

Substance Name: Lead alloy, base, Sn, Pb, dross	Substance Information Page: http://echa.europa.eu/registration-dossier/-/registered-dossier/15040	Legend	Decisive substance sameness criterion
Substance description:	Oxides formed during melting, refining, and casting of solders. Major constituents are oxides of tin, lead and antimony; minor constituents are iron, nickel, sulfur, arsenic, copper and silver.		Indicative substance sameness criterion
Original SIEF description:	Lead alloy, base, Sn, Pb dross is formed on the surface of molten metal in the production of lead-tin based alloys (casting solders). Lead alloy, base, Sn, Pb, dross consists of variable amounts of lead, tin, sodium, copper and other metals in either alloy form or as compounds such as oxides and silicates.		No substance sameness criterion

Substance Identity	EC/list name:	Lead alloy, base, Sn, Pb, dross	SMILES:	not applicable
	IUPAC name:		InChI:	not applicable
	Other names:		Type of substance:	UVCB
	EC/List no.:	273-701-4	origin:	Inorganic
	CAS no.:	69011-60-5	Substance listed	
	Molecular formula:	not applicable		

SID parameters	Sameness criteria	Indication of variability (fixed, low or high variation)
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Sources (input materials)	Lead- and tin-bearing materials, from primary sources and/or the recycling of lead-containing materials including scrap used to produce lead-tin alloys.	low
Process	The substance is formed due to oxidation at the surface of the molten metal during the production of lead-tin alloys (casting solders) at elevated temperatures in kettles, during use of those alloys in solder baths (200-300°C) and solder wires. It may also be produced in lead bullion refining processes using oxygen or sodium hydroxide.	medium
	Separation: skimming	fixed

Elemental composition	Core	min (% w/w)	max (% w/w)	Typical (%w/w)	
	Lead	Min 0.5		85	high
	Tin	Min 2		60	high
	Copper	0	62	39.2	medium
	Silicon	0	30	15.9	medium
	Sodium	0	20	17.2	low
	Antimony	0	30	15	low
	Aluminium	0	10	0.16	low
	Zinc	0	10	5	low
	Iron	0	10	5.3	low
	Sulphur	0	10	0.6	low
	Arsenic	0	1	0.4	low
	Cadmium	0	5	0.1	low
	Nickel	0	14	8.3	low
	Silver	0	10	5	low
	Bismuth	0	0.5	0.14	low
	Tellurium	0	0.1	0.01	low

Mineralogical composition	Sum=				
	Oxides of tin	5	60	40	medium
	Oxides of lead	10	85	50	medium
	Metallic lead	10	30	25	medium
	Metallic tin	10	50	40	medium
	Other base metals as silicates, oxides, sulphides, or in metallic form	5	30	15	

Physical characteristics	physical state (at 20°C, 1013 hPa)	Solid; granular or particulate form
	colour	grey-brown

Conclusion Lead alloy, base, Sn, Pb, dross' is a solid in granular or particulate form. It is produced by skimming the precipitate surface layer formed during the production and/or use of lead-tin alloys under oxidising conditions. 'Lead alloy, base, Sn, Pb, dross' is composed primarily of lead and tin in oxide and/or metallic form, and may contain amounts of sodium, copper and antimony in oxide, silicate, sulphide and/or metallic forms.