Safety Data Sheet

Silver Sulfate

Created: Feb. 17. 2010
Revised: Nov. 01. 2016

1. Chemical Articles and Company Information

Name of Chemical Article:	Silver (I) Sulfate
Company Name:	Toyo Chemical Industrial Co., Ltd.
Address:	2-26-13 Naka-Izumi, Komae-City, Tokyo
Tel.:	+81-3-3489-5152
Fax:	+81-3-3-3488-1706
Emergency Contact:	As above
Recommended Applications and Use Restrictions:	Reagents

2. Summary of Hazards

GHS Classification

Damage to the environment

Aquatic environmental harm (acute hazard): Class 1

Aquatic environmental harm (long-term hazard): Class 1

GHS Label Elements

Picture descriptions:

Cautionary terms: Warning

Hazard information: Extremely strong poison to aquatic life

Extremely strong poison to aquatic life due to long-term effects

Cautions

Safety Measures: When using the product, do not eat, drink, or smoke.

Wear respiratory protective equipment, protective gloves, protective clothing, goggles, and face mask.

Do not inhale the dust.

Wash hands thoroughly after handling.

Avoid discharging into the environment.

Emergency Measures: If inhaled, move to a location with fresh air, and rest in a posture that facilitates breathing. If respiratory-related symptoms appear, consult a physician for treatment.

If ingested, do not induce vomiting. Rinse out the mouth, and consult a physician promptly for diagnosis and treatment.

If the substance contacts the eye, irrigate with water thoroughly for several minutes. If contact lenses can be removed easily, remove and wash them.

If eye irritation persists, consult a physician and receive treatment.

If the substance adheres to the skin, wash using copious amounts of soap and water.

If skin irritation or eruptions occur, consult a physician and receive treatment.

If exposed or fear exposure, consult a physician to receive diagnosis and treatment.

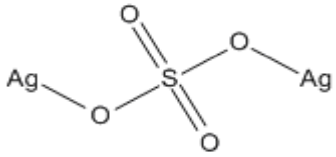
If you feel unwell, consult a physician to receive diagnosis and treatment.

Gather any leaks.

Storage: Securely seal the containers, and store in a locked, well-ventilated location.

Disposal:	Entrust disposal of containers and contents to a specialist waste disposal company who is licensed by the prefectural governor.
Other hazards:	Not available

3. Composition and Component Information

Single Substance or Mixture:	Single Substance
Chemical name or general name:	Silver (I) Sulfate
Another name:	-
Concentration or concentration range:	100%
Molecular formula (molecular weight):	Ag_2SO_4 (311.80)
Chemical characteristics (rational or structural formula):	
CAS No.:	10294-26-5
Reference numbers in gazetted list in japan (CSCL and ISHL):	1-10
Impurities and stabilization additives that contribute to the classification:	No data

4. Emergency Measures

If inhaled:	If you feel unwell, consult a physician to receive diagnosis and treatment.
Adhesion to skin:	Wash with copious amounts of soap and water. If you feel unwell, consult a physician to receive diagnosis and treatment.
Contact with eyes:	Irrigate carefully for several minutes with water. If eye irritation persists, consult a physician and receive treatment.
If ingested:	Rinse out the mouth. If you feel unwell, consult a physician to receive diagnosis and treatment.
The most important sign of an acute symptom and the tardive symptom and symptom:	No information
Protection of people implementing emergency measures:	No information
Special precautions for physicians:	No information

5. Measures during Fires

Extinguishing agents:	Water jets, foam retardants, powder retardants, carbon gas, dry sand, etc.
Extinguishing agents that must not be used:	Straight discharge of water
Characteristic dangers:	Non-flammable, so itself is not burned, but strong heat causes harmful gas (SOX) to be emitted.
Characteristic extinguishing methods:	Move the container from the region on fire if there is no danger. Continue to thoroughly cool the containers using copious amounts of water even after the fire has been extinguished.
Protection of firefighters:	When firefighting, wear full (heat resistant) protective clothing including suitable breathing equipment.

6. Measures during Leaks

Physical precautions, protective equipment, and measures during emergencies:	The worker wears a tool for appropriate protection (in item of "8. Exposure Avoidance and Protection Measures" reference) and avoids clothes, contact and inhalation to skin. Touch the leak thing and do not walk the inside. Cordon off the periphery of the dispersal area to prohibit the entrance of personnel. Prohibit the entrance except the person concerned.

Environmental precautions:	Avoid discharging into the environment.
Methods and materials for contamination and methods and materials for cleaning up:	Sweep together any leaks to prevent dust inhalation, and collect in an empty sealable container.
Collection and neutralization:	Moisten it with water, and reduce atmospheric dust, and prevent dispersion.
Preventing secondary accidents:	Do a cover on a plastic seat, and prevent dispersion.

7. Handling and Storage Precautions

Handling

Technical measures:	Install local exhausters, and eye and hand washing facilities, in the handling locations. Ideally, handle in locations with local exhausters and overall ventilators.
Precautions for safe handling:	Obtain the user manual before use. Do not handle until all safety precautions and readings are understood. When using the product, do not eat, drink, or smoke. Do not touch, inhale, or drink. Prevent contact with eyes, skin, and clothing. Do not inhale dust, fumes, or mist. Wash hands thoroughly after handling. Avoid discharging into the environment.
Contact evasion:	In item of "10. Stability and Reactivity" reference.

