

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

Iron silicate

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

1.1. Product identifier

Trade name

Iron silicate

Name of the chemical

Iron Silicate (Synonyms: Iron Sand, Slag from copper smelting and refining)

EC number

701-480-0

REACH registration number

01-2119513228-45-0005

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

Relevant identified uses

Sand blasting, road construction, stabilization of mining and quarries, ballast in concrete.

1.3. Details of the supplier of the safety data sheet

Supplier

Boliden Commercial

Address

Box 750
10135 Stockholm
Sweden

Telephone

+46 8 610 15 00

Email

info.market@boliden.com

1.4. Emergency telephone number

In urgent situations: Call 112 and request the poison information centre. In less severe situations: Call +46104566750.

Available outside office hours

Yes

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Description

The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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2.2. Label elements

The product does not require labelling in accordance with CLP Regulation (EC) No 1272/2008.

2.3. Other hazards

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

This mixture/product does not contain any substances considered to have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Iron silicate	- 701-480-0 01-2119513228- 45-0005 -	95 - ≤100%	-	- - -	-

Product based on

Iron sand is a complex inorganic substance (UVCB). The constituents in the chemical product are reported in an elemental form and various components are bounded to each other and are not present as free substances.

Components: 36% Iron (EC 231-096-4), 35% Silicon dioxide (EC 231-545-4), 15% Fayalite (Fe₂(SiO₄)) (EC 237-687-3), 3.5% Calcium oxide (EC 215-138-9), 2.5% Aluminum oxide (CAS 1333-84-2), 1.3% Zinc (EC 231-175-3), 1.1% Magnesium oxide (EC 215-171-9), 0.7% Copper flakes (EC 231-159-6), 0.5% Sulfur (EC 231-722-6), 0.4% Manganese (EC 231-105-1), 0.2% Chromium (EC 231-157-5), <0.03% Lead massive [particle diameter >1mm] (EC 231-100-4)

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

SECTION 4: First aid measures

4.1. Description of first aid measures

Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

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Inhalation

In case of discomfort: bring the person into fresh air.

Skin contact

Upon irritation: rinse with water. In the event of continued irritation, seek medical assistance.

Eye contact

If in eyes: Flush eyes with plenty of water or salt water (20-30 °C) and continue until irritation stops.

Remove contact lenses.

Ingestion

Rinse and flush mouth thoroughly and consume large quantities of water. In case of continued discomfort: seek medical assistance and bring this safety data sheet.

Information for doctors

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Information to rescue personnel

No action shall be taken involving any personal risk or without suitable training.

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

Inhalation

No specific data

Skin contact

No specific data

Eye contact

No specific data

Ingestion

No specific data

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

Treat symptomatically. Bring this safety data sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

Full water jet

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5.2. Special hazards arising from the substance or mixture

No specific fire or explosion hazard.

Decomposition products may include the following materials:
metal oxide/oxides

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.

For emergency responders

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2. Environmental precautions

Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways).

6.3. Methods and material for containment and cleaning up

Prevent entry into sewers, water courses, basements or confined areas.

6.4. Reference to other sections

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

SECTION 8: Exposure controls/personal protection

SECTION 13: Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

Use personal protective equipment as required.

General hygiene

Handle in accordance with good industrial hygiene and safety practice.

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7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. See section 10 for incompatible materials before handling or use.

7.3. Specific end use(s)

Not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Short-term exposure limit ppm / mg/m ³	Source	Remark	Year
Calcium Oxide, respirable fraction (EU)	1305-78-8 215-138-9	- 1	- 4	AFS 2018:1	-	2018
Aluminum oxide, metal and oxide (as Al), total dust (EU)	1333-84-2 -	- 5	- -	AFS 2018:1	-	1996
Aluminum oxide, metal and oxide (as Al), respirable fraction (EU)	1333-84-2 -	- 2	- -	AFS 2018:1	-	1996
Copper, and inorganic compounds (as Cu), respirable fraction (EU)	1309-48-4 231-159-6	- 0.01	- -	AFS 2018:1	-	2018
Manganese, and inorganic compounds (as Mn), respirable fraction (EU)	7439-96-5 231-105-1	- 0.05	- -	AFS 2018:1	-	2018
Manganese, and inorganic compounds (as Mn), inhalable fraction (EU)	7439-96-5 231-105-1	- 0.2	- -	AFS 2018:1	-	2018
Chromium, and inorganic (II, III)-compounds (as Cr), total dust (EU)	7440-47-3 231-157-5	- 0.5	- -	AFS 2018:1	-	2005
Lead, and inorganic compounds	7439-92-1	-	-	AFS 2018:1	B: The substance	2011

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Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Short-term exposure limit ppm / mg/m ³	Source	Remark	Year
(as Pb), inhalable fraction (EU)	231-100-4	0.1	-		can cause hearing damage. M: Medical controls required. R: The substance is toxic to reproduction.	
Lead, and inorganic compounds (as Pb), respirable fraction (EU)	7439-92-1 231-100-4	- 0.05	- -	AFS 2018:1	B: The substance can cause hearing damage. M: Medical controls required. R: The substance is toxic to reproduction.	2011
Dust, inorganic, inhalable (EU)	- -	- 5	- -	AFS 2018:1	-	2018
Dust, inorganic, respirable (EU)	- -	- 2.5	- -	AFS 2018:1	-	2018

8.2. Exposure controls

Appropriate engineering controls

Do not breathe dust. Ensure adequate ventilation, especially in confined areas. Ensure adequate ventilation, especially in confined areas. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Ensure that eyewash stations are close to the workstation location.

