

# CASCADE SILVER CO. SILVER NITRATE SAFETY DATA SHEET

## 1. Identification of the substance or mixture and of the supplier

### 1.1 GHS product identifier

Product name: Silver Nitrate  
Synonyms: Silver (I) Salt; Lunar Caustic

### 1.2 Recommended use of the chemical and restrictions on use

Laboratory Chemical  
Industrial Chemical

### 1.3 Suppliers detail

The Science Company  
7625 W Hampden  
Ave, #14  
Lakewood CO  
80227  
303-777-3777

### 1.4 Emergency phone number

Chem-Tel 800-255-3924

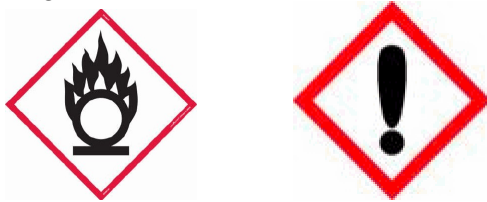
## 2.1 Hazards Identification

### 2.2 GHS Classification

Oxidizing Solid 2 H272  
Acute Toxicity (oral) 4 H302

### 2.3 GHS Labeling Elements

Hazard pictograms



Signal word

Danger

Hazard statements

H272 - May intensify fire; oxidizer  
H302 - Harmful if swallowed

Precautionary statements

P210 – Keep away from open flames, sparks. –No smoking  
P220 -Keep/Store away from clothing, combustible materials, combustibles  
P262 – Do not get in eyes, on skin or on clothing  
P280 -Wear eye protection, protective gloves  
P301+P321 – IF SWALLOWED, give a tablespoon of salt in a warm glass of water, repeat until vomit fluid is clear  
P302+P352 -IF ON SKIN, wash with plenty of water  
P304+P340 - IF INHALED, Remove person to fresh air and keep comfortable and breathing  
P305+P351+P338 – IF IN EYES, Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P362+P364 – Take off contaminated clothing and wash it before reuse  
P370+P378 – In case of fire: Use CO2, dry chemical, foam, water spray for Extinction  
P501 - Dispose of contents/container to local/regional/national/international regulations

### 2.3 Other Hazards

Other hazards not Contributing to classification : None under normal conditions

CASCADE SILVER CO. SILVER NITRATE SAFETY DATA SHEET

3.0 Composition/Information on ingredients

Material	CASNumber				%wt or %vol		
Silver Nitrate	7761-88-8				99-100%		
Ingredient	OSHA TWA	PEL STEL	ACGIH TWA	TLV STEL	NIOSH TWA	REL STEL	NIOSH IDLH
Silver(Ag)	0.01 <i>mg/m<sup>3</sup></i>	<i>NIA</i>	0.1 <i>mg/m<sup>3</sup></i> (metal) 0.01 <i>mg/m<sup>3</sup></i> (soluble compounds, as silver)	<i>NIA</i>	<i>NIA</i>	<i>NIA</i>	<i>NIA</i>

4.0 First-aid measures

**Inhalation:** Remove to fresh air. Give oxygen. Keep comfortable and breathing.  
**Ingestion:** If unconscious, give salt water. Never give anything by mouth to an unconscious person. Get medical attention immediately.  
**Skin Exposure:** Immediately wash with soap and water. Remove contaminated clothing.  
**Eye Exposure:** Immediately flush with running water, including under the eyelids, for at least 15 minutes. Remove contact lenses.

