

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate



Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name

Garpenberg Zinc concentrate

CAS number

-

EC number

310-127-6

REACH registration number

Not required - exempt from REACH registration. (UVCB)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Raw material for metal production.

1.3. Details of the supplier of the safety data sheet

Supplier

Boliden Mineral AB

Street address

Finnforsvägen 4

SE-936 81 Boliden

Sweden

Telephone

+46 910 77 40 00

Email

info.market@boliden.com

1.4. Emergency telephone number

112. Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department

See section 16 for country specific emergency phone numbers.

Available outside office hours

Yes

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Carcinogenicity, hazard category 2

Reproductive toxicity, hazard category 1A

Specific Target Organ Toxicity — Repeated exposure, hazard category 1

Hazardous to the aquatic environment — Chronic hazard category 3

Hazard statements

H351, H360, H372, H412

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Danger

Hazard statements

H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P281 Use personal protective equipment as required.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

More information

Contains : Zinc concentrate is a naturally occurring UVCB substance, obtained from crushed zinc ore by conventional mineral processing, containing: zinc, lead, cadmium.

2.3. Other hazards

No data available

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
Zinc concentrate	- 310-127-6 - -	100%	Carc. 2, Repr. 1A, STOT RE 1, Aquatic Chronic 3	H351, H360, H372, H412 - -	-

Product based on

Zinc concentrate is a UVCB substance, containing (name (EG / CAS), concentration): Zinc (231-175-3 / 7440-66-6) 45-60%, lead (231-100-4 / 7439-92- 1) 0.5-5%, cadmium (231-152-8 / 7440-43-9) 0.1-0.5%.

Description: Metal concentrate of zinc ore. (The metals are usually bound as sulfides.)

This product is a concentrate, obtained from natural zinc ores, without chemical modifications.

Zinc concentrate consists of sulfide mineral, mostly zinc sulfide (ZnS). The concentrate also contains small amounts of other minerals such as Pyrite (FeS₂), Chalcopyrite (CuFeS₂) and Galena (PbS).

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

In the event of an accident: Contact a doctor or emergency department - bring the label or this safety data sheet. In case of persistent symptoms or if there is any doubt about the affected person's condition, seek medical help. Never give water or the like to an unconscious person.

Inhalation

Remove person to fresh air and keep comfortable for breathing. Keep under medical supervision for at least 48 hours.

In case of respiratory tract irritation, consult a physician.

Skin contact

Take off contaminated clothing and wash it before reuse.

IF ON SKIN: Wash with plenty of soap and water.

In case of skin reactions, consult a physician.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

Eye contact

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

In case of eye irritation consult an ophthalmologist.

Ingestion

Drink milk or water. Contact a doctor if more than an insignificant amount has been swallowed.

4.2. Most important symptoms and effects, both acute and delayed

Carcinogenic effects:

The product contains substances that are considered, or have been proven, to be carcinogenic based on epidemiological studies or animal experiments.

Reproductive toxicity:

The product contains teratogenic substances that can cause permanent damage to human offspring. The effect on the child can be: malformations, delayed development or disability. The product contains substances that can damage the reproductive process, e.g. through damage to gametes or hormone regulation. The effect can be: sterility, reduced fertility, menstrual changes, etc.

4.3. Indication of any immediate medical attention and special treatment needed

In case of exposure or suspicion of exposure:

Seek medical attention immediately.

Information for doctors:

Show this safety data sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

The product is not flammable.

alcohol resistant foam, carbon dioxide (CO₂), powder, water spray

Unsuitable extinguishing media

Full water jet

Water jet should not be used as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

When heated to high temperatures, harmful fumes containing sulfur oxides and metal oxides can be formed.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Wear complete protective equipment including respirator.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate



Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid direct contact with spills.

6.2. Environmental precautions

Avoid discharges into lakes, rivers, sewers, etc. Contact the local environmental authorities in the event of discharges into the surroundings.

