# Safety data sheet Safety data sheet

acc. to Safe Work Australia - Code of Practice

**Silver sulphate ≥ 99%, p.a.**

article number: **6791**
Version: **GHS 3.0 en**
Replaces version of: 2021-08-04
Version: (GHS 2)

date of compilation: 2017-01-30
Revision: 2024-03-02

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

### 1.1 Product identifier

| | |
|---|---|
| Identification of the substance | **Silver sulphate** ≥ 99%, p.a. |
| Article number | 6791 |
| CAS number | 10294-26-5 |

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

| | |
|---|---|
| Relevant identified uses: | Laboratory chemical<br>Laboratory and analytical use |
| Uses advised against: | Do not use for private purposes (household).<br>Food, drink and animal feedingstuffs. |

### 1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

**Telephone:**+49 (0) 721 - 56 06 0
**Telefax:** +49 (0) 721 - 56 06 149
**e-mail:** sicherheit@carlroth.de
**Website:** www.carlroth.de

| | |
|---|---|
| Competent person responsible for the safety data sheet: | Department Health, Safety and Environment |
| **e-mail (competent person):** | **sicherheit@carlroth.de** |

### 1.4 Emergency telephone number

| Name | Street | Postal code/city | Telephone | Website |
|---|---|---|---|---|
| NSW Poisons Information Centre Childrens Hospital | Hawkesbury Road | 2145 West-mead, NSW | 131126 | |

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification acc. to GHS**

| Section | Hazard class | Cat-egory | Hazard class and category | Hazard statement |
|---|---|---|---|---|
| 3.3 | Serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |

For full text of abbreviations: see SECTION 16

### 2.2 Label elements

**Labelling**

**Signal word** **Danger**

**Pictograms**

GHS05

**Hazard statements**

H318 Causes serious eye damage

**Precautionary statements**

**Precautionary statements - prevention**

P280 Wear eye protection/face protection

**Precautionary statements - response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 Immediately call a POISON CENTER or doctor/physician

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

According to the results of its assessment, this substance is not a PBT or a vPvB.

**Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| | |
|---|---|
| Name of substance | Silver sulphate |
| Molecular formula | $Ag_2SO_4$ |
| Molar mass | 311.8 $^{g}/_{mol}$ |
| CAS No | 10294-26-5 |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General notes**

Take off contaminated clothing.

**Following inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following skin contact**

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

**Following eye contact**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**Following ingestion**

Rinse mouth. Call a doctor if you feel unwell.

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

Risk of blindness, Risk of serious damage to eyes, Discoloration of the cornea

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

none

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

co-ordinate firefighting measures to the fire surroundings!
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

**Unsuitable extinguishing media**

water jet

### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

**Hazardous combustion products**

In case of fire may be liberated: Sulphur oxides (SOx)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**

Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

**Advice on how to contain a spill**

Covering of drains. Take up mechanically.

**Advice on how to clean up a spill**

Take up mechanically. Control of dust.

**Other information relating to spills and releases**

Place in appropriate containers for disposal.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid dust formation.

**Measures to prevent fire as well as aerosol and dust generation**

Removal of dust deposits.

**Advice on general occupational hygiene**

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

**Incompatible substances or mixtures**

Observe hints for combined storage.

**Consideration of other advice:**

**Ventilation requirements**

Use local and general ventilation.

**Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**National limit values**

**Occupational exposure limit values (Workplace Exposure Limits)**

| Country | Name of agent | CAS No | Identifier | TWA [mg/m³] | STEL [mg/m³] | Ceiling-C [mg/m³] | Notation | Source |
|---|---|---|---|---|---|---|---|---|
| AU | nuisance dusts | | WES | 10 | | | i | WES |

**Notation**

| | |
|---|---|
| Ceiling-C | Ceiling value is a limit value above which exposure should not occur |
| i | Inhalable fraction |
| STEL | Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified) |
| TWA | Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

**Environmental values**

| Relevant PNECs and other threshold levels | | | | |
|---|---|---|---|---|
| **End-point** | **Threshold level** | **Organism** | **Environmental compartment** | **Exposure time** |
| PNEC | 0.04 µg/l | aquatic organisms | freshwater | short-term (single instance) |
| PNEC | 0.86 µg/l | aquatic organisms | marine water | short-term (single instance) |
| PNEC | 0.025 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 438.1 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | 0.794 mg/kg | terrestrial organisms | soil | short-term (single instance) |
| PNEC | 438.1 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |

## 8.2 Exposure controls

**Individual protection measures (personal protective equipment)**

**Eye/face protection**

Use safety goggle with side protection.

