



<b>Grade name:</b>	Flue dust, lead refining (general grade)
<b>Substance:</b>	Flue dust, lead refining
<b>EC Number:</b>	273-809-1
<b>CAS Number:</b>	69029-67-0
<b>Substance Type:</b>	UVCB
<b>Degree of purity:</b>	100 % (w/w)
<b>Description of Product:</b>	Flue dust lead refining is formed as a by-product from refining and smelting of lead containing materials. Flue dust lead refining consists of variable amounts of lead, copper, zinc, tin, cadmium, antimony and other metals in either alloy form or as compounds such as oxides, sulphides and sulphates.

**Composition:**

Constituents	Typical concentration	Concentration range	Remarks
Lead EC no.: 231-100-4	<= 77 % (w/w)	>= 0 — <= 90 % (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, PbCl <sub>2</sub> ), 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.
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	<= 5.44 % (w/w)	>= 0 — <= 20 % (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	<= 7.5 % (w/w)	>= 0 — <= 26 % (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> ) and/or sulphates (e.g. Na(Zn,Fe) <sub>3</sub> (SO <sub>4</sub> ) <sub>2</sub> (OH) <sub>6</sub> ).
Nickel EC no.: 231-111-4	<= 0.1 % (w/w)	>= 0 — <= 1 % (w/w)	Refers to % element. Ni is assumed to be present in the form of compounds such as

Constituents	Typical concentration	Concentration range	Remarks
			oxides or sulphates.
Silver EC no.: 231-131-3	<= 5 % (w/w)	>= 0 — <= 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	<= 4,07 % (w/w)	>= 0 — <= 9 % (w/w)	Refers to % element. Sb is generally present in the oxide form (e.g. PbSbO).
Arsenic EC no.: 231-148-6	<= 3.75 % (w/w)	>= 0 — <= 12 % (w/w)	Refers to % element. As is assumed to be present in the oxide form.
Bismuth EC no.: 231-177-4	<= 0.9 % (w/w)	>= 0 — <= 4 % (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	<= 15 % (w/w)	>= 0 — <= 50 % (w/w)	Refers to % element. Sn is generally present in the oxide form (e.g. PbSnO).
Selenium EC no.: 231-957-4	<= 2.3 % (w/w)	>= 0 — <= 16 % (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	<= 2.3 % (w/w)	>= 0 — <= 12 % (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	<= 0.9% (w/w)	>= 0 — <= 6 % (w/w)	Refers to % element. Te is assumed to be present in the compounds form such as oxides or sulphates.
Chromium EC no.: 231-157-5	<= 0.43 % (w/w)	>= 0 — <= 3 % (w/w)	Refers to % element. Cr is assumed to be present in the compounds form such as oxides or sulphates.
Molybdenum EC no.: 231-107-2	<= 0.1 % (w/w)	>= 0 — <= 0.2 % (w/w)	Refers to % element. Mo is assumed to be present in the compounds form such as oxides or sulphates.
Manganese EC no.: 231-105-1	<= 0.27 % (w/w)	>= 0 — <= 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	<= 16.2 % (w/w)	>= 0 — <= 34 % (w/w)	Refers to % element. Si is generally present in the form of silicates (e.g. Fe <sub>2</sub> SiO <sub>4</sub> ).
Sodium EC no.: 231-132-9	<= 7.2 % (w/w)	>= 0 — <= 15 % (w/w)	Refers to % element. Na is generally present in the form of compounds such as sulphates (e.g. Na(Zn,Fe) <sub>3</sub> (SO <sub>4</sub> ) <sub>2</sub> (OH) <sub>6</sub> ) or silicates (e.g. (Zn,Na)Si <sub>2</sub> O <sub>5</sub> *H <sub>2</sub> O).
Potassium EC no.: 231-119-8	<= 2.06 % (w/w)	>= 0 — <= 8 % (w/w)	Refers to % element. K is generally present in the form of compounds such as silicates.
Magnesium EC no.: 231-104-6	<= 0.6 % (w/w)	>= 0 — <= 3 % (w/w)	Refers to % element. Mg is

Constituents	Typical concentration	Concentration range	Remarks
			assumed to be present in the form of compounds such as silicates.
Calcium EC no.: 231-179-5	<= 22.22 % (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> ).
Barium EC no.: 231-149-1	<= 0.22 % (w/w)	>= 0 — <= 0.3 % (w/w)	Refers to % element. Ba is generally present in the form of oxides.
Fluor EC no.: 231-954-8	<= 0.2 % (w/w)	>= 0 — <= 0.4 % (w/w)	Refers to % element. F is assumed to be present in the form of compounds.
Chlorine EC no.: 231-959-5	<= 4.58 % (w/w)	>= 0 — <= 20 % (w/w)	Refers to % element. Cl is assumed to be present in the form of compounds.
Brome 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	<= 10.5 % (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:**

**Dangerous Substances Directive 67/548/EEC** - Not classified as hazardous.

**Classification Labelling and Packaging Regulation EC 1272/2008** - Not classified as hazardous.

**Industry classification proposals** - Industry proposes to classify flue dust, lead refining (general grade) to bring it into line with the latest scientific data and knowledge. The proposed classification will be:

**DSD**

T+; R26: Very toxic by inhalation.

T+; R28: Very toxic if swallowed.

T; R48/23/25: Toxic: danger of serious damage to health by prolonged exposure through inhalation, and if swallowed.

Xi; R41: Risk of serious damage to eyes.

Xi; R38: Irritating to skin.

R43: May cause sensitisation by skin contact.

Carc. Cat. 1; R45: May cause cancer.

Muta. Cat. 2; R46: May cause heritable genetic damage.

Repr. Cat. 1; R60: May impair fertility.

Repr. Cat. 1; R61: May cause harm to the unborn child.

N; R50/53: Dangerous for the environment; Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**CLP**

Acute Tox. 3; H301: Toxic if swallowed.

Acute Tox. 2; H330: Fatal if inhaled.

Skin Irrit. 2; H315: Causes skin irritation.  
Eye Dam. 1; H318: Causes serious eye damage.  
Skin Sens. 1; H317: May cause an allergic skin reaction.  
Repr. 1A; H360FD: May damage fertility. May damage the unborn child.  
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 Chronic 1; H410: Very toxic to aquatic life with long lasting effects.  
Aquatic Acute 1; H400: Very toxic to aquatic life.

**Labelling:**

Signal word: Danger

**Hazard pictograms:**

GHS05: Corrosion



GHS06: skull and crossbones



GHS08: health hazard



GHS09: environment



**Hazard statements:**

H301	Toxic if swallowed.
H330	Fatal if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H317	May cause an allergic skin reaction.
H340	May cause genetic defects.
H350	May cause cancer.
H360FD	May damage fertility. May damage the unborn child.
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.

**Disclaimer**

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