Dispose of waste for waste collection, to prevent release to the environment. See section 8 for personal protection. Avoid direct contact with the product.

6.3. Methods and material for containment and cleaning up

Spilled material is collected in a suitable container for removal.

6.4. Reference to other sections

See section 13 for waste management. See section 8 for safety instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Dispose of waste for waste collection, to prevent release to the environment. See section 8 for personal protection. Avoid direct contact with the product.

Do not expose to heat. Do not expose to sources of ignition. Do not swallow the product. Do not inhale dust from the product. Wear suitable protective clothing.

7.2. Conditions for safe storage, including any incompatibilities

Always store in containers of the same material as the original container. Store so that the product does not spread to the surroundings.

Storage temperature: No data available

7.3. Specific end use(s)

This product should only be used for the uses described in section 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

Professional users are covered by the work environment legislation's rules on maximum concentrations for exposure. See the occupational hygiene limit values.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Source	Remark	Year
Lead	7439-92-1 231-100-4	- 0.15	L132 Control of Lead at Work Regulations 2002 (Third edition)	-	-
Cadmium (as Cd)	7440-43-9 231-152-8	- 0.025	EH40/2005 Workplace exposure limits, Fourth edition 2020	Carc (cadmium metal, cadmium chloride, fluoride and sulphate)	-
Dust	- -	- 10	EH40/2005 Workplace exposure limits, Fourth edition 2020	inhalable dust	-
Dust	- -	- 4	EH40/2005 Workplace exposure limits, Fourth edition 2020	respirable dust	-

8.2. Exposure controls

Appropriate engineering controls

Compliance with the specified limit values should be checked regularly. Provide good ventilation. Ensure good industrial hygiene.

Exposure scenario

If there is an appendix to this safety data sheet, the exposure scenarios set out in the appendix must be followed.

Technical measures and storage conditions

Take general care when using the product. Avoid inhaling gas and dust. Well-ventilated areas are recommended.

Hygiene measures

At each break when using the product and at the end of the work, the exposed areas of the body should be washed. Always wash hands, forearms and face.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

Eye / face protection

Wear approved goggles.
Use only CE-marked or locally approved protective equipment.

Hand protection

Wear protective gloves.
Use only CE-marked or locally approved protective equipment.

Other skin protection

Wear clean protective clothing and suitable shoes.
Use only CE-marked or locally approved protective equipment.

Respiratory protection

Follow work routines that minimize dust formation. For certain parts, approved respiratory protection for dust may be needed. If the product develops smoke from oxidation, use an approved respirator for thermally generated particles and acid gases.
Use only CE-marked or locally approved protective equipment.

Environmental exposure controls

Follow the risk management measures that provide adequate control over the environmental exposure of the substance for the exposure scenarios set out in the Annex to the Safety Data Sheet (if such an Annex exists).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

solid

Colour

No data available

Odour

No data available

Melting point / freezing point

No data available

Boiling point or initial boiling point and boiling range

No data available

Flammability

No data available

Lower and upper explosion limit

No data available

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

Flash point

No data available

Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

No data available

Kinematic viscosity

No data available

Solubility

Solubility in organic solvents: Insoluble

Water solubility

insoluble

Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

3.99 g/cm³

Relative vapour density

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

The product is stable under the conditions specified in section 7.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

10.4. Conditions to avoid

None under normal use.

Do not expose to heat. Do not expose to sources of ignition. Do not swallow the product. Do not inhale dust from the product. Wear suitable protective clothing.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizing agents and strong reducing agents.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

During normal handling of the product, no health risks should arise.

Acute toxicity

Metal sulphides can, when heated, release sulfur dioxide. Sulfur dioxide is irritating to the upper respiratory tract. In high concentrations it can be life threatening.

Heavy unintentional exposure to lead oxide may immediately increase the lead concentration in the blood.

When the product is heated, copper oxide and zinc oxide can form and cause metal smoke fever, a generally benign, transient, reversible flu-like condition.

