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Safety data sheet according to 1907/2006/EC, Article 31

revised on: 28.02.2023 Version number 6 (replaces version 5) Creation Date: 21.06.2016

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

· 1.1 Product identifier

· Trade name: Silver sulfate

· Article number: 887

· CAS Number:

10294-26-5

· EC number:

233-653-7

- · Registration number 01-2119918297-31-XXXX
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- · Sector of Use
- SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- SU9 Manufacture of fine chemicals
- SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
- SU24 Scientific research and development

Product category

- PC19 Intermediate
- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- PC21 Laboratory chemicals
- PC29 Pharmaceuticals
- PC39 Cosmetics, personal care products
- PC40 Extraction agents

Process category

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC4 Chemical production where opportunity for exposure arises

PROC5 Mixing or blending in batch processes

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent

Environmental release category

ERC1 Manufacture of the substance

ERC2 Formulation into mixture

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC6a Use of intermediate

· Application of the substance / the mixture

Reagent for analysis

Laboratory chemicals

Industrial use

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Th. Gever GmbH & Co. KG

Dornierstr. 4 - 6

D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417

www.thgeyer.de

sicherheitsdatenblaetter@thgeyer.de

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· Further information obtainable from: Product management department

· 1.4 Emergency telephone number:

National Poisons Information Service

City Hospital Dudley Road

Birmingham B18 7QH

Tel.:Emergency: (00 44) 87 06 00 62 66

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

- · 2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the GB CLP regulation.

Hazard pictograms





GHS07 GHS09

- · Signal word Warning
- · Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

· Precautionary statements

P273 Avoid release to the environment.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

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 Substances

· CAS No. Description

CAS: 10294-26-5 silver sulfate · Identification number(s) · EC number: 233-653-7 · M-factor Aquatic Acute: 1000

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· General information:

First aider needs to protect himself.

Immediately remove any clothing soiled by the product.

· After inhalation:

Remove person from danger area.

Supply fresh air.

Seek medical treatment.

After skin contact:

Flush contaminated skijn with soap and plenty of water.

After prolonged contact or any signs of skin changes (redness or other signs of inflammation) seek medical attention.

take care of a Possiblility of inhalation at the same time

· After eye contact:

Protect unharmed eye.

Rinse opened eye for several minutes under running water. Then consult a doctor.

Remove contact lenses

Continue rinsing.

· After swallowing:

Rinse out mouth and then drink plenty of water.

Seek medical treatment.

- · Information for doctor: Please observe safety data sheet/label.
- · 4.2 Most important symptoms and effects, both acute and delayed

Gastric or intestinal disorders

Cramp

\cdot 4.3 Indication of any immediate medical attention and special treatment needed

Give Glucocorticoid-Aerosol in case of lung irritation.

Monitor circulation.

Symptomatic treatment.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
- · Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- · For safety reasons unsuitable extinguishing agents: Water with full jet.
- · 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon monoxide (CO)

Sulphur dioxide (SO2)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

- 5.3 Advice for firefighters
- · Protective equipment:

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

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· Additional information

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Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Avoid formation of dust.

Ensure adequate ventilation.

Do not inhale dust.

Avoid contact with eyes and skin.

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

Wear protective clothing.

- 6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water.
- · 6.3 Methods and material for containment and cleaning up:

Cover drains.

Pick up mechanically.

Avoid formation of dust.

Dispose of the material collected according to regulations.

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.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Apply the general protection and hygiene measures for the handling with chemicals.

Prevent formation of dust.

· Information about fire - and explosion protection:

Substance itself does not burn, tuning measures to environment

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles:

Prevent any seepage into the ground.

Store only in the original receptacle.

- · Information about storage in one common storage facility: Store away from flammable substances.
- Further information about storage conditions:

Store in dry conditions.

Protect from humidity and water.

- · Storage class: 13
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- · 8.1 Control parameters
- Ingredients with limit values that require monitoring at the workplace:

CAS: 10294-26-5 silver sulfate

WEL Long-term value: 0.01 mg/m³

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- Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see item 7.

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· Individual protection measures, such as personal protective equipment

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General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. If air-purifying respiratory protection is required according to the risk assessment, wear a respirator with full-face mask with combination filter (US) or with filter type ABEK (EN 14387) filter cartridge. If the respirator is the only protective measure, an ambient air self-contained breathing apparatus with afull face mask must be worn. Respirators and components must be approved to appropriate government standards (for example, NIOSH (US) or CEN (EU)). Translated with www.DeepL.com/Translator (free version)

Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation Labsolute®protective

· Material of gloves

Information on suitable glove materials is not available at present.