**Skin protection**

**• hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

**• type of material**

NBR (Nitrile rubber)

**• material thickness**

>0,11 mm

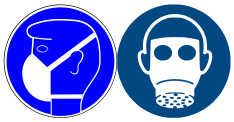
**• breakthrough times of the glove material**

>480 minutes (permeation: level 6)

**• other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | solid |
| Form | powder |
| Colour | white |
| Odour | odourless |
| Melting point/freezing point | 655 °C (ECHA) |
| Boiling point or initial boiling point and boiling range | not determined |
| Flammability | non-combustible |
| Lower and upper explosion limit | not determined |
| Flash point | not applicable |
| Auto-ignition temperature | not determined |
| Decomposition temperature | 1,085 °C (ECHA) |
| pH (value) | 5 – 6 (in aqueous solution: 5 $^{g}/_{l}$, 25 °C) |
| Kinematic viscosity | not relevant |
| Solubility(ies) | |
| Water solubility | 8 $^{g}/_{l}$ at 25 °C |
| Partition coefficient | |
| Partition coefficient n-octanol/water (log value): | not relevant (inorganic) |
| Vapour pressure | not determined |
| Density and/or relative density | |
| Density | 5.45 $^{g}/_{cm^3}$ at 20 °C |
| Relative vapour density | Information on this property is not available. |
| Bulk density | ~ 1,200 $^{kg}/_{m^3}$ |

| | |
|---|---|
| Particle characteristics | No data available. |
| Other safety parameters | |
| Oxidising properties | none |

### 9.2 Other information

| | |
|---|---|
| Information with regard to physical hazard classes: | hazard classes acc. to GHS (physical hazards): not relevant |
| Other safety characteristics: | There is no additional information. |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

May cause decomposition by long-term light influence.

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Keep away from heat.  Decompostion takes place from temperatures above: 1,085 °C.

### 10.5 Incompatible materials

aluminium, Steel

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Classification acc. to GHS**

**Acute toxicity**

Shall not be classified as acutely toxic.
GHS of the United Nations, annex 4. May be harmful if swallowed.

**Acute toxicity**

| Exposure route | Endpoint | Value | Species | Method | Source |
|---|---|---|---|---|---|
| oral | LD50 | >2,000 $^{mg}/_{kg}$ | rat | | ECHA |

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitisation**

Shall not be classified as a respiratory or skin sensitiser.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**

**• If swallowed**

Data are not available.

**• If in eyes**

discoloration of the cornea, Causes serious eye damage, risk of blindness

**• If inhaled**

causes slight to moderate irritation

**• If on skin**

Data are not available.

**• Other information**

none

### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

**Aquatic toxicity (acute)**

| Endpoint | Value | Species | Source | Exposure time |
|---|---|---|---|---|
| LC50 | 1.2 $^{µg}/_{l}$ | fish | ECHA | 96 h |

**Aquatic toxicity (chronic)**

| Endpoint | Value | Species | Source | Exposure time |
|---|---|---|---|---|
| EC50 | 0.8 $^{µg}/_{l}$ | aquatic invertebrates | ECHA | 7 d |

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

| | |
|---|---|
| BCF | 70 |

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Sewage disposal-relevant information**

Do not empty into drains.

