



**Grade name:** Flue dust, lead refining (general grade)

**Substance:** Flue dust, lead refining

**EC Number:** 273-809-1

**CAS Number:** 69029-67-0

**Substance Type:** UVCB

**Degree of purity:** 100 % (w/w)

**Description of Product:** Flue dust, lead-refining is a solid in powder form at 20°C, 1013 hPa. It is the dust residue recovered from exhaust gas streams from smelting and refining of lead-bearing materials. It is collected in bag filters or electrostatic precipitators and recycled on-site or externally. Flue dust, lead-refining is composed primarily of metallic lead and variable amounts of lead, copper, zinc, tin, cadmium, antimony in either alloy form or compounds such as oxides, sulphides, sulphates and/or chlorides.

**Composition:**

Constituents	Typical concentration	Concentration range	Remarks
Lead EC no.: 231-100-4	<= 53.3 % (w/w)	Min. 10% (w/w)	Refers to % element. In general Pb is mainly present in the form of compounds such as sulphates (e.g. PbSO <sub>4</sub> ), oxides (e.g. PbSbO, PbZnO), silicates (e.g. PbSi <sub>2</sub> O <sub>5</sub> *H <sub>2</sub> O) and/or chlorides (PbCl <sub>2</sub> ). Sometimes Pb may also be present in the metallic form. A minimum 10% is a decisive criterion for substance ID.
Copper EC no.: 231-159-6	<= 10 % (w/w)	>= 0 — <= 20 % (w/w)	Refers to % element. Cu is assumed to be present in the form of compounds such as oxides or sulphates.
Zinc EC no.: 231-175-3	<= 39 % (w/w)	>= 0 — <= 40 % (w/w)	Refers to % element. Zinc is generally present in the form of compounds such as oxides (e.g. ZnO, PbZnO), sulphates (e.g. Na(Zn,Fe) <sub>3</sub> (SO <sub>4</sub> ) <sub>2</sub> (OH) <sub>6</sub> ) and silicates (e.g. (Zn,Na)Si <sub>2</sub> O <sub>5</sub> *H <sub>2</sub> O).
Cadmium EC no.: 231-152-8	<= 2 % (w/w)	>= 0 — <= 16.9 % (w/w)	Refers to % element. Cd is assumed to be present in the form of compounds such as oxides or sulphates.
Iron EC no.: 231-096-4	<= 1.46 % (w/w)	>= 0 — <= 7.7 % (w/w)	Refers to % element. Fe is generally present in the form of compounds such as oxides (e.g. Fe <sub>3</sub> O <sub>4</sub> ), silicates (e.g. Fe <sub>2</sub> SiO <sub>4</sub> ).

