



<b>Grade name:</b>	Flue dust, lead refining (No skin irritating and sensitizing potential 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)	>= 40 — <= 80 % (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	<= 0.83 % (w/w)	>= 0 — <= 3 % (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	<= 7.5% (w/w)	>= 0 — <= 12 % (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	<= 0.55 % (w/w)	>= 0 — <= 1 % (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> ).
Silver EC no.: 231-131-3	<= 5 % (w/w)	>= 0 — <= 10 % (w/w)	Refers to % element. Ag is assumed to be present in the

Constituents	Typical concentration	Concentration range	Remarks
			compounds form such as oxides or sulphates.
Antimony EC no.: 231-146-5	<= 1.56 % (w/w)	>= 0 — <= 7 % (w/w)	Refers to % element. Sb is generally present in the oxide form (e.g. PbSbO).
Arsenic EC no.: 231-148-6	<= 0.28 % (w/w)	>= 0 — <= 1 % (w/w)	Refers to % element. As is assumed to be present in the oxide form.
Bismuth EC no.: 231-177-4	<= 0.01 % (w/w)	>= 0 — <= 1 % (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	<= 0.6 % (w/w)	>= 0 — <= 2 % (w/w)	Refers to % element. Sn is generally present in the oxide form (e.g. PbSnO).
Selenium EC no.: 231-957-4	<= 0.02 % (w/w)	>= 0 — <= 2 % (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. Al is generally present in the form of compounds such as silicates.
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 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

Constituents	Typical concentration	Concentration range	Remarks
			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	<= 3.11 % (w/w)	>= 0 — <= 7 % (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 flue dust, lead refining (no skin corrosion/irritating and sensitizing potential grade) to bring it into line with the latest scientific data and knowledge. The proposed classification will be:

**DSD**

Xn; R20/22: Harmful by inhalation and 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.

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. 4; H302: Harmful if swallowed.

Acute Tox. 4; H332: Harmful if inhaled.

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

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



GHS07: exclamation mark



GHS08: health hazard



GHS09: environment



**Hazard statements:**

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H340	May cause genetic defects
H360FD	May damage fertility. May damage the unborn child.
H350	May cause cancer.
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**

The statements and content supplied in this document are for information purposes only and do not constitute advice regarding legal or regulatory compliance. You are solely responsible for obtaining legal or regulatory advice necessary in making your own evaluation of any legal or regulatory requirements applicable to you or your company. The International Lead Association Europe and the Pb REACH Consortium do not make any representations or warranties in relation to the statements or content appearing in this document, including as regards their accuracy, completeness or timeliness. Neither the International Lead Association Europe nor the Pb REACH Consortium will be responsible for any loss or damage caused by or arising from reliance on the statements made or information contained in this document.