenides and metallic lead, and may contain antimonides. It may also contain copper and other elements in (inter)metallic and/or sulphidic forms.