



Name:	Slags, lead reverbratory smelting (Boundary Composition)
Substance:	Slags, lead reverbratory smelting
EC Number:	273-800-2
CAS Number:	69029-58-9
Substance Type:	UVCB
Degree of purity:	100 % (w/w)
SIP description:	Slags, lead reverbratory smelting is a solid in granular form. It is from oxidising smelting processes applied on primary and secondary lead-containing feeds. Slags, lead reverbratory smelting is composed primarily of lead silicates and iron oxides.

Composition:

Constituents	Typical concentration	Concentration range	Remarks
Lead EC no.: 231-100-4	≤ 29.3 % (w/w)	≥ 15 — ≤ 70 % (w/w)	Refers to % element. Pb is generally present in the compound form such as sulphates (e.g. $K_2Pb(SO_4)_2$, $PbFe_6(SO_4)_4(OH)_{12}$), silicates (e.g. Pb_2SiO_4), sulphides (e.g. $(Sn,Pb)_S$) and oxides (e.g. PbO).
Silicon EC no.: 231-130-8	≤ 19.3 % (w/w)	≥ 2 — ≤ 26 % (w/w)	Refers to % element. Si is generally present in the silicate form (e.g. $KAlSiO_4 \cdot H_2O$, Pb_2SiO_4 , $CaSiO$).
Iron EC no.: 231-096-4	≤ 11.8 % (w/w)	≥ 2 — ≤ 25 % (w/w)	Refers to % element. Fe is generally present in the form of compounds such as oxides (e.g. Fe_3O_4 , $FeZnNiO$, $FeCrZnO$) and/or sulphates (e.g. $PbFe_6(SO_4)_4(OH)_{12}$) and sulphides (e.g. FeS , $CuFeS_2$, Cu_5FeS_4).
Calcium EC no.: 231-179-5	≤ 7.4 % (w/w)	≥ 0 — ≤ 25 % (w/w)	Refers to % element. Ca is generally present in the form of compounds such as sulphates (e.g. $CaSO_4 \cdot H_2O$), carbonates (e.g. $CaCO_3$) and silicates (e.g. $CaSiO$).
Aluminium EC no.: 231-072-3	≤ 4.6 % (w/w)	≥ 0 — ≤ 8 % (w/w)	Refers to % element. Al is generally present in the silicate form (e.g. $KAlSiO_4 \cdot H_2O$).
Copper EC no.: 231-159-6	≤ 7.0 % (w/w)	≥ 0 — ≤ 14 % (w/w)	Refers to % element. In general Cu is mainly present in the sulphide form (e.g. CuS , $CuFeS_2$, Cu_5FeS_4) and may also be present in the metallic form.

Constituents	Typical concentration	Concentration range	Remarks
Zinc EC no.: 231-175-3	≤ 6.8 % (w/w)	≥ 0 — ≤ 14 % (w/w)	Refers to % element. Zn is generally present in the form of compounds such as oxides (e.g. FeZnNiO, FeCrZnO) or sulphates (e.g. ZnSO ₄ *H ₂ O).
Nickel EC no.: 231-111-4	≤ 0.07 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Ni is generally present in the oxide form (e.g. FeZnNiO).
Arsenic EC no.: 231-148-6	≤ 1.1 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. As is assumed to be present in the sulphide form.
Bismuth EC no.: 231-177-4	≤ 0.12 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Bi is assumed to be present in the sulphate form.
Tin EC no.: 231-141-8	≤ 1.77 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Sn is generally present in the sulphide form (e.g. (Sn,Pb)S).
Magnesium EC no.: 231-104-6	≤ 0.9 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Mg is generally present in the oxide form (e.g. MgO).
Sulphur EC no.: 231-722-6	≤ 0.63 % (w/w)	≥ 0 — ≤ 5 % (w/w)	Refers to % element. S is generally present in the form of sulphides (e.g. CuS, (Sn,Pb)S, FeS, CuFeS ₂) and/or sulphates (e.g. PbFe ₆ (SO ₄) ₄ (OH) ₁₂ , ZnSO ₄ *H ₂ O, KAlSiO ₄ *H ₂ O, K ₂ Pb(SO ₄) ₂ , CaSO ₄ *H ₂ O).
Antimony EC no.: 231-146-5	≤ 1.5 % (w/w)	≥ 0 — ≤ 5 % (w/w)	Refers to % element. Sb is assumed to be present in the sulphate form.
Sodium EC no.: 231-132-9	≤ 1.0 % (w/w)	≥ 0 — ≤ 5 % (w/w)	Refers to % element. Na is assumed to be present in the sulphate form.
Potassium EC no.: 231-119-8	≤ 0.05 % (w/w)	≥ 0 — ≤ 5 % (w/w)	Refers to % element. K is generally present in the sulphate form (e.g. K ₂ Pb(SO ₄) ₂).
Manganese EC no.: 231-105-1	≤ 1.03 % (w/w)	≥ 0 — ≤ 2 % (w/w)	Refers to % element. Mn is assumed to be present in the sulphate form.
Cobalt EC no.: 231-158-0	≤ 0.08 % (w/w)	≥ 0 — ≤ 1 % (w/w)	Refers to % element. Co is assumed to be present in the sulphate form.
Silver EC no.: 231-131-3	≤ 0.4 % (w/w)	≥ 0 — ≤ 1 % (w/w)	Refers to % element. Ag is assumed to be present in the sulphate form.
Gold EC no.: 231-165-9	≤ 0.5 % (w/w)	≥ 0 — ≤ 1 % (w/w)	Refers to % element. Au is assumed to be present in the sulphate form.
Chromium EC no.: 231-157-5	≤ 0.4 % (w/w)	≥ 0 — ≤ 1 % (w/w)	Refers to % element. Cr is assumed to be present in the oxide form.
Molybdenum EC no.: 231-107-2	≤ 0.2 % (w/w)	≥ 0 — ≤ 1 % (w/w)	Refers to % element. Mo is assumed to be present in the sulphate form.

Constituents	Typical concentration	Concentration range	Remarks
Cadmium EC no.: 231-152-8	≤ 0.14 % (w/w)	≥ 0 — ≤ 0.3 % (w/w)	Refers to % element. Cd is assumed to be present in the sulphate form.
Selenium EC no.: 231-957-4	≤ 0.09 % (w/w)	≥ 0 — ≤ 0.2 % (w/w)	Refers to % element. Se is assumed to be present in the sulphate form.
Tellurium EC no.: 236-813-4	≤ 0.06 % (w/w)	≥ 0 — ≤ 0.2 % (w/w)	Refers to % element. Te is assumed to be present in the sulphate form.

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

Acute Tox. 4; H302: Harmful if swallowed.

Acute Tox. 4; H332: Harmful if inhaled.

Skin Corr. 2; H315: Causes skin irritation.

Eye Damage 1; H318: Causes serious eye damage.

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

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

Carc. 1B; H350: May cause cancer.

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

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



GHS08: health hazard



GHS07: exclamation mark



GHS09: environment



Hazard statements:

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
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.

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 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 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.