



<b>Grade name:</b>	Slimes and Sludges, battery scrap, antimony- and lead-rich (General grade)
<b>Substance:</b>	Slimes and Sludges, battery scrap, antimony- and lead-rich
<b>EC Number:</b>	310-061-8
<b>CAS Number:</b>	102110-60-1
<b>Substance Type:</b>	UVCB
<b>Degree of purity:</b>	100 % (w/w)
<b>Description of Product:</b>	Slimes and sludges battery scrap antimony and lead rich are made by aqueous alkaline leaching of the majority of the sulphate from the lead-containing material recovered from recycled lead-acid batteries. The lead is mainly present as carbonates.

**Composition:**

Constituents	Typical concentration	Concentration range	Remarks
Lead EC no.: 231-100-4	<= 75.2 % (w/w)	>= 0 — <= 85 % (w/w)	Refers to % element. In general Pb is mainly present in the form of lead carbonate (PbCO <sub>3</sub> , NaPb <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub> OH). Also other lead compounds such as oxides (PbO <sub>2</sub> , PbSb <sub>2</sub> O <sub>6</sub> ), sulphates (e.g. PbSO <sub>4</sub> ) and silicates (e.g. PbSi <sub>2</sub> O <sub>6</sub> ), and Pb in metallic form are present.
Cadmium EC no.: 231-152-8	<= 0.1 % (w/w)	>= 0 — <= 0.5 % (w/w)	Refers to % element. Cd is assumed to be present in the oxide form.
Sulfur EC no.: 231-722-6	<= 10.4 % (w/w)	>= 0 — <= 30 % (w/w)	Refers to % element. S is generally present in the form of sulphates (e.g. PbSO <sub>4</sub> ).
Zinc EC no.: 231-175-3	<= 1 % (w/w)	>= 0 — <= 7.5 % (w/w)	Refers to % element. Zn is assumed to be present in the oxide form.
Antimony EC no.: 231-146-5	<= 0.4 % (w/w)	>= 0 — <= 15 % (w/w)	Refers to % element. Sb is assumed to be present in the oxide form.
Arsenic EC no.: 231-148-6	<= 0.015 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. As is assumed to be present in the oxide form.
Bismuth EC no.: 231-177-4	<= 0.012 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. Bi is assumed to be present in the oxide form.
Tin EC no.: 231-141-8	<= 0.4 % (w/w)	>= 0 — <= 1.5 % (w/w)	Refers to % element. Sn is assumed to be present in the oxide form.
Tellurium	<= 0.02 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. Te is

Constituents	Typical concentration	Concentration range	Remarks
EC no.: 236-813-4			assumed to be present in the oxide form.
Manganese EC no.: 231-105-1	<= 0.1 % (w/w)	>= 0 — <= 1 % (w/w)	Refers to % element. Mn is generally present in the oxide form (e.g. MnO).
Silicon EC no.: 231-130-8	<= 0.83 % (w/w)	>= 0 — <= 1 % (w/w)	Refers to % element. Si is generally present in the form of silicates (e.g. PbSi <sub>2</sub> O <sub>6</sub> , NaCaSiO).
Sodium EC no.: 231-132-9	<= 1.29 % (w/w)	>= 0 — <= 12 % (w/w)	Refers to % element. Na is generally present in the form of compounds such as silicates (e.g. NaCaSiO) or carbonates (e.g. NaPb <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub> OH).
Calcium EC no.: 231-179-5	<= 15.7 % (w/w)	>= 0 — <= 21 % (w/w)	Refers to % element. Ca is generally present in the form of silicates (e.g. NaCaSiO).
Carbon EC no.: 231-153-3	<= 4 % (w/w)	>= 0 — <= 8 % (w/w)	Refers to % element. C is generally present in the form of carbonates (PbCO <sub>3</sub> , NaPb <sub>2</sub> (CO <sub>3</sub> ) <sub>2</sub> OH).
Magnesium EC no.: 231-104-6	<= 0.1 % (w/w)	>= 0 — <= 1 % (w/w)	Refers to % element. Mg is assumed to be present in the form of compounds such as silicates.
Nickel EC no.: 231-111-4	<= 0.01 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. Ni is assumed to be present in the oxide form.
Iron EC no.: 231-096-4	<= 0.15 % (w/w)	>= 0 — <= 0.2 % (w/w)	Refers to % element. Fe is assumed to be present in the oxide form.
Copper EC no.: 231-159-6	<= 0.008 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. Cu is assumed to be present in the oxide form.

**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 slimes and sludges, battery scrap, antimony- and lead-rich (general 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.

Carc. Cat. 2; R45: May cause cancer.

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.

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

Carc. 1B; 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 category 1; H400: Very toxic to aquatic life.

**Labelling:**

Signal word: Danger

**Hazard pictograms:**

GHS07: exclamation mark



GHS08: health hazard



GHS09: environment



**Hazard statements:**

H302 Harmful if swallowed.

H332 Harmful if inhaled.

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.

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