

SAFETY DATA SHEET

1. IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: Silver Nitrate
Manufacturer/Supplier: Reliable Silver Corporation
302 Platts Mill Rd
Naugatuck, CT 06770

For Emergency Health, Safety & Environmental Information, call: Chemtrec: 1-800-424-9300
Molecular Formula: AgNO₃
CAS No: 7761-88-8
Synonyms: AgNO₃; silver nitrate
Recommended Use: Industrial use only

2. HAZARDS IDENTIFICATION

Classification of Substance: Silver nitrate (7761-88-8), UN1493, Silver Nitrate, 5.1, II, Marine pollutant, Silver nitrate

Signal Word: DANGER



Hazard Statements:

H272 May intensify fire; oxidizer

H304 May be fatal if swallowed and enters airways H301 Toxic if swallowed

H314 Causes severe skin burns and eye damage H332 Harmful if inhaled

H371 May cause damage to organs, can cause delayed lung injury H413 May cause long lasting harmful effects to aquatic life

DUST, MIST OR VAPOR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT

MAY CAUSE ARGYRIA, A BLUE-GREY DISCOLORATION OF THE SKIN, EYES AND MUCOUS MEMBRANES

PRECAUTIONARY STATEMENTS:

P101 If medical advice is needed, have product container or label at hand.

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P102 Keep out of reach of children

P103 Read label before use

P210 Keep away from heat/sparks/open flames/ hot surfaces – No smoking

P260 Do not breathe dust/fume/gas/mist/vapors/spray

P262 Do not get in eyes, on skin, or on clothing

P303 + P361 + P338 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse SKIN with water/shower

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention even if symptoms of irritation are mild or quickly subside as lung injury may have occurred.

P310 Immediately call a POISON CENTER or doctor/physician

P401 Do not store or ship together with combustible materials. Store in original container. Keep container tightly closed.

P502 Refer to manufacturer/supplier for information on recovery/recycling

HMIS III Hazard Ratings: Health – 3, Flammability – 0, Reactivity (Stability) – 1

NFPA Hazard Ratings: Health – 3, Flammability – 0, Instability – 1, Oxidizer

Note: HMIS III and NFPA 704 (2007) hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Name	CAS No.	% by Weight
Silver Nitrate	7761-88-8	100

4. FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air. Get medical attention. Get medical attention even if symptoms of irritation are mild or quickly subside as lung injury may have occurred.

Eyes: Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center

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immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control centre immediately. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: If swallowed, DO NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Notes to physician:

Symptoms: The absorption of this product into the body may lead to the formation of methaemoglobine that, in sufficient concentration, causes cyanosis.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Flush with plenty of water.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and produce hazardous decomposition protective clothing. Fire or excessive heat mayproducts.

Hazardous Combustion Products: None, (see also Hazardous Decomposition Products section)

Unusual Fire and Explosion Hazards: Oxidizer. Greatly increases the burning rate of combustible materials.

6. ACCIDENTAL RELEASE MEASURES

Collect in a noncombustible container for prompt disposal. Shovel into suitable container for disposal. Avoid dust formation. Clean contaminated surface thoroughly.

For Large Spills: Flush with plenty of water.

7. HANDLING AND STORAGE

Personal Precautions: Do not breathe dust at concentrations greater than the exposure limits. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Keep container closed. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep away from combustible material. Remove and wash contaminated clothing promptly.

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Storage: Do not store or ship together with combustible materials. Store in original container. Keep container tightly closed. Keep away from incompatible substances. (See Incompatibility section).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure controls:

Chemical Name	Regulatory List	Value Type	Value
Silver Nitrate	ACGIH	Time weighted average	0.01 mg/m ³ <i>Expressed Ag</i>
	OSHA	Time weighted average	0.01 mg/m ³ <i>Expressed Ag</i>

Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: full-face positive-pressure air-supplied. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

Eye Protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical form: Solid (crystalline)

Color: Colorless white

Odor: Odorless

Odor Threshold: Not applicable

Specific gravity: >1

Vapor Pressure: Negligible

Vapor density: Not applicable

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Volatile fraction by weight: Not applicable
Boiling point/Boiling range: 440 °C (824.0 °F) (decomposes)
Melting point/range: 207.9 – 209.8 °C (406.2- 409.6 °F)
Water solubility: Complete (219 g/L at 20 °C, soluble)
pH: 3.6-4.6
Flash point: No data available
Evaporation rate: No data available
Flammability: No data available
Flammability or explosion limits: No data available
Partition coefficient: No data available
Auto-ignition temperature: No data available
Viscosity: No data available
Density: 4.35 g/cm³

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions

Incompatibility: Combustible material. Reducing agents, ammonia. Material can react violently with combustible materials or reducing agents. May form hazardous and possibly explosive silver compounds in the presence of ammonium hydroxide, hydrazines or amines.