Eye / face protection

When there is a risk for eye contact, use safety glasses.

Hand protection

Wear protective gloves.

Other skin protection

Use suitable work clothes.

Respiratory protection

If there is a risk of inhalation, use suitable respiratory protection.

Other

Use only CE-marked or locally approved protective equipment.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Colour

Grey/Black

Odour

Odourless

Melting point / freezing point

1027 - 1341 °C

Boiling point or initial boiling point and boiling range

Not available

Flammability

Non-flammable

Lower and upper explosion limit

Not applicable

Flash point

No data available

Auto-ignition temperature

Not applicable

Decomposition temperature

Not applicable

pH

6 - 7

Kinematic viscosity

Not applicable

Viscosity, dynamic

Not applicable

Solubility

Insoluble in the following materials: water

Partition coefficient n-octanol/water

Not applicable

Vapour pressure

Not available

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Density and/or relative density3.3 - 3.7 g/cm³**Relative vapour density**

Not applicable

Evaporation Rate

Not available

Explosive properties

Not applicable

Oxidising properties

Not applicable

Particle characteristics

Median particle size: 0,7 mm

Granulometry: 0-4 mm

9.2. Other information

No additional information

SECTION 10: Stability and reactivity

10.1. Reactivity

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

10.2. Chemical stability

Stable at normal conditions

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Contact with acids may release flammable hydrogen gas.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous reactions will not occur.

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SECTION 11: Toxicological information

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

Acute toxicity

Not classified as hazardous.

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
Zinc 7440-66-6/231-175-3	LC50	>5.4 mg/l	Inhalation	4h	rats
Zinc 7440-66-6/231-175-3	LD50	>2000 mg/kg	Oral	-	rats
Manganese 7439-96-5/231-105-1	LD50	9 g/kg	Oral	-	rats

Skin corrosion/irritation

Non-corrosive to skin. Non-irritant to skin.

Product / Substance name CAS / EC no.	Result	Value / Dose	Duration of exposure	Species
Manganese 7439-96-5/231-105-1	Mild skin irritant	500 mg	24h	Rabbit
Zinc 7440-66-6/231-175-3	Mild skin irritant	300 ug/L	72h	Human

Serious eye damage/irritation

Non-corrosive to the eyes. Non-irritating to the eyes.

Respiratory or skin sensitisation

Non-sensitiser to skin. Not classified for respiratory sensitisation.

Germ cell mutagenicity

Not classified as hazardous.

Carcinogenicity

Not classified as hazardous.

Reproductive toxicity

Not classified as hazardous.

STOT-single exposure

Not available

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STOT-repeated exposure

Not available

Aspiration hazard

Not available

Symptoms related to the physical, chemical and toxicological characteristics

No specific data

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

Not available

Toxicity in case of inhalation

No known significant effects or critical hazards.

Toxicity in case of skin contact

No known significant effects or critical hazards.

Toxicity in case of eye contact

No known significant effects or critical hazards.

Toxicity in case of ingestion

No known significant effects or critical hazards.

11.2. Information on other hazards

Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine disrupting properties.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Not classified as hazardous.

Toxicity

Not classified as hazardous.

Aquatic

Not classified as hazardous.

Soil

Not classified as hazardous.

Acute algae toxicity

Not classified as hazardous.

Acute crustacean toxicity

Not classified as hazardous.

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Micro-/macro organism toxicity

Not classified as hazardous.

Chronical toxicity

Not classified as hazardous.

12.2. Persistence and degradability

Not available

12.3. Bioaccumulative potential

Product / Substance name CAS / EC no.	Bioconcentration factor (BCF)
Calcium oxide 1305-78-87/215-138-9	2.34
Zinc 7440-66-6/231-175-3	92

12.4. Mobility in soil

Iron sand mainly contains iron silicate and silicates of aluminum and calcium. Traces of metals exist in metal and mineral form or is included in silicate phases, which means that mobility in soil is expected to be low.

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

12.6. Endocrine disrupting properties

This mixture/product does not contain any substances considered to have endocrine disrupting properties.

12.7. Other adverse effects

No known significant effects or critical hazards.

Version number:	2.0
Issued:	2024-04-25
Replaces SDS:	2021-04-10

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Waste code	Waste description
10 06 01	slags from primary and secondary production

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

Other

This material must be disposed of in a safe way. Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers.

SECTION 14: Transport information

14.1. UN number

not regulated

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

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

Other

Not applicable

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SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

National regulations

The Swedish Work Environment Agency's regulations on the working environment of minors and general advice on the application of the regulations (AFS 2012:3)

The Swedish Work Environment Authority's regulations and general advice (AFS 2007:5) on pregnant and breastfeeding workers with later amendments, latest AFS 2018:7

SFS Waste regulation (2020:614)

Hygienic limit values (AFS 2018:1)

15.2. Chemical safety assessment

Complete

SECTION 16: Other information

Changes to previous revision

Update

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 DMEL - Derived Minimal Effect Level

DMEL - Derived Minimal Effect Level

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)

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NOAEL - No Observed Adverse-Effect Level

OEL - Occupational Exposure Limit

PBT - Persistent, Bioaccumulative and Toxic substance

PEC - Predicted Effect Concentration(s)

PNEC - Predicted No Effect Concentration(s)

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

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

References to key literature and data sources

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (CLP).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Boliden's safety data sheet for Iron sand (2021)

ECHA

Additional information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.