

1. Identification of the substance / mixture and of the company / undertaking

1.1 Product identifier

Product name: Silver
CAS-No.: 7440-22-4
EC-No.: 231-131-3

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

Identified use: Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Company: NETZSCH-Gerätebau GmbH
Wittelsbacherstraße 42
95100 Selb / Germany

Customer service Phone: +49 9287 881-555

1.4 Emergency Phone: +49 9287 881-174 (during office hours)

Fax: +49 9287 881-505

E-mail Address: service@ngb.netzsch.com

2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

none

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

none

Hazard
pictograms:

Signalword:

Hazard statements: none

Precautionary statements: none

Additional information: none

2.3 Other hazards

All chemicals are potentially dangerous. Therefore they are to be handled exclusively by specially trained personnel and with the necessary care.

Results of PBT- und vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3. Composition / information on ingredients

3.1 Chemical characterization:

Substances

CAS-No. Description: 7440-22-4 Silver

Identification number(s):

EC number: 231-131-3

Formula: Ag

Molar mass [g/mol]: 107.87

4. First aid measures

4.1 Description of first aid measures

General information: Show this safety data sheet to the doctor in attendance.

After inhalation: Ensure availability of sufficient fresh air. Consult a physician in case of any discomfort.

After skin contact: Wash off with soap and water. Consult a physician in case of any discomfort.

After eye contact: Rinse with plenty of water for at least 15 minutes and seek medical advice if necessary.

After swallowing: Rinse mouth and (let) drink a glass of water. Do NOT induce vomiting. Consult a physician in case of any discomfort.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5. Fire-Fighting measures

5.1 Extinguishing agents

Suitable extinguishing agents: Powder
Water
CO₂

For safety reasons unsuitable extinguishing agents: There are no restrictions concerning extinguishing agents.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

In case of fire, the following can be released:

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5.3 Advice for firefighters

Protective equipment: In case of fire wear self-contained respiratory apparatus and full protective suit.

Additional information: -

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation.

6.2 Environmental precautions

Do not release into sewers / ground water or soil.

6.3 Methods and material for containment and cleaning up

Pick up mechanically.

Dispose the material according to regulations.

6.4 Reference to other sections

Information for safe handling is available in Section 7.

Information concerning personal protective equipment can be read through in Section 8.

Appropriate disposal is described in Section 13.

7. Handling and storage

7.1 Precautions for safe handling

For proper use no special measures are necessary.

Information about fire and explosion protection:

No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for safe storage,
including any incompatibilities: No special requirements.

Information about storage in one
common storage facility: Store away from foodstuffs.

Further information about
storage conditions: Store in a cool area.
Keep the container tightly closed.
Store in a dry area.

Recommended storage
temperature: -

7.3 Specific end use(s)

No further relevant information available.

8. Exposure controls / personal protection

Additional information about
design of technical facilities: No additional data; refer to Section 7.

8.1 Control parameters

Ingredients with limit
values that require
monitoring at the workplace: 7440-22-4 Silver

IOELV (Europ. Union)	Long-term value: 0.1mg/m ³
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Additional information: Limit values are to be observed according to national/ regional regulations.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:

No eating, drinking, smoking and snuffing at the workplace.
Keep at distance to foodstuff, beverages or animal feed.
Remove soiled or soaked clothes.
Wash hands before breaks and at the end of work.
Avoid eye or skin contact.

Individual protection measures:

Body protection is to be selected depending on the concentration and quantity of hazardous substances on the individual workplace. The chemical resistance of body protection has to be clarified with the supplier.

Respiratory protection:

Necessary in case of dust formation: Filter P1.

Protection of hands:

Protection gloves: The material has to be impermeable and resistant against the substance itself. When selecting the glove material pay attention to breakthrough time, permeation rate and degradation.
Selected protection gloves must satisfy all specifications of EU directives 89/686/EEC and the resulting norm EN374.
Material: nitrile rubber.

Eye protection:

Tightly sealed goggles.

Body protection:

Protective work clothing.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

<u>Appearance</u> Form: Colour:	Solid Silver
Odour:	Odourless
Odour threshold:	No data available.
pH-value:	No data available.
<u>Change in condition</u> Melting point / Melting range: Boiling point / Boiling range:	960.5°C 2210°C
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not flammable.
Ignition temperature:	No data available.
Decomposition temperature:	No data available.
Self-igniting:	No data available.
Danger of explosion:	No danger of explosion.
<u>Explosion limits</u> Lower: Upper:	Not applicable. Not applicable.
Oxidizing properties:	No data available.
Vapour pressure:	Not applicable.
Density at 20°C:	10.5 g/cm ³
Relative density:	No data available.
Vapour density:	No data available.
Evaporation rate:	No data available.
Solubility in / Miscibility with water:	Practically insoluble.
Partition coefficient (n-octanol / water):	No data available.
<u>Viscosity</u> Dynamic: Kinematic:	Not applicable. Not applicable.

9.2 Other information

No further relevant information available.

10. Stability and reactivity

10.1 Reactivity

See Section 10.3.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

Chemically stable.

10.3 Possibility of hazardous reactions

Exothermic reaction with : acetylide, ammonia, ammonium compounds, azides, ethylene oxide, fluorine, oxalic acid, performic acid, peroxide compounds or hydrogen peroxide.

Reaction with organic substances, zinc.

Risk of ignition or formation of dangerous gases or steam when in contact with: halogen, halogen compounds and concentrated sulphuric acid.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

Sulphur or sulphur compounds.

10.6 Hazardous decomposition products

No data available.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD / LC50 values relevant for classification:

Oral | LD50 > >2000 mg/kg (rat)
Dermal | LD50 > >2000 mg/kg (rat)
Inhalative | LD50 > >5,16 mg/l (rat)

Potential health effects

Skin: No information available.
Eyes: No information available.
Inhalation: Adverse health effects only when intense contact with dust.
Ingestion: No information available.
Sensitization: No sensitizing effects are known.

CMR effects

Germ cell mutagenicity: No information available.
Carcinogenicity: No information available.
Reproductive toxicity: No information available.

Aspiration hazard:

No information available.

Specific target organ toxicity – single exposure:

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity – repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:

As far as our experience goes, when properly handled according to the intended use this product has no adverse health effects.

Further information:

The product should be handled with the usual care as necessary for chemicals.

12. Ecological information**12.1 Toxicity****Aquatic toxicity**

There is no quantitative data regarding aquatic toxicity of the product available.

12.2 Persistence and degradability

Persistence: No further relevant information available.

Degradability: No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

Ecotoxicological effects

Remark: -

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

No further relevant information available.

13. Disposal considerations**13.1 Waste treatment methods**

Recommendation: Dispose of residual amounts and non-reusable solutions in accordance with local legal regulations. Waste codes are to be assigned by the operator according to the respective application of the product.

Uncleaned packaging

Recommendation: Disposal same as for unused product.

14. Transport information

	ADR	IMDG	IATA
14.1 UN-Number	none	none	none
14.2 UN proper shipping name	none	none	none
14.3 Transport hazard class(es) / -label			
14.4 Packing group:	none	none	none
Transport hazard class(es):	none	none	none
Label:	none	none	none
danger symbol:			
14.5 Environmental hazards:	no	no	no

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

15. Regulatory information

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

National regulations:

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Waterhazard class: Generally not hazardous for water.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. Other Information

Guarantee

This information has been compiled to the best of our knowledge; however, we make no claim as to its completeness and it is meant to serve only as a guideline. NETZSCH-Gerätebau GmbH disclaims any liability for damages which may occur in handling or in contact with these chemicals.

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