



Grade name: Matte, lead (Toxic to the environment and repeated dose toxicity grade)

Substance: Matte, lead

EC Number: 282-356-9

CAS Number: 84195-51-7

Substance Type: UVCB

Degree of purity: 100 % (w/w)

Description of Product: Matte, lead is a solid, initially formed as a molten metal sulphide phase during the smelting of primary and secondary lead containing materials high in sulphur.

Composition:

Constituents	Typical concentration	Concentration range	Remarks
Lead EC no.: 231-100-4	<= 5.84 % (w/w)	>= 0 — <= 5.84 % (w/w)	Refers to % element. Pb is generally present in the metallic form and in the oxide form (e.g. PbO). Other Pb compounds such as sulphides (e.g. PbS) and/or silicates (e.g. PbSiO) may also be present.
Copper EC no.: 231-159-6	<= 40.01 % (w/w)	>= 0 — <= 62 % (w/w)	Refers to % element. Cu is generally present in the form of an alloy (e.g. Cu ₃ (Sn,Sb,Ni), SnCuNiFe, SbSnNiCuFe) or in the form of compounds such as sulphides (e.g. Cu ₂ S, CuPbS).
Sulphur EC no.: 231-722-6	<= 21 % (w/w)	>= 0 — <= 30 % (w/w)	Refers to % element. S is generally present in the form of sulphides (e.g. PbS, Cu ₂ S, FeS) and/or sulphates (e.g. FeSO ₄).
Zinc EC no.: 231-175-3	<= 6 % (w/w)	>= 0 — <= 20 % (w/w)	Refers to % element. Zn is generally present in the oxide form (e.g. FeZnO).
Iron EC no.: 231-096-4	<= 61.2 % (w/w)	>= 0 — <= 80 % (w/w)	Refers to % element. Fe is generally present in the metallic form and/or in the form of an alloy (e.g. SnCuNiFe) and/or in the form of compounds such as sulphides (e.g. FeS), oxides (e.g. FeO, MgFeCrO, FeZnO), silicates (e.g. Fe ₂ SiO ₄), sulphates (e.g. FeSO ₄) and/or hydroxides (e.g. FeOOH).
Nickel EC no.: 231-111-4	<= 0.9 % (w/w)	>= 0 — <= 0.9 % (w/w)	Refers to % element. Ni is generally present in the form of an alloy (e.g. SbSnNiCuFe, SnCuNiFe, Cu ₃ (Sn,Sb,Ni), SbNi)

Constituents	Typical concentration	Concentration range	Remarks
			and may also be present in the form of compounds such as oxides (e.g. PbNiO).
Silver EC no.: 231-131-3	<= 0.66 % (w/w)	>= 0 — <= 10 % (w/w)	Refers to % element. Ag is assumed to be present in the oxide form.
Gold EC no.: 231-165-9	<= 5 % (w/w)	>= 0 — <= 10 % (w/w)	Refers to % element. Au is assumed to be present in the oxide form.
Antimony EC no.: 231-146-5	<= 1.21 % (w/w)	>= 0 — <= 10 % (w/w)	Refers to % element. Ag is assumed to be present in the oxide form.
Arsenic EC no.: 231-148-6	<= 0.07 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. As is assumed to be present in the oxide form.
Cadmium EC no.: 231-152-8	<= 0.07 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. Cd is assumed to be present in the sulphide form.
Selenium EC no.: 231-957-4	<= 0.83 % (w/w)	>= 0 — <= 2 % (w/w)	Refers to % element. Se is assumed to be present in the oxide form.
Bismuth EC no.: 231-177-4	<= 0.05 % (w/w)	>= 0 — <= 10 % (w/w)	Refers to % element. Bi is assumed to be present in the oxide form.
Molybdenum EC no.: 231-107-2	<= 0.03 % (w/w)	>= 0 — <= 0.1 % (w/w)	Refers to % element. Mo is assumed to be present in the oxide form.
Tin EC no.: 231-141-8	<= 3.59 % (w/w)	>= 0 — <= 10 % (w/w)	Refers to % element. Sn is generally present in the form of an alloy (e.g. Cu ₃ (Sn,Sb,Ni), SnCuNiFe, Cu ₃ Sn, SbSnNiCuFe).
Tellurium EC no.: 236-813-4	<= 0.43 % (w/w)	>= 0 — <= 1 % (w/w)	Refers to % element. Te is assumed to be present in the oxide form.
Aluminium EC no.: 231-072-3	<= 2 % (w/w)	>= 0 — <= 5 % (w/w)	Refers to % element. Al is generally present in the form of compounds such as silicates.
Manganese EC no.: 231-105-1	<= 1 % (w/w)	>= 0 — <= 5 % (w/w)	Refers to % element. Mn is assumed to be present in the oxide form.
Silicon EC no.: 231-130-8	<= 5 % (w/w)	>= 0 — <= 20 % (w/w)	Refers to % element. Si is generally present in the form of silicates (e.g. PbSiO).
Sodium EC no.: 231-132-9	<= 1.44 % (w/w)	>= 0 — <= 5 % (w/w)	Refers to % element. Na is generally present in the form of compounds such as silicates.
Magnesium EC no.: 231-104-6	<= 1 % (w/w)	>= 0 — <= 5 % (w/w)	Refers to % element. Mg is generally present in the form of oxides (e.g. MgFeCrO).
Calcium EC no.: 231-179-5	<= 5 % (w/w)	>= 0 — <= 11 % (w/w)	Refers to % element. Ca is generally present in the form of compounds such as silicates.
Potassium EC no.: 231-119-8	<= 0.15 % (w/w)	>= 0 — <= 5 % (w/w)	Refers to % element. K is generally present in the form of

Constituents	Typical concentration	Concentration range	Remarks
			compounds such as silicates.
Chromium EC no.: 231-157-5	<= 0.07 % (w/w)	>= 0 — <= 2 % (w/w)	Refers to % element. Cr is generally present in the form of oxides (e.g. MgFeCrO).

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 matte, lead (only toxic to the environment grade) to bring it into line with the latest scientific data and knowledge. The proposed classification will be:

DSD

Xn; R48/20/22: Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

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

CLP

STOT Rep. Exp. 2; H373: May cause 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: Warning

Hazard pictograms:

GHS08: health hazard



GHS09: environment

**Hazard statements:**

H373 May cause 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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