According to EC-Regulation 1907/2006 (REACH)

SAFETY DATA SHEET

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

1.1. Product identifier

Trade name
Silver
Product no.
-
REACH registration number
01-2119555669-21-XXXX
Other means of identification
EC# 231-131-3, CAS# 7440-22-4

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

Relevant identified uses of the substance or mixture
Basic material for further production used in the manufacture of consumer goods and in industry for alloys, batteries and chemicals, in the electrical industry, and in dental work and jewellery.
Uses advised against
-

1.3. Details of the supplier of the safety data sheet

Company and address
Boliden Commercial
Box 750
SE-101 35 Stockholm
Sweden

Tel +46 8 610 15 00
Fax +46 8 31 55 45
Contact person

E-mail
info.market@boliden.com
SDS date
01-06-2015
SDS Version
1.0

1.4. Emergency telephone number

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). See section 16.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This product is not classified as dangerous.

2.2. Label elements

Hazard pictogram(s)
-
Signal word
-
Hazard statement(s)
-

Safety statement(s)	General	-
	Prevention	-
	Response	-

Storage -
Disposal -

Identity of the substances primarily responsible for the major health hazards

-

2.3. Other hazards

Inhalation of dust or smoke of silver may be hazardous.
Exposure to silver dust or smoke may cause a bluish or greyish pigmentation to the skin and eyes.
Harmful if swallowed.
May form explosive mixtures if dispersed in air as a fine powder.
May form explosive mixtures if stored with ammonia, acetylene or nitric acid. See section 10.

Additional labelling

-

Additional warnings

-

VOC

-

SECTION 3: Composition/information on ingredients

3.1. Substances

NAME:	silver
IDENTIFICATION NOS.:	CAS-no: 7440-22-4 EC-no: 231-131-3 REACH-no: 01-2119555669-21-XXXX
CONTENT:	>99,99%
CLP CLASSIFICATION:	NA

3.2. Mixtures

-

(*) See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other informations

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor, if in doubt about the injured person's condition or if the symptoms continue. Never give an unconscious person water or drinks.

Inhalation

Seek fresh air in case of inhalation of dust or fumes from overheated or smelted material. Seek medical advice if respiratory problems arise.

Skin contact

Wash the skin thoroughly with soap and water. Silver in form of finely divided dust may cause discoloration in contact with skin.

Eye contact

Do not rub eyes. Remove any contact lenses. Flush immediately with plenty of water for at least 15 minutes. Flush eyes thoroughly with water, taking care to rinse under the eyelids. Seek medical advice if irritation persists.

Ingestion

If swallowed, no specific intervention is indicated, as this material is not likely to be hazardous by ingestion. However if irritation or discomfort occurs, obtain medical advice.

Burns

Rinse with water until the pain stops and continue for 30 minutes.

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

Exposure to silver dust or smoke may cause a bluish or greyish pigmentation to the skin and eyes.

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

No special

Information to medics

Bring this safety data sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials e.g. dry powder or carbon dioxide.
DO NOT USE Water, because it expands explosively in contact with molten/liquid metal.

5.2. Special hazards arising from the substance or mixture

Not flammable. Fine dust or powder may be flammable or explosive in high concentrations exposed to heat, flame or other sources of ignition.
Do not inhale gases which may occur after explosion or combustion.

5.3. Advice for firefighters

Fire fighter must use fresh-air helmet.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

6.2. Environmental precautions

Do not let product enter water sources or drainage system.

6.3. Methods and material for containment and cleaning up

No special procedures are required for cleanup of spill of this material. Recover the product and place it in suitable container for reuse.

6.4. Reference to other sections

See section 13 with regard to the handling of waste. See section 8 for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid inhalation of fumes from heated/molten material. Avoid generation of dust.
See section 8 for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Can act as a catalyst for the decomposition of hydrogen peroxide.
Can react violently with nitric acid in the presence of ethanol.
Reacts with chlorotrifluoride and ethylene amine.

Storage temperature

No data available.