However, experience has shown that the glove materials polychloroprene, nitrile rubber, butyl rubber, fluororubber and polyvinyl chloride are suitable for protection against undissolved solids.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

NBR: acrylonitrile-butadiene rubber

Material thickness > 0.11 mm

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

level 6 for application > 480 min

· Eye/face protection



Tightly sealed goggles

· Body protection:



Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

SECTION 9: Physical and chemical properties

- · 9.1 Information on basic physical and chemical properties
- · General Information

Physical state Solid
Colour: Colourless

· Odour: Odourless

· Melting point/freezing point: ~652 °C

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(Contd. of page 5) · Boiling point or initial boiling point and boiling ~1.085 °C · Flammability Product is not flammable. · Lower and upper explosion limit Not determined. · Lower: · Upper: Not determined. · Flash point: Not applicable. · Decomposition temperature: Not determined. · pH ~5-6 · Viscosity: · Kinematic viscosity Not applicable. · Dynamic: Not applicable. · Solubility · water at 25 °C: 8 q/l Not determined. · Partition coefficient n-octanol/water (log value) · Vapour pressure: Not applicable. · Density and/or relative density Density at 20 °C: 5.45 g/cm³ Not determined. · Relative density Not determined. · Vapour density Not applicable. · Particle characteristics See item 3. · 9.2 Other information · Appearance: · Form: Solid material · Important information on protection of health and environment, and on safety. · Auto-ignition temperature: Not determined. **Explosive properties:** Product does not present an explosion hazard. · Molecular weight 311.79 g/mol · Change in condition · Evaporation rate Not applicable. · Information with regard to physical hazard classes · Explosives Void · Flammable gases Void · Aerosols Void Oxidising gases Void · Gases under pressure Void Flammable liquids Void · Flammable solids Void · Self-reactive substances and mixtures Void · Pyrophoric liquids Void Pyrophoric solids Void · Self-heating substances and mixtures Void · Substances and mixtures, which emit flammable gases in contact with water Void · Oxidising liquids Void · Oxidising solids Void · Organic peroxides Void Corrosive to metals Void Desensitised explosives Void

SECTION 10: Stability and reactivity

• **10.1 Reactivity** No further relevant information available.

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- · 10.2 Chemical stability Stable with proper storage and handling.
- 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 Protect from humidity.
- · 10.5 Incompatible materials: Avoid contact with other chemicals.
- · 10.6 Hazardous decomposition products: On fire: see chapter 5

SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity Based on available data, the classification criteria are not met.
- · Skin corrosion/irritation Causes skin irritation.
- · Serious eye damage/irritation Causes serious eye irritation.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure May cause respiratory irritation.
- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties Substance is not listed.

SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity:

EC50 0.00045 mg/l (Cru)

- 12.2 Persistence and degradability Heavily eliminable from water.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

- · 12.7 Other adverse effects
- · Remark:

Toxic for fish

Toxic for water fleas

Toxic for algae

- Additional ecological information:
- General notes:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

Observe local (country-specific) regulations and laws

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

· Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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Chemicals must be disposed of in compliance with the respective national regulations

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| Offerficals frust be disposed of in compliance with the respective frational regulations. | | | |
|---|--|--|--|
| · European waste catalogue | | | |
| 06 00 00 | WASTES FROM INORGANIC CHEMICAL PROCESSES | | |
| 06 06 00 | wastes from the MFSU of sulphur chemicals, sulphur chemical processes and desulphurisation processes | | |
| 06 06 99 | wastes not otherwise specified | | |
| HP4 | Irritant - skin irritation and eye damage | | |
| HP5 | Specific Target Organ Toxicity (STOT)/Aspiration Toxicity | | |
| HP14 | Ecotoxic | | |

- · Uncleaned packaging:
- · **Recommendation:** Disposal must be made according to official regulations.