5.0 Firefighting measures

**Flash Point:** *NIA*  
**Fire and explosion hazards:** Strong oxidizer. Contact with combustible materials, flammable materials, or powdered metals can cause fire or explosion.  
**Fire Extinguishing Media:** Use water spray. Do not use dry chemical, carbon dioxide or Halon. Do not allow water runoff to enter sewers or waterways.  
**Special information:** Use protective clothing and breathing equipment with full facepiece operated in positive pressure mode. Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.  
**Unusual Fire and Explosion Hazards:** Strong Oxidizer. Contact with organic materials may cause fire.  
**Toxic Gases Produced:** Nitrogen Oxide  
**NFPA Rating:** Health- 4; Flammability- 0; Reactivity- 0; Sp Haz- Oxy

5.2 Special hazards arising from the substance or mixture

**Stability:** Stable under ordinary conditions of use and storage.  
**Conditions to avoid:** Heat, flame, ignition.  
**Hazardous Polymerization:** This substance does not polymerize.  
**Incompatibilities:** Acetylene, Ammonium Hydroxide, Ethanol, Charcoal, Ethylene Oxide, Hydrogen Peroxide, Oxalic Acid.  
**Hazardous Decomposition Products:** Oxides of Nitrogen.  
**Materials to avoid:** Bases, halides, arsenites, antimony salts, combustible matter, reducing agents

# CASCADE SILVER CO. SILVER NITRATE SAFETY DATA SHEET

## 6.0 Accidental release measures

### Steps to be taken in case material is leaked or spilled:

Wear self-contained breathing apparatus and full protective clothing. Keep combustibles away from spilled material. With clean shovel, carefully place spilled material into dry, clean container and cover; remove from area. Flush spill area with water. Prevent entry to sewers and public waters. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. CERCLA RQ 1,000 lbs.

**Waste Disposal Method:** Ensure compliance with local, state and federal regulations.

### RCRA Hazardous Waste Number:

Not listed (40 CFR 261.33)

## 7.0 Handling and storage

### 7.1 Precautions for safe handling

Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area.

### 7.2 Conditions for safe storage

Storage conditions: Store in a cool, dry, ventilated area away from sources of heat, moisture, and incompatible substances.

Incompatible products: Strong acids, strong bases.

Incompatible materials: Sources of ignition. Direct sunlight.

## 8.0 Exposure controls/personal protection

### 8.1 Control parameters

Silver Nitrate (7761-88-8)

USA OSHA	OSHA PEL (TWA) (mg/mg )	O.Gl mg/mg

### 8.2 Exposure controls

Hand protection: Wear protective gloves

Eye protection: Chemical goggles or safety glasses. Keep eyewash station nearby.

Respiratory protection: Wear approved mask

Other information: When using, do not eat, drink or smoke

## 9.0 Physical and chemical properties

**Appearance:** Colorless, transparent large crystals or white small crystals

**Odor:** Odorless

**Water Solubility:** 219g/100g Water @ 20°C

**Boiling Point:** 444°C

**Melting Point:** 212°C

**Density:** 4.352 g/cm<sup>3</sup>

**Vapor density (Air=1):** 4.4

**Vapor Pressure (mm Hg):** Very low.

**Specific Gravity:** 4.35

**Percent Volatile by Volume:** 0

**Evaporation rate:** N/A

**PH:** Ca. 6 (neutral to litmus) 20°C (5.4-6.4)

**Thermal Decomposition:** >444°C (831°F)

**Bioconcentration Factor:** 200

## CASCADE SILVER CO. SILVER NITRATE SAFETY DATA SHEET

### 10.0 Stability and reactivity

**Stability:** Stable under ordinary conditions of use and storage.

**Conditions to avoid:** Heat, flame, ignition.

**Hazardous Polymerization:** This substance does not polymerize.

**Incompatibilities:** Acetylene, Ammonium Hydroxide, Ethanol, Charcoal, Ethylene Oxide, Hydrogen Peroxide, Oxalic Acid.

**Hazardous Decomposition Products:** Oxides of Nitrogen.

**Materials to avoid:** Bases, Halides, arsenites, antimony salts, combustible matter, reducing agents

### 11.0 Toxicological information

ACGIH Threshold Limit Value:	0.01 mg/M3
OSHA PEL TWA	0.01 mg/m <sup>3</sup>
Oral rat LD50 for silver nitrate	1,173 mg/kg
Oral mouse LD50 for silver nitrate	50 mg/kg
Intraperitoneal mouse for silver nitrate	22 mg/kg
Irritation data, rabbit, std Draize: eye	1 mg, severe
um-man LDLo:	29 mg/kg

Investigated as a tumorigen, mutagen, reproductive effector.