**Waste treatment of containers/packagings**

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

| | |
|---|---|
| **UN RTDG** | UN 3077 |
| IMDG-Code | UN 3077 |
| ICAO-TI | UN 3077 |

### 14.2 UN proper shipping name

| | |
|---|---|
| **UN RTDG** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |

| | |
|---|---|
| IMDG-Code | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| ICAO-TI | Environmentally hazardous substance, solid, n.o.s. |
| Technical name | Silver sulphate |

**14.3 Transport hazard class(es)**

| | |
|---|---|
| **UN RTDG** | 9 |
| IMDG-Code | 9 |
| ICAO-TI | 9 |

**14.4 Packing group**

| | |
|---|---|
| **UN RTDG** | III |
| IMDG-Code | III |
| ICAO-TI | III |

**14.5 Environmental hazards** hazardous to the aquatic environment

**14.6 Special precautions for user**

There is no additional information.

**14.7 Transport in bulk according to IMO instruments**

The cargo is not intended to be carried in bulk.

**14.8 Information for each of the UN Model Regulations**

**Transport informationNational regulationsAdditional information(UN RTDG)**

| | |
|---|---|
| **UN number** | 3077 |
| **Class** | 9 |
| **Environmental hazards** | Yes<br>Hazardous to the aquatic environment |
| **Packing group** | III |
| **Danger label(s)** | 9<br>Fish and tree |

| | |
|---|---|
| **Special provisions (SP)** | 274, 331, 335, 375<br>UN RTDG |
| **Excepted quantities (EQ)** | E1<br>UN RTDG |
| **Limited quantities (LQ)** | 5 kg<br>UN RTDG |
| **Emergency Action Code** | 2Z |

**International Maritime Dangerous Goods Code (IMDG) - Additional information**

| | |
|---|---|
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. |
| Particulars in the shipper's declaration | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Silver sulphate), 9, III |
| Marine pollutant | yes (hazardous to the aquatic environment), (Silver sulphate) |
| Danger label(s) | 9, "Fish and tree" |

| | |
|---|---|
| Special provisions (SP) | 274, 335, 966, 967, 969 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 kg |
| EmS | F-A, S-F |
| Stowage category | A |

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

| | |
|---|---|
| Proper shipping name | Environmentally hazardous substance, solid, n.o.s. |
| Particulars in the shipper's declaration | UN3077, Environmentally hazardous substance, solid, n.o.s., (Silver sulphate), 9, III |
| Environmental hazards | yes (hazardous to the aquatic environment) |
| Danger label(s) | 9, "Fish and tree" |

| | |
|---|---|
| Special provisions (SP) | A97, A158, A179, A197, A215 |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 30 kg |

## SECTION 15: Regulatory information

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

There is no additional information.

**National regulations(Australia)**

**Australian Inventory of Chemical Substances(AICS)**

Substance is listed.

**Other information**

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

### National inventories

| Country | Inventory | Status |
|---|---|---|
| AU | AIIC | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |
| EU | REACH Reg. | substance is listed |
| JP | CSCL-ENCS | substance is listed |
| KR | KECI | substance is listed |
| MX | INSQ | substance is listed |
| NZ | NZIoC | substance is listed |
| PH | PICCS | substance is listed |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed (ACTIVE) |
| VN | NCI | substance is listed |

**Legend**

| | |
|---|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chemicals Inventory |
| NCI | National Chemical Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---|---|---|---|
| 2.3 | | Endocrine disrupting properties:<br>Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes |
| 14.8 | | Emergency Action Code:<br>2Z | yes |
| 15.1 | | Other information:<br>Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. | yes |
| 15.1 | | National inventories:<br>change in the listing (table) | yes |

## Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---|---|
| BCF | Bioconcentration factor |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| ED | Endocrine disruptor |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| UN RTDG | UN Recommendations on the Transport of Dangerous Good |
| vPvB | Very Persistent and very Bioaccumulative |
| WES | Safe Work Australia: Workplace exposure standards for airborne contaminants |

## Key literature references and sources for data

Safe Work Australia’s Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Silver sulphate ≥ 99%, p.a.**

article number: **6791**

**List of relevant phrases (code and full text as stated in section 2 and 3)**

| Code | Text |
|---|---|
| H318 | Causes serious eye damage. |

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.