7.3. Specific end use(s)

This product should only be used for applications described in Section 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OEL

Silver
Long-term exposure limit (8-hour TWA reference period): - ppm | 0.1 mg/m3

Silver, soluble compounds (as Ag)
Long-term exposure limit (8-hour TWA reference period): - ppm | 0.01 mg/m3

DNEL / PNEC

DNEL: 0,1 mg/m^3 - Inhalation - Long-term - systemic effects - Worker
DNEL: 0,04 mg/m³ - Inhalation - Long-term - systemic effects - General population
DNEL: 1,2 mg/kg bw/day - Oral - Long-term - systemic effects - General population

PNEC: 0.04 µg/L - freshwater
PNEC: 0.86 µg/L - marine water
PNEC: 0.794 mg/kg soil dw – soil
PNEC: 0.025 mg/L – STP

8.2. Exposure controls

Compliance with the stated exposure limits values should be checked on a regular basis.

General recommendations

Observe general occupational hygiene.

Exposure scenarios

If there is an appendix to this safety data sheet, the indicated exposure scenarios must be complied.

Exposure limits

Trade users are covered by the rules of the working environment legislation on maximum concentrations for exposure. See work hygiene threshold values.

Appropriate technical measures

Demand for control of air pollution, when generating particles/dust or fume. Airborne gas and dust concentrations must be kept as low as possible and below the current threshold values. Use for example an exhaust system if the normal air flow in the work room is not sufficient. Make sure that eyewash and emergency showers are clearly marked.

Hygiene measures

Whenever you take a break in using this product and when you have finished using it, all exposed areas of the body must be washed. Always wash hands, forearms and face.

Measures to avoid environmental exposure

No specific requirements.

Individual protection measures, such as personal protective equipment

-

Generally

Only CE-marked personal protection equipment should be used.

Respiratory Equipment

Use appropriate respiratory protection when airborne exposure limits are exceeded. Recommended filter type P3.

Skin protection

Use suitable protective cloths.

Hand protection

Use suitable protective gloves when generating particles or dust.

Eye protection

Wear safety glasses, when generating particles or dust.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Colour	Odour	pH	Viscosity	Relative density
Solid, granules	Silver	Odourless	-	-	10,5 at 20°C

Phase changes

Melting point (°C)	Boiling point (°C)	Vapour pressure (mm Hg)
961,9	2187	0,013 Pa at 840°C

Data on fire and explosion hazards

Flashpoint (°C)	Ignition (°C)	Self ignition (°C)
-	-	-

Explosion limits (Vol %)	Oxidizing properties
Not explosive	Not oxidising

Solubility

Solubility in water	n-octanol/water coefficient
0,03 µg/l	-

9.2. Other information

Solubility in fat	Additional information
-	Evaporation rate: - Flammability (solid, gas): - Vapour density: - Decomposition temperature: -

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stabile under normal conditions of use.

10.2. Chemical stability
The product is stable under the conditions noted in section 7.

10.3. Possibility of hazardous reactions
Flammable in the form of dust when exposed to flame or by chemical reaction with C2H2, NH3 bromazide, ClF3, ethylenemine, H2O2, oxalic acid, H2SO4, tartaric acid.

10.4. Conditions to avoid
No special

10.5. Incompatible materials
Flammable in the form of dust when exposed to flame or by chemical reaction with C2H2, NH3 bromazide, ClF3, ethylenemine, H2O2, oxalic acid, H2SO4, tartaric acid.

10.6. Hazardous decomposition products
-

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Substance	Species	Test	Route of exposure	Result
	Rat	LD50	Oral	>2000 mg/kg bodyweight
	Mouse	LD50	Oral	>10000 mg/kg

ADI: 182 µg/person

Skin corrosion/irritation
No data available.

Serious eye damage/irritation
No data available.

Respiratory or skin sensitisation
No data available.

Germ cell mutagenicity
No data available.

Carcinogenicity
No data available.

Reproductive toxicity
No data available.

STOT-single exposure
No data available.

STOT-repeated exposure
No data available.

Aspiration hazard
No data available.

Long term effects
Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
Repeated long-term exposure to silver dust or fumes can gradually cause eyes, nail, internal organs and skin to turn a blue-grey colour.

SECTION 12: Ecological information

12.1. Toxicity
Silver ions are environmentally harmful. High toxic effects have been observed at low concentrations.

Substance	Species	Test	Test duration	Result
silverion	Fish, Oncorhynchus mykiss	LC50	96h	0.0062mg/l
silverion	Daphnia Magna	LC50	48h	0.0006 mg/l
silverion	Algae	LC50	72h	0.002 mg/l

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result

No data available.