**Carcinogenicity:** None Identified (IARC, NTP, OSHA)

### 12.0 Ecological information

#### 12.1 Toxicity

Silver Nitrate (7761-88-8)	
LC50 fish 1	0.0039 mg/l (96 h; Pimephales promelas; Flow-through system)
EC50 Daphnia 1	0.0006 mg/l (48 h; Daphnia magna; LOCOMOTOR EFFECT)
LC50 fish 2	0.006 mg/l 96 h; Salmo gairneri (Oncorhynchus mykiss)
EC Daphnia 2	0.006 mg/l (48 h; Crangon sp.)
Threshold limit other aquatic organisms 1	0.006 mg/l (Pseudomonas putida; TOXICITY TEST)
Threshold limit algae	0.0007 mg/l (Microcystis aeruginosa; TOXICITY TEST)
Threshold limit algae 2	0.0095 mg/l (Scenedesmus quadricauda; TOXICITY TEST)

Mobility in soil: No information available

Other adverse effects: This product should not be discharged into the environment

### 13.0 Disposal considerations

Waste Disposal Method: Ensure compliance with local, state and federal regulations.

CASCADE SILVER CO. SILVER NITRATE SAFETY DATA SHEET

14.0 Transport information

DOT Transportation Data (49 CFR 172.101): Regulated as Oxidizer 5.1

IATA/ICAO Information: Regulated as Oxidizer 5.1

<b>Proper Shipping Name:</b> Silver Nitrate	<b>Packaging Authorizations</b>	<b>Quantity Limitations:</b>
<b>Hazard Class:</b> Oxidizer 5.1	<b>a) Exceptions:</b> 152	<b>a) Passenger, Aircraft, or Railcar:</b> <5kg
<b>UN/NA:</b> UN 1493	<b>b) Non-bulk Packaging:</b> 212	<b>b) Cargo Aircraft Only:</b> 25 kg Note for cargo: 511
<b>Packing Group:</b> II	<b>c) Bulk Packaging:</b> 242	
<b>Label:</b> Oxidizer		<b>Vessel Stowage Requirements</b>
<b>Special Provisions (172.102):</b> IB8,IP4,T3,TP33		<b>a) Vessel Stowage:</b> A
<b>ERG:</b> 140		<b>b) Other:</b> N/A

15.0 Regulatory information

EPA Regulations:

RCRA Hazardous Waste Number: Not listed  
 RCRA Hazardous Waste Classification: If this product becomes a waste as defined by RCRA, Title 40 CFR 261, then it is the responsibility of the waste generator to determine the proper waste identification and disposal method.  
 CERCLA Hazardous substance (40 CFR 302.4) listed specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112.  
 CERCLA Reportable Quantity (RQ), 1000 lb.  
 TSCA: TSCA 8(b) Inventory: Silver Nitrate  
 RTECS: VW4725000  
 SARA 313 codes: This product may be subject to the TSCA notification requirements because it contains silver, a toxic chemical constituent.  
 SARA Toxic Chemical (40 CFR 372.65): Not listed  
 SARA EHS: Not listed, Threshold Planning Quantity (TPQ)

OSHA Regulations:

Air Containment (29 CFR 1910.1000, Table Z-1,Z-1-A): Not listed

16.0 Other Information

NFPA Hazard Ratings:

Health 3  
 Flammability 0  
 Reactivity 0  
 Special Hazards: OXY

Disclaimer:

THE INFORMATION HEREIN IS BELIEVED TO BE ACCURATE, HOWEVER THE SCIENCE COMPANY. MAKES NO REPRESENTATION AS TO ITS ACCURACY OR SUFFICIENCY. CONDITIONS OF USE ARE BEYOND THE SCIENCE COMPANY'S CONTROL AND THEREFORE USERS ARE RESPONSIBLE TO VERIFY THIS DATA TO THEIR OPERATING CONDITIONS AND SUITABILITY FOR PARTICULAR PURPOSES

