

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

# Silver Sulfate

Version number: 2  
 Issued: 2024-03-12  
 Replaces SDS: 2022-10-19



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

### 1.1. Product identifier

**Trade name**

Silver Sulfate

**CAS number**

10294-26-5

**EC number**

233-653-7

**Synonyms**

Disilver(1+) sulphate

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

**Relevant identified uses**

Research and development. Laboratory Chemicals. Manufacture of substances.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

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

**Supplier**

Molekula Group

**Address**

Molekula Ltd, Lingfield Way, Darlington,  
 DL1 4XX Darlington  
 United Kingdom

**Telephone**

+44 (0) 3302 000 333

**Email**

info@molekula.com

**Web site**

www.molekula.com

**Contact person**

Kevin Banks

**Email**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Serious eye damage, hazard category 1

Hazardous to the aquatic environment — Acute hazard category 1

Hazardous to the aquatic environment — Chronic hazard category 1

#### Hazard statements

H318, H400, H410

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H318 Causes serious eye damage.

H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/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.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P312 Call a POISON CENTER/doctor if you feel unwell.

P391 Collect spillage.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container to local regulations.

P264 Wash skin thoroughly after handling.

### 2.3. Other hazards

No data available

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## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
Silver sulfate	10294-26-5 233-653-7 - -	100%	Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1	H318, H400, H410 - -	-

#### Molecular weight

311.80

#### Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary. Irritations

#### Skin contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

#### Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention. Causes serious eye damage.

#### Ingestion

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

#### Information for doctors

No data available.

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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.

See section 11 for more detailed information on health effects and symptoms.

### Inhalation

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing. Unconsciousness, possibly death.

### Skin contact

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting. Unconsciousness, death.

### Eye contact

Single exposure may cause the following adverse effects: Causes serious eye damage. Unconsciousness, possibly death.

### Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury. Unconsciousness, possibly death.

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

Treat symptomatically. Immediately call a POISON CENTER/doctor.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

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

Specific hazards: Corrosive. Not combustible.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Sulphur oxides

Silver. silver oxides

Ambient fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

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## SECTION 6: Accidental release measures

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

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

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

Collect with absorbent, non-combustible material into suitable containers.

### 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2. Work under hood. Take action to prevent static discharges. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

#### General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use.

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

Store in a dry place. Store in a closed container.

Store at ambient temperature.

Light sensitive.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits

TWA: 0.01mg/m<sup>3</sup>. Europe. Indicative occupational exposure limit values

TWA: 0.01mg/m<sup>3</sup>. UK. EH40. WEL = Workplace Exposure Limit.

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## 8.2. Exposure controls

### Personal Protective Equipment Symbols



#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced. Wash contaminated skin thoroughly after handling.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

#### Other skin protection

Wash skin thoroughly after handling.

#### Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

#### Environmental exposure controls

Avoid discharge into drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Physical state

Solid

#### Colour

White to grey

#### Odour

No data available

#### Melting point / freezing point

652 °C

#### Boiling point or initial boiling point and boiling range

1085 °C

#### Flammability

No data available

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## Lower and upper explosion limit

No data available

## Flash point

No data available

## Auto-ignition temperature

No data available

## Decomposition temperature

No data available

## pH

No data available

## Kinematic viscosity

No data available

## Solubility

No data available

## Partition coefficient n-octanol/water

No data available

## Vapour pressure

No data available

## Density and/or relative density

5.45 g/cm<sup>3</sup>

## Relative vapour density

No data available

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

No data available

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## 10.4. Conditions to avoid

Light.

## 10.5. Incompatible materials

Strong oxidising agents. Mild steel Aluminium.

## 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals
Silver sulfate 10294-26-5 / 233-653-7	LD50	>2000 mg/kg	Oral	Rat

#### Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
Silver sulfate 10294-26-5 / 233-653-7	No skin irritation.	4 hours	Rabbit

#### Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species	Other
Silver sulfate 10294-26-5 / 233-653-7	Causes serious eye damage.	Rabbit	Risk of corneal damage.

#### Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Exposure route	Metabolic activation / Exposure	Species	Method / Guideline
Silver sulfate 10294-26-5 / 233-653-7	Negative.	-	with and without metabolic activation	Human lymphocytes	Micronucleus test



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Product / Sub- stance name CAS / EC no.	Result	Exposure route	Metabolic activa- tion / Exposure	Species	Method / Guideline
Silver sulfate 10294-26-5 / 233- 653-7	Positive results were obtained in some in vitro tests.	-	with and without metabolic activation	Mouse lymphoma test	In vitro mammalian cell gene mutation test.
Silver sulfate 10294-26-5 / 233- 653-7	Negative.	Oral	-	Rat bone marrow	Micronucleus test

## Aspiration hazard

Based on available data, the classification criteria are not met.

## 11.2. Information on other hazards

No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Silver sulfate 10294-26-5 / 233-653-7	LC50	0.0012 mg/l	96 hours	Pimephales promelas (Fat-head Minnow)

#### Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Silver sulfate 10294-26-5 / 233-653-7	EC10	0.00041 mg/l	24 hours	Pseudokirchneriella sub- capitata

#### Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Silver sulfate 10294-26-5 / 233-653-7	LC50	0.00022 mg/l	48 hours	Daphnia magna

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## 12.2. Persistence and degradability

No data available

## 12.3. Bioaccumulative potential

### Bioaccumulative potential

Product / Substance name CAS / EC no.	Bioconcentration factor (BCF)	Duration	Species
Silver sulfate 10294-26-5 / 233-653-7	70	41 days	Cyprinus carpio (Common carp)

## 12.4. Mobility in soil

No data available

## 12.5. Results of PBT and vPvB assessment

No data available

## 12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

## 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

## SECTION 14: Transport information

### 14.1. UN number

3077

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver sulfate)

#### IMDG proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Silver sulfate)

#### IATA proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Silver sulfate)

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## 14.3. Transport hazard class(es)

### Label

ADR/RID/ADN



9 Environmental hazard

IMDG



9 Environmental hazard

IATA



9 Environmental hazard

### ADR / RID Class

9

### ADR / RID Classification code

M7

### ADR / RID hazard identification number

90

### IMDG Class

9

### IATA Class

9

### ADN Class

9

### ADN Class Code

M7

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## 14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

## 14.5. Environmental hazards

### Environmental hazards

ADR/RID/ADN: Hazardous for the environment

## 14.6. Special precautions for user

### Special precautions for user

Tunnel restriction code: -

Transport category: 3

### IMDG EmS

F-A, S-F

## 14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

## SECTION 15: Regulatory information

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

#### EU regulations

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

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

#### National regulations

Directive: 2012/18/EU: ENVIRONMENTAL HAZARDS

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

### Phrase meaning

Eye Dam. 1 - Serious eye damage, hazard category 1

Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1

Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.