Constituents	Typical concentration	Concentration range	Remarks
			and/or sulphates (e.g. $\text{Na}(\text{Zn},\text{Fe})_3(\text{SO}_4)_2(\text{OH})_6$ ).
Nickel EC no.: 231-111-4	$\leq 0.1 \%$ (w/w)	$\geq 0 - \leq 0.7 \%$ (w/w)	Refers to % element. Ni is assumed to be present in the form of compounds such as oxides or sulphates.
Silver EC no.: 231-131-3	$\leq 5 \%$ (w/w)	$\geq 0 - \leq 10 \%$ (w/w)	Refers to % element. Ag is assumed to be present in the compounds form such as oxides or sulphates.
Antimony EC no.: 231-146-5	$\leq 45 \%$ (w/w)	$\geq 0 - \leq 20 \%$ (w/w)	Refers to % element. Sb is generally present in the oxide form (e.g. $\text{PbSbO}$ ).
Arsenic EC no.: 231-148-6	$\leq 1.37 \%$ (w/w)	$\geq 0 - \leq 11.7 \%$ (w/w)	Refers to % element. As is assumed to be present in the oxide form.
Bismuth EC no.: 231-177-4	$\leq 0.9 \%$ (w/w)	$\geq 0 - \leq 3.6 \%$ (w/w)	Refers to % element. Bi is assumed to be present in the compounds form such as oxides or sulphates.
Tin EC no.: 231-141-8	$\leq 3.8 \%$ (w/w)	$\geq 0 - \leq 12.5 \%$ (w/w)	Refers to % element. Sn is generally present in the oxide form (e.g. $\text{PbSnO}$ ).
Selenium EC no.: 231-957-4	$\leq 1.5 \%$ (w/w)	$\geq 0 - \leq 15.6 \%$ (w/w)	Refers to % element. Se is assumed to be present in the compounds form such as oxides or sulphates.
Tellurium EC no.: 236-813-4	$\leq 0.72 \%$ (w/w)	$\geq 0 - \leq 11.7 \%$ (w/w)	Refers to % element. Te is assumed to be present in the compounds form such as oxides or sulphates.
Aluminium EC no.: 231-072-3	$\leq 0.9 \%$ (w/w)	$\geq 0 - \leq 5.5 \%$ (w/w)	Refers to % element. Al is generally present in the form of compounds such as silicates.
Chromium EC no.: 231-157-5	$\leq 0.02 \%$ (w/w)	$\geq 0 - \leq 2.9 \%$ (w/w)	Refers to % element. Cr is assumed to be present in the compounds form such as oxides or sulphates.
Manganese EC no.: 231-105-1	$\leq 0.1 \%$ (w/w)	$\geq 0 - \leq 0.5 \%$ (w/w)	Refers to % element. Mn is assumed to be present in the compounds form such as oxides.
Silicon EC no.: 231-130-8	$\leq 8.5 \%$ (w/w)	$\geq 0 - \leq 33.2 \%$ (w/w)	Refers to % element. Si is generally present in the form of silicates (e.g. $\text{Fe}_2\text{SiO}_4$ ).
Sodium EC no.: 231-132-9	$\leq 5 \%$ (w/w)	$\geq 0 - \leq 15 \%$ (w/w)	Refers to % element. Na is generally present in the form of compounds such as sulphates (e.g. $\text{Na}(\text{Zn},\text{Fe})_3(\text{SO}_4)_2(\text{OH})_6$ ) or silicates (e.g. $(\text{Zn},\text{Na})\text{Si}_2\text{O}_5 \cdot \text{H}_2\text{O}$ ).
Potassium EC no.: 231-119-8	$\leq 1.01 \%$ (w/w)	$\geq 0 - \leq 7.48 \%$ (w/w)	Refers to % element. K is generally present in the form of compounds such as silicates.
Magnesium EC no.: 231-104-6	$\leq 0.4 \%$ (w/w)	$\geq 0 - \leq 1 \%$ (w/w)	Refers to % element. Mg is

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			assumed to be present in the form of compounds such as silicates.
Calcium EC no.: 231-179-5	<= 22 % (w/w)	>= 0 — <= 45 % (w/w)	Refers to % element. Ca is generally present in the form of compounds such as sulphates (e.g. CaSO <sub>4</sub> ).
Fluorine EC no.: 231-954-8	<= 0.16 % (w/w)	>= 0 — <= 0.36 % (w/w)	Refers to % element. F is assumed to be present in the form of compounds.
Chlorine EC no.: 231-959-5	<= 3 % (w/w)	>= 0 — <= 5.8 % (w/w)	Refers to % element. Cl is assumed to be present in the form of compounds.
Bromine EC no.: 231-778-1	<= 2.77 % (w/w)	>= 0 — <= 3.5 % (w/w)	Refers to % element. Br is assumed to be present in the form of compounds.
Sulfur EC no.: 231-722-6	<= 7.76 % (w/w)	>= 0 — <= 20 % (w/w)	Refers to % element. S is generally present in the form of sulphates (e.g. PbSO <sub>4</sub> ).

**Classification:****Industry self-classification according to Classification Labelling and Packaging Regulation EC 1272/2008:****CLP**

Acute Tox. 2; H300: Fatal if swallowed.

Acute Tox. 2; H330: Fatal if inhaled.

Skin Corr. 1B; ; H314: Causes severe skin burns and eye damage.

Eye Dam. 1; H318: Causes serious eye damage.

Skin Sens. 1B; H317: May cause an allergic skin reaction.

Resp. Sens. 1; H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Repr. 1A; H360FD: May damage fertility. May damage the unborn child.

Lact.; H362: May cause harm to breast-fed children

Muta. 1B; H340: May cause genetic defects.

Carc. 1A; H350: May cause cancer.

STOT Rep. Exp. 1; H372: Causes damage to organs through prolonged or repeated exposure.

Aquatic Acute 1; H400: Very toxic to aquatic life.

Aquatic Chronic 1; H410: Very toxic to aquatic life with long lasting effects.

**Labelling:**

Signal word: Danger

**Hazard pictograms:**

GHS05: Corrosion

GHS06: skull and  
crossbones

GHS08: health hazard

GHS09: environment



**Hazard statements:**

H300	Fatal if swallowed.
H330	Fatal if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
H362	May cause harm to breast-fed children
H372	Causes damage to central nervous system, blood and kidneys through prolonged or repeated exposure by inhalation or ingestion.
H410	Very toxic to aquatic life with long lasting effects.

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