Hazardous decomposition products: Oxides of nitrogen

Hazardous Polymerization: Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Effects of Exposure

Inhalation: Harmful if inhaled and may cause delayed lung injury. Airborne dust extremely irritating.

Eyes: Causes severe burns. Airborne dust extremely irritating.

Skin: Causes severe burns.

Ingestion: Poison. May be fatal if swallowed. May cause burns of gastrointestinal tract if swallowed.

Acute Toxicity Data:

Oral LD50 (rat): 1,600 mg/kg (solid)

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Skin Irritation: Skin irritation (50% in water)

Eye Irritation: Severe

International Agency for Research on Cancer (IARC): Group 2A – Probably Carcinogenic to Humans: silver nitrate

U.S. National Toxicology Program (NTP): No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

U.S. Occupational Safety and Health Administration (OSHA): OSHA Carcinogen or Potential Carcinogen: Silver Nitrate

12. ECOLOGICAL INFORMATION

Potential Toxicity:

Toxicity to fish (LC50): 0.009 – 0.02 mg/L (exposure time: 96 hr)

Toxicity to fish (LC50): 0.001339 – 0.001637 mg/L (Exposure time: 96 hr)

Toxicity to fish (LC50): 0.00452 – 0.00638 mg/L (exposure time: 96 hr)

Toxicity to daphnia (EC50): 0.0006 mg/L (Exposure time: 48 hr)

13. DISPOSAL CONSIDERATIONS

Recover silver before disposal. Discharge, treatment, or disposal is subject to federal, state, or commonwealth, provincial or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

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ADG, IATA, IMDG, TDG, US DOT:

UN Number: UN1493
Proper shipping name: Silver Nitrate
Class: 5.1
Packaging Group: II
Marine Pollutant status: Marine pollutant
Marine Pollutant(s): Silver Nitrate

15. REGULATORY INFORMATION

Notification status

Regulatory List	Notification Status
TSCA	All Listed
DSL	All Listed
NDSL	None Listed
EINECS	All Listed
ELINCS	None Listed
NLP	None Listed
AICS	All Listed
IECS	All Listed
ENCS	All Listed
ECI	All Listed
NZIoC	All Listed
PICCS	All Listed

“Not all listed” indicates one or more component is either not on the public inventory or is subject to exemption requirements.

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WHMIS (Canada): E (skin)

WHMIS Symbol(s):



Other regulations:

American Conference of Governmental Industrial Hygienists (ACGIH):

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

International Agency for Research on Cancer (IARC):

Group 2A – Probably Carcinogenic to Humans; silver nitrate

U.S. National Toxicology Program (NTP):

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

California Prop. 65:

This product does not contain chemicals known to State of California to cause cancer, birth, or other reproductive defects.

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U.S. – CERCLA/SARA (40 CFR § 302.4 Designation of hazardous substances:	Silver nitrate
U.S. – CERCLA/SARA – Section 302 (40 CFR § 355 Appendices A and B – The List of Extremely Hazardous Substances and Their Threshold Planning Quantities):	No components of this product are subject to the SARA section 302 (40 CFR 355) reporting requirements.
U.S. – CERCLA/SARA – Section 313 (40 CFR § 372.65 Toxic Chemical Release Reporting):	Silver Nitrate
U.S. – California – 8CCR Section 339 – Director’s List Of Hazardous Substances:	Silver Nitrate
U.S. – California – 8 CCR Section 5203 Carcinogens:	No components found on the California Section 5203 Carcinogens List.
U.S. – California – 8 CCR Section 5209 Carcinogens:	No components found on the California Section 5209 Carcinogens List.
U.S. – Massachusetts – General Law Chapter 111F (MGL c Employers (a.k.a. Right to Know Law):	Silver Nitrate
U.S. – Minnesota – Employee Right to Know (5206.4000, Subpart 5. List of Hazardous Substances):	Silver Nitrate
U.S. – New Jersey – Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	Silver Nitrate
U.S. – Pennsylvania – Part XIII. Worker and Community Right to Know Act (Chapter 323 Hazardous Substance List, Appendix A):	Silver Nitrate
U.S. – Rhode Island – Title 28 Labor and Labor Relations (Chapters 28-21 Hazardous Substance Right to Know Act):	Silver Nitrate

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CONTAINS: Silver Nitrate (7761-88-8)

DANGER! POISON. OXIDIZING MATERIAL. MAY BE FATAL OR HARMFUL IF SWALLOWED. CAUSES SEVERE SKIN AND EYE BURNS. DUST, MIST OR VAPOUR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT. HARMFUL IF INHALED. CAN CAUSE DELAYED LUNG INJURY. MAY CAUSE ARGYRIA, A BLUE-GREY DISCOLORATION OF THE SKIN, EYES AND MUCOUS MEMBRANES.

Store in original tightly closed container. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only in area provided with appropriate exhaust ventilation. Keep away from combustible material. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Wash thoroughly after handling.

Issuing Date: 11/25/2013

Revision Date: 11/13/2015

Revision Notes: None

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.