Storage

Safe storage conditions:	Lock the storage location. Store in a well-ventilated, cool location. Technical measures:No information
Container and packing materials:	Airtight containers (glass, polyethylene, stainless steel, etc.)
Technical measures:	Install equipment measures as described in “8. Exposure Avoidance and Protection Measures,” and wear protective equipment.

8. Exposure Avoidance and Protection Measures

Control concentration:	No information
Tolerable concentration:	
Japan Society for Occupational Health (2015)	0.01mg/m^3 (as Ag)
ACGIH (2013)	TLV-TWA (0.01 mg/m3) As Ag Soluble compounds
Equipment Measures:	Install local exhausters, and eye and hand washing facilities, in the handling locations. Install a ventilating device to keep an air pollutant management density or less.

Protective Equipment

Respirator:	Wear suitable respirator. (Poison masks (respirator during fires), dust masks, etc.)
Hand protective equipment:	Wear protective gloves. (Rubber gloves, etc.)
Eye protective equipment:	Wear eye protective equipment. (Goggles, etc.)
Skin and body protective equipment:	Wear protective face equipment, clothing, and protective shoes, etc. (Protective clothing, protective boots, etc.)

9. Physical and Chemical Properties

Physical properties

Shape:	Solid
Color:	Colorless to white
Odor:	No information
Odor threshold value:	No information
pH:	No information
Melting point and coagulation point:	652ºC
Boiling point, initial boiling point, and boiling range:	No information
Ignition Point:	No information
Vaporization speed (butyl acetate=1):	No information

Burnability (solids and gas):	No information
Explosion range:	No information
Vapor pressure:	No information
Vapor density (vapor=1):	No information
Specific gravity (density):	d^{15} 5.46
Solubility:	Water: 20ºC 0.769g/100ml Water: 60ºC 1.14g/100ml
n-Octanol/water partition coefficient:	No information
Spontaneous ignition temperature:	No information
Dissolution temperature:	No information
Viscosity:	No information

10. Stability and Reactivity

Reactivity:	No information
Stability:	May be stable in storage according to laws and regulations and the handling.
Possibility of harmful reactions:	No information
Conditions to be avoided:	No information
Incompatible substances:	No information
Hazardous degradation products:	No information

11. Harmfulness Information

Acute toxicity:	
Oral:	No data available
Pass; skin:	No data available
Inhalation:Gas	The definition of GHS is a solid.
Inhalation:Steam	No data available
Inhalation:Dust,Mist	No data available
Skin corrosiveness and irritation:	Skin acridity is doubted as salts sulfate.
Critical injury to eyes and eye irritant:	Eyes acridity is doubted as salts sulfate.
Respiratory organ sensitivity:	No data available
Skin sensitivity:	No data available
Germ-cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	The silver compound has a description that there is not reproductive toxicity.
Specific marker organs and systemic toxicity (single exposure):	Respiratory tract acridity is doubted as salts sulfate.
Specific marker organs and systemic toxicity (repeated exposures):	There is a description that a silver storage disease is caused to skin by the long-term revelation of the silver compound mainly.
Inhalable respiratory organ harmfulness:	No data available

12. Environmental Impact Information

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Ecotoxicity

Aquatic environmental harm (acute hazard):	Classified as Class 1 from the Crustacea (ceriodaphnia) at 48 hours=EC50=4.5μg/L (AQUIRE: 2003)
Aquatic environmental harm (long-term hazard)：	Acute toxicity is Class 1, and this is a metallic compound classified as Class 1 because its behavior in water and bioaccumulative are unknown.
Hazard to the ozone layer：	The materials concerned are not listed by an affiliated book of Montreal Protocol.

13. Disposal Precautions:

Residual waste:	Before the disposal, handle detoxification, stabilization and the neutralization as much as possible, and make a dangerous noxious level a low state. Discard according to the related laws and regulations, and local government standards.
Dirty containers and packaging:	Suitably process containers according to the related laws and regulations, and local government standards. When disposing of empty containers, make sure to discard the contents completely.

14. Shipping Precautions

International Regulations	
UN No.:	-
Proper Shipping Name:	-
Class:	-
Sub Risk:	-
Packing Group:	-
Marine Pollutant:	-
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:	No
Japanese Regulations	
Land Regulation Information	Obey Poisonous and Deleterious Substances Control Law
Maritime Regulation Information	-
Aviation Regulation Information	-
Special safety measures	Yellow card display is required during transport. Do not transport together with food or livestock feed. Do not add heavy goods. During transport, avoid direct sunlight, and load so that the containers are not damaged, corroded, or leaking, and secure the load to prevent toppling.

15. Applicable Laws

Poisonous and Deleterious Substances Control Law:	Non-medical deleterious substances

16. Other Information

Bibliography:

GHS classification results database: NITE website
GHS model SDS information: JISHA website
Reagent guidebook (Revised 2003)
Collection of Poisonous Materials Standard Notifications
Dictionary of Chemistry (1987 30th printing: Kyoritsu Shuppan)
16112 Chemical Products (2012 The Chemical Daily)

*Caution:

Hazard and harmfulness evaluations were created using the data and information available at the current time, but is not necessarily thorough, so handle with care.
Further, the data and evaluations described herein are not in any way guaranteed. The descriptions refer to normal handling, so for special handling, first implement safety measures conforming to the new application and methods of use.
This SDS is translated into English.(Original version is Japanese)