



Health
Fire
Reactivity
Personal Protection

## Safety Data Sheet

### Silver Sulfate

#### Section 1: Chemical Product and Company Identification

**Product Name:** silver sulfate

**Catalog Codes:** 513

**CAS#:** 10294-26-5

**RTECS:** -

**TSCA:** -

**Synonym:** -

**Chemical Name:** silver sulfate

**Chemical Formula:** Ag<sub>2</sub>SO<sub>4</sub>

**Contact Information:**

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#### Section 2: Composition and Information on Ingredients

**Composition:**

**Name** silver sulfate

**CAS #** 10294-26-5

**% by Weight**

**Toxicological Data on Ingredients:**

#### Section 3: Hazards Identification

**Classification of the substance or mixture**

Serious eye damage, (Category 1)

H318: Causes serious eye damage.

Short-term (acute) aquatic hazard, (Category 1)


H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, (Category 1)


H410: Very toxic to aquatic life with long lasting effects.

**Label elements**

**Labelling according Regulation (EC) No 1272/2008**

Pictogram	
Signal Word	Danger
Hazard Statements	
H318	Causes serious eye damage.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary Statements	
P273	Avoid release to the environment.
P280	Wear eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Collect spillage.
P501	Dispose of contents/ container to an approved waste disposal plant.
Supplemental Hazard Statements	none

**Reduced Labeling (<= 125 ml)**

Pictogram	
Signal Word	Danger
Hazard Statements	
H318	Causes serious eye damage.
Precautionary Statements	
P280	Wear eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard	none

## Statements

### **Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## Section 4: First Aid Measures

### **Description of first-aid measures**

#### **General advice**

Show this material safety data sheet to the doctor in attendance.

#### **If inhaled**

After inhalation: fresh air.

#### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

#### **In case of eye contact**

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### **If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

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

No data available

## Section 5: Fire and Explosion Data

### Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

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

Sulfur oxides

Silver/silver oxides

Not combustible.

Fire may cause evolution of:

Sulfur oxides

Ambient fire may liberate hazardous vapours.

#### Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

#### Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### Environmental precautions

Do not let product enter drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### Reference to other sections

For disposal see section 13.

## Section 7: Handling and Storage

### Precautions for safe handling

For precautions see section 2

### Conditions for safe storage, including any incompatibilities

#### Storage conditions

Protected from light. Tightly closed. Dry.

Recommended storage temperature see product label.

#### Storage class

Storage class (TRGS 510): 13: Non Combustible Solids.

#### Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated.

## Section 8: Exposure Controls/Personal Protection

### Control parameters

#### Ingredients with workplace control parameters

#### Exposure controls

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

##### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

### **Body Protection**

protective clothing

### **Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

### **Control of environmental exposure**

Do not let product enter drains.

## **Section 9: Physical and Chemical Properties**

### **Information on basic physical and chemical properties**

- |  |                              |
|--|------------------------------|
| a) Physical state                          | powder                       |
| b) Color                                   | white                        |
| c) Odor                                    | odorless                     |
| d) Melting point/freezing point            | Melting point/ range: 652 °C |
| e) Initial boiling point and boiling range | No data available            |

f) Flammability (solid, gas)	The product is not flammable.
g) Upper/lower flammability or explosive limits	No data available
h) Flash point	Not applicable
i) Autoignition temperature	No data available
j) Decomposition temperature	No data available
k) pH	No data available
l) Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m) Water solubility	8,21 g/l at 20 °C - OECD Test Guideline 105- soluble
n) Partition coefficient: n-octanol/water	Not applicable for inorganic substances
o) Vapor pressure	No data available
p) Density	5,450 g/cm <sup>3</sup>
Relative density	No data available
q) Relative vapor density	No data available
r) Particle characteristics	No data available
s) Explosive properties	No data available
t) Oxidizing properties	none
<b>Other safety information</b>	
Bulk density	ca.1.200 kg/m <sup>3</sup>

## Section 10: Stability and Reactivity Data

### Reactivity

No data available

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### Possibility of hazardous reactions

no information available

### Conditions to avoid

no information available

### Incompatible materials

Aluminum, Mild steel

### Hazardous decomposition products

In the event of fire: see section 5

## Section 11: Toxicological Information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - > 2.000 mg/kg

(OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.

(OECD Test Guideline 405)

Remarks: Risk of permanent damage due to staining of the cornea.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Test Type: Micronucleus test

Test system: Human lymphocytes



Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 487  
Result: negative  
Test Type: In vitro mammalian cell gene mutation test  
Test system: Mouse lymphoma test  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: Positive results were obtained in some in vitro tests.  
Test Type: Micronucleus test  
Species: Rat  
Cell type: Bone marrow  
Application Route: Oral  
Method: OECD Test Guideline 474  
Result: negative

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

No data available

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Additional Information**

#### **Endocrine disrupting properties**

#### **Product:**

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - 30 mg/kg - LOAEL (Lowest observed adverse effect level) - 125 mg/kg

Remarks: Subchronic toxicity  
(in analogy to similar products)

The value is given in analogy to the following substances: colloidal silver

May cause argyria (a slate-gray or bluish discoloration of the skin and deep tissues due to the deposit of insoluble albuminate of silver).

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated

## Section 12: Ecological Information

### Toxicity

Toxicity to fish	semi-static test LC50 - Pimephales promelas (fathead minnow) - 0,0012 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates	semi-static test LC50 - Daphnia magna (Water flea) - 0,00022 mg/l - 48 h Remarks: (ECHA)
Toxicity to algae	flow-through test EC10 - Pseudokirchneriella subcapitata (green algae) - 0,00041 mg/l - 24 h Remarks: (ECHA)
Toxicity to Fish (Chronic toxicity)	flow-through test NOEC - Pimephales promelas (fathead minnow) - 0,000351 mg/l - 32 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	semi-static test EC10 - Ceriodaphnia dubia (water flea) - 0,00248 mg/l - 7 d (US-EPA)

### Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

### Bioaccumulative potential

Bioaccumulation	Cyprinus carpio (Carp) - 41 d at 20 °C(Disilver(1+) sulfat)
	Bioconcentration factor (BCF): 70

### Mobility in soil

No data available

### Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Endocrine disrupting properties****Product:**

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Other adverse effects**

No data available

**Section 13: Disposal Considerations****Waste treatment methods**

No data available

## Section 14: Transport Information

### UN number

ADR/RID: 3077

IMDG: 3077

IATA: 3077

### UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Disilver(1+) sulfate)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Disilver(1+) sulfate)

IATA: Environmentally hazardous substance, solid, n.o.s. (Disilver(1+) sulfate)

### Transport hazard class(es)

ADR/RID: 9

IMDG: 9

IATA: 9

### Packaging group

ADR/RID: III

IMDG: III

IATA: III

### Environmental hazards

ADR/RID: yes

IMDG Marine pollutant: yes

IATA: yes

### Special precautions for user

Tunnel restriction code : (-)

### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

## Section 15: Other Regulatory Information

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E1 ENVIRONMENTAL HAZARDS

### Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

**Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

**Section 16: Other Information**

**References:** Not available

**Other Special Considerations:** Not available

**Created:** 07/2024

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