



Lead REACH
CONSORTIUM

Name: Slags, lead smelting (Boundary composition)
Substance: Slags, lead smelting
EC Number: 273-825-9
CAS Number: 69029-84-1
Substance Type: UVCB
Degree of purity: 100 % (w/w)
SIP description: Slags, lead smelting is a solid in particulate or granular form. It is produced in blast furnace processes, under reducing conditions, applied to primary and secondary lead-containing feeds. Slags, lead smelting is composed primarily of iron and calcium silicates, and has only low levels of lead.

Composition:

Constituents	Typical concentration	Concentration range	Remarks
Silicon EC no.: 231-130-8	≤ 29.3 % (w/w)	≥ 0.0 — ≤ 35 % (w/w)	Refers to % element. Si is generally present in the form of silicates (e.g. Fe ₂ SiO ₄).
Zinc EC no.: 231-175-3	≤ 14.9 % (w/w)	≥ 0.05 — ≤ 30 % (w/w)	Refers to % element. Zn is generally present in the form of sulphides (e.g. (Fe,Zn,Cu,Pb)S), oxides (e.g. ZnFe ₂ O ₄ , Fe(Zn)O) and/or in the form of an alloy (e.g. PbZnMo).
Calcium EC no.: 231-179-5	≤ 24 % (w/w)	≥ 0.05 — ≤ 25 % (w/w)	Refers to % element. Ca is generally present in the form of silicates (e.g. Ca ₃ Mg(SiO ₄) ₂).
Lead EC no.: 231-100-4	≤ 3.3 % (w/w)	≥ 0 — ≤ 20 % (w/w)	Refers to % element. Pb is generally present in form of compounds such as sulphides (e.g. (Fe,Zn,Cu,Pb)S). It can also be present in the metallic form.
Aluminium EC no.: 231-072-3	≤ 7.54 % (w/w)	≥ 0 — ≤ 15 % (w/w)	Refers to % element. Al is generally present in the form of compounds such as silicates.
Iron EC no.: 231-096-4	≤ 37.5 % (w/w)	Min. 3% w/w	Refers to % element. Fe is generally present in the compounds form such as oxides (e.g. FeO, Fe ₃ O ₄ , Fe(Zn)O), sulphides (e.g. FeS, (Fe,Zn,Cu,Pb)S), sulphates (e.g. FeSO _x) and/ or silicates (e.g. Fe ₂ SiO ₄) and may also be present in the form of an alloy (e.g. FeCrNi) and/or arsenide (e.g. FeAs).

Constituents	Typical concentration	Concentration range	Remarks
Sulfur EC no.: 231-722-6	≤ 4 % (w/w)	≥ 0 — ≤ 35 % (w/w)	Refers to % element. S is generally present in the sulphide form (e.g. FeS, (Fe,Zn,Cu,Pb)S) and/or sulphates (e.g. FeSO _x).
Magnesium EC no.: 231-104-6	≤ 3.91 % (w/w)	≥ 0 — ≤ 20 % (w/w)	Refers to % element. Mg is generally present in the form of compounds such as silicates.
Potassium EC no.: 231-119-8	≤ 0.24 % (w/w)	≥ 0 — ≤ 20 % (w/w)	Refers to % element. K is assumed to be present in the form of compounds.
Sodium EC no.: 231-132-9	≤ 0.71 % (w/w)	≥ 0 — ≤ 20 % (w/w)	Refers to % element. iUVCB classification based on Na in metallic form.
Copper EC no.: 231-159-6	≤ 1.5 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Cu is generally present in the form of sulphides (e.g. (Fe,Zn,Cu,Pb)S) or in the form of an alloy (e.g. Cu(Sn,Sb)).
Arsenic EC no.: 231-148-6	≤ 0.38 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. As is generally present in the form of an arsenide (e.g. FeAs).
Cadmium EC no.: 231-152-8	≤ 0.02 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Cd is assumed to be present in the oxide form.
Nickel EC no.: 231-111-4	≤ 0.04 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Ni is generally present in the form of an alloy (e.g. FeCrNi).
Tin EC no.: 231-141-8	≤ 1.5 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Sn is generally present in the form of an alloy (e.g. Cu(Sn,Sb)).
Manganese EC no.: 231-105-1	≤ 1 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Mg is generally present in the form of compounds such as silicates.
Antimony EC no.: 231-146-5	≤ 0.3 % (w/w)	≥ 0 — ≤ 10 % (w/w)	Refers to % element. Sb is generally present in the form of alloys (e.g. Cu(Sn,Sb)).
Chlorine EC no.: 231-959-5	≤ 0.09 % (w/w)	≥ 0 — ≤ 7 % (w/w)	Refers to % element. Cl is assumed to be present in the form of compounds.
Bismuth EC no.: 231-177-4	≤ 0.1 % (w/w)	≥ 0 — ≤ 5 % (w/w)	Refers to % element. Bi is assumed to be present in the oxide form.
Chromium EC no.: 231-157-5	≤ 0.9 % (w/w)	≥ 0 — ≤ 5 % (w/w)	Refers to % element. Cr is generally present in the form of an alloy (e.g. FeCrNi).
Barium EC no.: 231-149-1	≤ 1.85 % (w/w)	≥ 0 — ≤ 2 % (w/w)	Refers to % element. Ba is assumed to be present in the oxide form.
Cobalt EC no.: 231-158-0	≤ 0.098 % (w/w)	≥ 0 — ≤ 0.1 % (w/w)	Refers to % element. Co is assumed to be present in the oxide form.
Selenium EC no.: 231-957-4	≤ 0.01 % (w/w)	≥ 0 — ≤ 0.1 % (w/w)	Refers to % element. Se is assumed to be present in the oxide form.

Constituents	Typical concentration	Concentration range	Remarks
Tellurium EC no.: 236-813-4	≤ 0.023 % (w/w)	≥ 0 — ≤ 0.1 % (w/w)	Refers to % element. Te is assumed to be present in the oxide form.
Silver EC no.: 231-131-3	≤ 0.01 % (w/w)	≥ 0 — ≤ 0.02 % (w/w)	Refers to % element. Ag is assumed to be present in the oxide form.
Molybdenum EC no.: 231-107-2	≤ 0.02 % (w/w)	≥ 0 — ≤ 0.02 % (w/w)	Refers to % element. Mo is generally present in the form of an alloy (e.g. PbZnMo).

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

Carc. 1B; H350: May cause cancer.

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

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

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 2; H411: Toxic to aquatic life with long lasting effects.

Labelling:

Signal word: Danger

Hazard pictograms:

GHS08: health hazard



GHS09: environment

**Hazard statements:**

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.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

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