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	~~BFC~~ BCF

3300 (marine fish).
BCF for freshwater fish is about 10 times lower.

12.4. Mobility in soil

The product (solid) is insoluble in water, but fine powder and some silver compounds can be highly soluble in water.

12.5. Results of PBT and vPvB assessment

The PBT and vPvB criteria do not apply to inorganic substances.

12.6. Other adverse effects

No special

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The product is covered by the regulations on dangerous waste.
The generation of waste should be avoided or minimized wherever possible. The transportation, storage, treatment, and disposal of waste material must be conducted in compliance with all applicable local/national authority regulations.
This product is recyclable. Consideration of disposal via this route should be given.
Hazardous Waste: Waste containing more than 3 % of this substance is hazardous waste with properties H6

Waste

EWC code
09 01 06, 10 07 01, 10 07 02

Specific labelling

-

Contaminated packing

Packaging which contains leftovers from the product must be disposed of in the same way as the product.

SECTION 14: Transport information

Not listed as dangerous goods under ADR and IMDG regulations.

14.1 – 14.4

ADR/RID

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group
Notes
Tunnel restriction code

IMDG

UN-no.
Proper Shipping Name
Class
PG*
EmS
MP**
Hazardous constituent

IATA/ICAO

UN-no.
Proper Shipping Name
Class
PG*

14.5. Environmental hazards

-

14.6. Special precautions for user

-

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available

(*) Packing group

(**) Marine pollutant

SECTION 15: Regulatory information

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

Restrictions for application

-

Demands for specific education

-

Additional information

-

Sources

EC regulation 1907/2006 (REACH)
Directive 2000/532/EC
EC Regulation 1272/2008 (CLP)
EH40/2005

15.2. Chemical safety assessment

Yes

SECTION 16: Other information

Full text of H-phrases as mentioned in section 3

-

The full text of identified uses as mentioned in section 1

-

Other symbols mentioned in section 2

-

Other

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
A change (in proportion to the last essential change (first cipher in SDS version)) is marked with a blue triangle.

Emergency Numbers

Austria: Poison Control Centre Emergency helpline +43 1 406 43 43, 112
Belgium: 070 - 245 245
Bulgaria: +359 2 9154 409
Czech Republic: Toxikologické informační středisko Telefon: +420 224 919 293, +420 224 915 402
Denmark: Kontakt Giftlinien på tlf.nr.: 82 12 12 12 (åbent 24 timer i døgnet).
Estonia: 112, 16662, ((+372) 626 93 90)
Finland: 09-4711/Myrkytystietokeskus tai suora numero 09-471977 Myrkytystietokeskus/HUS, Tukholmankatu 17, 00029 HUS (Helsinki) 112
France: ORFILA (INRS) : + 33 (0)1 45 42 59 59. 24 heures sur 24 et 7 jours sur 7
Germany: Giftnotruf Berlin, Emergency telephone: +49 30 19240 (Tag und Nacht)
Greece: +30 10 779 3777
Hungary: Telefon: 06-80-20-11-99
Iceland: Neyðarlínan: Sími 112. Eitrunarmiðstöð Landsspítalans. Sími: 543 2222.
Ireland: +353 1 8379964
Italy: Centro antiveleni di Roma - Policlinico Umberto I tel. 06-49978000
Latvia: +371 704 2468
Lithuania: Visuomenės sveikatos centrams +370 5 236 20 52 arba +370 687 53378
Malta: 2425 0000
Netherlands: 30-2748888
Norway: Giftinformasjonssentralen på tlf.nr.: 22 59 13 00, 113
Poland: +48 58301 65 16 / +48 58 349 2831
Portugal: Em caso de intoxicacao, ligue 808 250 143
Romania: +40 21 3183606
Slovakia: +421 2 54 77 4166
Slovenia: + 386 41 650500
Spain: Servicio de Información Toxicológica Teléfono: + 34 91 562 04 20 (solo emergencias toxicológicas) Información en español (24h/365 días)
Sweden: 112, 08-331231 (vardagar kl 9-17)
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)

Date of last essential change
(First cipher in SDS version)

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Date of last minor change
(Last cipher in SDS version)

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