Conditions and work routines that generate dust and smoke must be controlled or avoided.

Dust and smoke can cause adverse health effects.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

May damage fertility or the unborn child.

STOT-single exposure

Based on available data, the classification criteria are not met.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate



Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

STOT-repeated exposure

Causes organ damage.

Aspiration hazard

Based on available data, the classification criteria are not met.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Long term effects

Iron can cause a benign form of dust mite: siderosis.

Contains lead that can be absorbed by the body and lead to a risk of birth defects, but since lead sulphides have a very low solubility, the risk is considered to be low.

Uncontrolled repeated or prolonged exposure to this substance may cause damage to target organs.

Reproductive toxicity: The product contains teratogenic substances that can cause permanent damage to human offspring. The effect on the child can be: malformations, delayed development or disability.

Reproductive toxicity: The product contains substances that can damage the reproductive process, e.g. through damage to gametes or hormone regulation. The effect may be: sterility, reduced fertility, menstrual changes, etc.

Carcinogenic effects: The product contains substances that are considered, or have been proven, to be carcinogenic based on epidemiological studies or animal experiments.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

The concentrate comes from the crushing and processing of natural materials. But in concentrated form, the product can have a significant impact on the local environment if transport waste occurs. Avoid contaminating watercourses.

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Remark
Zinc concentrate / 310-127-6	LC50	0,116 mg/	96h	Fish	Zinc
Zinc concentrate / 310-127-6	LC50	0,14 mg/l	96h	Oncorhynchus mykiss (Rainbow trout)	Lead

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate



Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

12.2. Persistence and degradability

Not readily biodegradable (according to OECD criteria)

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The PBT and vPvB criteria are not applicable to inorganic substances.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

According to the currently available resources, there is no conclusive data on the endocrine-disrupting properties for this product and its constituents.

12.7. Other adverse effects

The product contains ecotoxic substances, which can have harmful effects on aquatic organisms.

The product contains substances that may cause long-term adverse effects in the aquatic environment due to degradation difficulties.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

This product is subject to hazardous waste regulations.

The product may cause harmful contamination of soil and water.

Packaging

The waste category is indicative and depends on the way in which the waste was created.

Packaging with residual content of the product must be discarded in the same way as the product.

Waste code	Description
06 04 05*	wastes containing other heavy metals

Please note - an asterisk (*) next to a code denotes that it is HAZARDOUS WASTE.

SECTION 14: Transport information

14.1. UN number

Not applicable

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate



Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

14.2. UN proper shipping name

Not applicable

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Marpol Annex V: NOT Harmful to Marine Environment, Not HME

IMDG Marine Pollutant

No

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Material Hazardous only in Bulk, MHB

Cargo group A and B

Bulk Cargo Shipping Name (BCSN): Metal Sulphide concentrate

Other

Not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

EU Regulation (EC) No. 1907/2006 (REACH)

CLP - Regulation (EC) No 1272/2008

Directive 94/33 / EC on the protection of young people at work.

COUNCIL DIRECTIVE 92/85 / EEC on measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No.
1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

National regulations

Restrictions on use

The product may not be used professionally by young people under 18 years of age. Exclusively for professional use.

Pregnant and breastfeeding women should not be exposed to the product. The risk and the possibilities for technical precautionary measures or adaptation of the workplace to avoid such an impact must therefore be considered.

EH40/2005 Workplace exposure limits (Fourth edition 2020)

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Changes to previous revision

1-16

Abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE - Acute Toxicity Estimate

C&L - Classification and Labelling

CAS no. - Chemical Abstracts Service number

CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

CMR - Carcinogen, Mutagen, or Reproductive Toxicant

CSR - Chemical Safety Report

DNEL - Derived No Effect Level

EWC - European Waste Catalogue

ECHA - European Chemicals Agency

EC no. - EINECS number (European Inventory of Existing Commercial Substances)

