


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

- **1.1 Product identifier**
- **Trade name:** Silver wool
- **CAS Number:**  
7440-22-4
- **EC number:**  
231-131-3
- **Registration number** 01-2119555669-21-0026
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Precious metal alloy for technical purposes
- **Manufacturer/Supplier:**  
Heraeus Deutschland GmbH & Co. KG  
Heraeusstr. 12-14  
D-63450 Hanau  
Germany  
Tel: +49-(0)6181-355707
- **Further information obtainable from:** sds@heraeus.com
- **1.4 Emergency telephone number:**  
Emergency Contact (24-Hour-Phone Number)  
GBK-GmbH, Ingelheim: (international) +49 6132-84463  
GBK/ Infotrac ID 105241: (China domestic) 4001 200 761

**SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
Aquatic Acute 1 H400 Very toxic to aquatic life.  
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**  
N; Dangerous for the environment  
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**  
  
GHS09
- **Signal word** Warning
- **Hazard statements**  
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**  
P273 Avoid release to the environment.  
P391 Collect spillage.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**  
7440-22-4 silver
- **Identification number(s)**
- **EC number: 231-131-3**

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:** In case of accident or if you feel unwell, seek medical advice immediately.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Seek immediate medical advice.
- **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.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Avoid formation of dust.  
Ensure adequate ventilation
- **6.2 Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.  
Do not allow to penetrate the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Send for recovery or disposal in suitable receptacles.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

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**SECTION 7: Handling and storage**

**· 7.1 Precautions for safe handling**

Wear protective equipment. Keep unprotected persons away.  
The usual precautionary measures are to be adhered to when handling chemicals.  
Prevent formation of dust.  
Ensure good ventilation/exhaustion at the workplace.

**· Information about fire - and explosion protection:**

The product is not combustible.  
see chapter 5

**· 7.2 Conditions for safe storage, including any incompatibilities**

**· Storage:**

**· Requirements to be met by storerooms and receptacles:** No special requirements.

**· Information about storage in one common storage facility:** Not required.

**· Further information about storage conditions:** None.

**· 7.3 Specific end use(s)** No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

**· Additional information about design of technical facilities:** No further data; see item 7.

**· 8.1 Control parameters**

**· Ingredients with limit values that require monitoring at the workplace:**

7440-22-4 silver

WEL Long-term value: 0.1 mg/m<sup>3</sup>

**· Additional information:** The lists valid during the making were used as basis.

**· 8.2 Exposure controls**

**· Personal protective equipment:**

**· General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.  
Immediately remove all soiled and contaminated clothing

**· Respiratory protection:**

Use respiratory protective device against the effects of fumes/dust/aerosol.  
Filter P3

**· Protection of hands:** No chemical-protective gloves required.

**· Eye protection:** Safety glasses

**· Body protection:** Protective work clothing

**SECTION 9: Physical and chemical properties**

**· 9.1 Information on basic physical and chemical properties**

**· General Information**

**· Appearance:**

**Form:** Solid  
**Colour:** Silver grey  
**Odour:** Odourless

**· Change in condition**

**Melting point/Melting range:** 961.3 °C  
**Boiling point/Boiling range:** 2180 °C

**· Flash point:** Not applicable.

**· Flammability (solid, gaseous):** Product is not flammable.

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|---|---|
| · <b>Danger of explosion:</b>                             | Product does not present an explosion hazard. |
| · <b>Density at 20 °C:</b>                                | 10.5 g/cm <sup>3</sup>                        |
| · <b>Solubility in / Miscibility with water at 20 °C:</b> | < 0.001 g/l                                   |
| · <b>9.2 Other information</b>                            | No further relevant information available.    |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.
- **Additional information:** -

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

7440-22-4 silver

Oral	LD50	>10000 mg/kg (mouse)
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- **Primary irritant effect:**
- **on the skin:** No irritating effects known.
- **on the eye:** No irritating effects known.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**  
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

### SECTION 12: Ecological information

- **12.1 Toxicity**

· **Aquatic toxicity:**

LC50/48h	0.00022 mg/l (daphnia)
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- **12.2 Persistence and 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:** Very toxic for water fleas.
- **Additional ecological information:**
- **General notes:** Avoid transfer into the environment.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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**SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**
- **Recommendation**  
Contact manufacturer for recycling information.  
Disposal must be made according to official regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport information**

· <b>14.1 UN-Number</b> · <b>ADR, IMDG, IATA</b>	UN3077
· <b>14.2 UN proper shipping name</b> · <b>IMDG</b>  · <b>IATA</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver (particle size < 1 mm)), MARINE POLLUTANT  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver (particle size < 1 mm))
· <b>14.3 Transport hazard class(es)</b> · <b>ADR, IMDG, IATA</b>  	
· <b>Class</b> · <b>Label</b>	9 Miscellaneous dangerous substances and articles. 9
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b> · <b>Special marking (ADR):</b> · <b>Special marking (IATA):</b>	Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)
· <b>14.6 Special precautions for user</b>  · <b>Danger code (Kemler):</b> · <b>EMS Number:</b>	Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Transport category</b> · <b>Tunnel restriction code</b>	5 kg 3 E
· <b>UN "Model Regulation":</b>	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Entwurf Silver wool), 9, III

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**SECTION 15: Regulatory information**

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing MSDS:** HH-EHS- Chemical Safety
- **Abbreviations and acronyms:**
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
  - ICAO: International Civil Aviation Organisation*
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*
  - IMDG: International Maritime Code for Dangerous Goods*
  - IATA: International Air Transport Association*
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
  - EINECS: European Inventory of Existing Commercial Chemical Substances*
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)*
  - LC50: Lethal concentration, 50 percent*
  - LD50: Lethal dose, 50 percent*
  - Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1*
  - Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1*
- **\* Data compared to the previous version altered.**

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