| SECTION 14: Transport information | |
|---|---|
| 14.1 UN number or ID number | 1102077 |
| · ADR, IMDG, IATA | UN3077 |
| · 14.2 UN proper shipping name | |
| · ADR | 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANC |
| | SOLID, N.O.S. (silver sulfate) |
| · IMDG, IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, |
| | SOLID, N.O.S. (silver sulfate) |
| · 14.3 Transport hazard class(es) | |
| ADR | |
| | |
| Class | 9 (M7) Miscellaneous dangerous substances and article |
| · Label | 9 |
| · IMDG, IATA | |
| | |
| · Class | 9 Miscellaneous dangerous substances and articles. |
| · Label | 9 |
| · 14.4 Packing group | |
| · ADR, IMDG, IATA | III |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | Symbol (fish and tree) |
| Special marking (ADR): | Symbol (fish and tree) |
| · Special marking (IATA): | Symbol (fish and tree) |
| · 14.6 Special precautions for user | Warning: Miscellaneous dangerous substances and articles. |
| Hazard identification number (Kemler code): | 90 |
| · EMS Number: | F-A,S-F |
| Stowage Category | A |
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|---|--|
| · Stowage Code | SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9. |
| · 14.7 Maritime transport in bulk according instruments | to IMO Not applicable. |
| · Transport/Additional information: | |
| · ADR · Limited quantities (LQ) · Excepted quantities (EQ) | 5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| · Transport category · Tunnel restriction code | 3 (-) |
| · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | 5 kg Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g |
| · UN "Model Regulation": | UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (SILVER SULFATE), 9, III |

SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Inventory of Hazardous Chemicals Substance is not listed.
- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I Substance is not listed.
- · Seveso category E1 Hazardous to the Aquatic Environment
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment Annex II

Substance is not listed.

- · REGULATION (EU) 2019/1148
- Annex I RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

Substance is not listed.

- · Annex II REPORTABLE EXPLOSIVES PRECURSORS Substance is not listed.
- · Regulation (EC) No 273/2004 on drug precursors Substance is not listed.
- Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

- · National regulations:
- · Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

· 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.

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Application, use and handling of our products take place out of our control and are solely your responsibility.

- · Department issuing SDS: Product management
- · Contact: Product management
- · Version number of previous version: 5
- · Abbreviations and acronyms:

ADR: Accord relatif au transport international 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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

* Data compared to the previous version altered.

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Annex: Exposure scenario

- · Short title of the exposure scenario Chemicals for Laboratory and industrial use
- · Sector of Use
- SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
- SU9 Manufacture of fine chemicals
- SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
- SU24 Scientific research and development

· Product category

- PC19 Intermediate
- PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
- PC21 Laboratory chemicals
- PC29 Pharmaceuticals
- PC39 Cosmetics, personal care products
- PC40 Extraction agents

· Process category

- PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
- PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
- PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
- PROC4 Chemical production where opportunity for exposure arises
- PROC5 Mixing or blending in batch processes
- PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
- PROC15 Use as laboratory reagent

· Environmental release category

- ERC1 Manufacture of the substance
- ERC2 Formulation into mixture
- ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
- ERC6a Use of intermediate

· Description of the activities / processes covered in the Exposure Scenario

See section 1 of the annex to the Safety Data Sheet.

- · Conditions of use
- · Duration and frequency 5 workdays/week.
- · Physical parameters
- Physical state Solid
- · Concentration of the substance in the mixture Raw material.
- · Other operational conditions
- · Other operational conditions affecting environmental exposure

Observe section 6 of the Safety Data Sheet (Accidental release measures).

- Other operational conditions affecting worker exposure Avoid contact with eyes.
- Other operational conditions affecting consumer exposure No special measures required.
- Other operational conditions affecting consumer exposure during the use of the product Not applicable.
- · Risk management measures
- · Worker protection Observe sections 7.1 and 8.1–8.2 of the safety data sheet.
- Organisational protective measures

Provide Internal Plant Instruction.

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Keep away from food, beverages and animal feed.

- · Technical protective measures Ensure that suitable extractors are available on processing machines
- · Personal protective measures

Avoid contact with the eyes.

Tightly sealed goggles

Do not inhale dust / smoke / mist.

· Measures for consumer protection Ensure adequate labelling.

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· Environmental protection measures

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- · Water Do not allow to reach ground water, water bodies or sewage system, not even in small quantities.
- · **Soil** Prevent contamination of soil.
- · Notes In case of unintended release of the product: See section 6 of the Safety Data Sheet.
- · **Disposal measures** Ensure that waste is collected and contained.
- Disposal procedures

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- · Waste type Partially emptied and uncleaned packaging
- **Exposure estimation**
- · Worker (oral) Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
- · Worker (dermal) Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
- Worker (inhalation) Detailed information on the exposure estimation can be found at http://www.ecetoc.org/tra.
- · Environment

Detailed information on the estimation of the environmental exposure can be found at http:// ecb.jrc.ec.europa.eu/euses/.

- · Consumer Not relevant for this Exposure Scenario.
- · Guidance for downstream users No further relevant information available.