GHS - Globally Harmonized System

IATA - International Air Transport Association

IMDG - International Maritime Dangerous Goods

Kow - octanol-water partition coefficient

LC50 - Lethal Concentration to 50 % of a test population

LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)

OEL - Occupational Exposure Limit

PBT - Persistent, Bioaccumulative and Toxic substance

PNEC - Predicted No Effect Concentration(s)

REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No.
1907/2006 (REACH)

Garpenberg Zinc concentrate

NEW **BOLIDEN**

Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
SCBA - Self-Contained Breathing Apparatus
STOT - Specific Target Organ Toxicity
SVHC - Substances of Very High Concern
UFI - Unique Formula Identifier
vPvB - Very Persistent and Very Bioaccumulative

Phrase meaning

Carc. 2 - Carcinogenicity, hazard category 2
Repr. 1A - Reproductive toxicity, hazard category 1A
STOT RE 1 - Specific Target Organ Toxicity — Repeated exposure, hazard category 1
Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Other

Additional information

Emergency telephone number

Austria: Poison Control Centre Emergency helpline +43 1 406 43 43, 112

Belgium: 070 - 245 245

Bulgaria: +359 2 9154 233

Czech Republic: Toxikologické informační středisko Telefon: +420 224 919 293, +420 224 915 402

Denmark: Kontakt Giftlinien på tlf.nr.: 8212 1212 (åbent 24 timer i døgnet).

Estonia: 112, 16662, ((+372) 7943 794)

Finland: 112, Poison Information Center 0800 147 111 avoinna 24 tuntia vuorokaudessa

France: ORFILA (INRS) : + 33 (0)1 45 42 59 59. 24 heures sur 24 et 7 jours sur 7 Germany: 112,

Giftnotruf Berlin: +49 30 19240 (Tag und Nacht)

Greece: (0030) 2107793777

Hungary: +36-80-201-199 (0-24h)

Iceland: Neyðarlínan: Sími 112. Eitrunarmiðstöð Landsspítalans. Sími: 543 2222.

Ireland: +353 1 809 2566

Italy: Centro antiveneni di Roma - Policlinico Umberto I tel. 06-49978000 Latvia: 112, Toksikoloģijas un sepses klīnikas Saindēšanās un zāļu informācijas centrs +371 67042473

Lithuania: 112, Visuomenės sveikatos centrams +370 5 236 20 52

Malta: 112, Medicines & Poisons Info Office +356 25456508

Netherlands: 112, NVIC: +31 (0)88 755 8000 Uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftiging

Norway: Giftinformasjonssentralen på tlf.nr.: 22 59 13 00, 113

Poland: 112, Instytut Medycyny Pracy i Zdrowia Srodowiskowego +48 32 266 11 45

Portugal: 112, Em caso de intoxicacao, ligue Centro de Informação Antivenenos (CIAV) +351 800 250 250

Romania: +40 21 3183606

Slovakia: +421 2 54 77 4166

Slovenia: 112, +386 41 635 500

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Garpenberg Zinc concentrate



Version number: 2.0
Issued: 2023-01-20
Replaces SDS: 2015-06-01

Spain: 112, Servicio de Información Toxicológica Teléfono: + 34 91 562 04 20 (solo emergencias toxicológicas) Información en español (24h/365 días)

Sweden: 112 - När det är brådska, begär giftinformation 24 timmar om; 010-456 6700 - Vid mindre akuta fall (24 timmar om dygnet)

United Kingdom: 999 (or 111 for non-emergency medical advice). Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service)

Manufacturer's notes

It is recommended to disclose this SDS to the actual user of the product

The information in this SDS is based on our current knowledge. The information on the safety data sheets is based on the best available data and applies to the product's intended handling. This data sheet only applies to this product and may not be applicable if the product is used as an ingredient in another product.

If the product is used in another way or in an application other than the one for which the product was originally developed for, or recommended for, this is done entirely under the user's responsibility. The purpose of this SDS is to describe the safety requirements for the product. It must not be construed as a guarantee of the product's properties and the information may not replace a product sheet.