

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Silver Nitrate

Other means of identification

Product Code(s) 0377
UN/ID no. 1493
Synonyms Nitric acid, silver salt ;

Recommended use of the chemical and restrictions on use

Recommended Use For Further Manufacturing Use Only.
Uses advised against Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

| | |
|-----------------------------|-----------------------------|
| Company Address | Manufacturer Address |
| VWR International, LLC | VWR International, LLC |
| Radnor Corporate Center | 28600 Fountain Parkway |
| 100 Matsonford Road | Solon, Ohio 44139 |
| Radnor, PA 19087-8660 | |
| Company Phone Number | 1-800-448-4442 |
| E-mail Address | info@amresco-inc.com |

Emergency Telephone Number

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|-----------------------------------|---------------------------|
| Acute Toxicity - Oral | Category 4 |
| Skin Corrosion/Irritation | Category 1 Sub-category B |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Oxidizing solids | Category 2 |

Label elements

Emergency Overview

Danger

Hazard statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H272 - May intensify fire; oxidizer



Appearance Fine White**Physical State** Crystalline Powder**Odor** No information available**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep/Store away from clothing/ combustible materials
 Take any precaution to avoid mixing with combustibles - .?

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 Specific treatment (see .? on this label)
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth
 Do NOT induce vomiting
 In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not regulated

Other Information

- Very toxic to aquatic life with long lasting effects
- Very toxic to aquatic life

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS**Synonyms** Nitric acid, silver salt ;.

| Chemical Name | CAS-No | EC No. | Weight % | Trade Secret |
|----------------|-----------|-----------|----------|----------------|
| Silver nitrate | 7761-88-8 | 231-853-9 | 95-100 | Not applicable |

4. FIRST AID MEASURES**First Aid Measures**

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Consult a physician.

Inhalation Move to fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Consult a physician.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

No information available.

Hazardous Combustion Products Nitrogen oxides (NOx). Silver/Silver oxide. Container explosion may occur under fire conditions.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal protection Ensure adequate ventilation, especially in confined areas.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE**Precautions for Safe Handling**

Handling Light Sensitive. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Keep container tightly closed in a dry and well-ventilated place. Protect from light.

Incompatible Products Strong reducing agents. Strong bases. Alcohols. Ammonia. Magnesium.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Exposure Guidelines

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-----------------------------|-----------|----------|------------|
| Silver nitrate 7761-88-8 | - | - | - |

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Avoid contact with eyes. Safety glasses with side-shields.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| | | | |
|------------------------------|--------------------------|-------------------------|--------------------------|
| Physical State | Crystalline Powder | Odor | No information available |
| Appearance | Fine White | Odor Threshold | No information available |
| Color | No information available | | |
| Property | Values | Remarks • Method | |
| pH | No information available | | |
| Melting point/freezing point | 212 °C / 414 °F | | |
| Boiling Point/Range | 440 °C / 824 °F | | |
| Flash Point (High in °C) | No information available | | |
| Evaporation Rate | No information available | | |
| Flammability (solid, gas) | No information available | | |
| Flammability Limit in Air | | | |
| Upper flammability limit: | No information available | | |
| Lower flammability limit: | No information available | | |
| Vapor pressure | No information available | | |
| Vapor Density | No information available | | |
| Specific Gravity | No information available | | |
| Water Solubility | No information available | | |
| Solubility in other solvents | No information available | | |
| Partition coefficient | No information available | | |
| Autoignition Temperature | No information available | | |
| Decomposition Temperature | No information available | | |
| Kinematic viscosity | No information available | | |
| Dynamic viscosity | No information available | | |
| Explosive Properties | No information available | | |
| Oxidizing Properties | Oxidizer | | |

Other Information

| | |
|-------------------------|--------------------------|
| Softening Point | No information available |
| Molecular Weight | No information available |
| VOC Content | No information available |
| Density | 4.35 |
| Bulk Density | No information available |

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

May decompose on exposure to light. Protect from light.

Incompatible Materials

Strong reducing agents. Strong bases. Alcohols. Ammonia. Magnesium.

Hazardous Decomposition Products

In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Contact with moist mucous membranes of the respiratory system can cause caustic condition resulting in burns. |
| Eye Contact | Corrosive to the eyes and may cause severe damage including blindness. |
| Skin Contact | Contact causes severe skin irritation and possible burns. |
| Ingestion | Harmful if swallowed. |

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------------------------|----------------------|-------------|-----------------|
| Silver nitrate 7761-88-8 | = 1173 mg/kg (Rat) | - | - |

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity No information available.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|-----------------------------|-------|----------|-----|------|
| Silver nitrate 7761-88-8 | - | Group 2A | - | - |

Reproductive Toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organ Effects Liver.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Toxicity to Fish | Crustacea |
|-----------------------------|----------------------|---|---|
| Silver nitrate 7761-88-8 | - | 0.00512 - 0.00787: 96 h Poecilia reticulata mg/L LC50 semi-static 0.009 - 0.02: 96 h Lepomis macrochirus mg/L LC50 flow-through 0.0242 - 0.0484: 96 h Lepomis macrochirus mg/L LC50 semi-static 0.0064 - 0.0106: 96 h Pimephales promelas mg/L LC50 semi-static 0.0027: 96 h Cyprinus carpio mg/L LC50 semi-static 0.0075: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.00452 - 0.00638: 96 h Pimephales promelas mg/L LC50 flow-through 0.00181 - 0.00214: 96 h Pimephales promelas mg/L LC50 static 0.00839 - 0.1802: 96 h Oncorhynchus mykiss mg/L LC50 static 0.05 - 0.07: 96 h Lepomis macrochirus mg/L LC50 static 0.001339 - 0.001637: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.009: 96 h Pimephales promelas mg/L LC50 | 0.0006: 48 h Daphnia magna mg/L EC50 0.0008 - 0.0011: 48 h Daphnia magna mg/L EC50 Static 0.0008 - 0.001: 48 h Daphnia magna mg/L EC50 Flow through |

Persistence and Degradability

No information available.

Bioaccumulation/Accumulation

No information available.

| Chemical Name | Partition coefficient |
|-----------------------------|-----------------------|
| Silver nitrate 7761-88-8 | - |

Other Adverse Effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method

Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging

Do not re-use empty containers.

| Chemical Name | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|-----------------------------|--------------------------------------|------------------------|------------------------|------------------------|
| Silver nitrate 7761-88-8 | - | - | - | - |

| Chemical Name | California Hazardous Waste Status |
|-----------------------------|-----------------------------------|
| Silver nitrate 7761-88-8 | Toxic |

14. TRANSPORT INFORMATION

DOT

UN/ID no. 1493
 Proper shipping name SILVER NITRATE
 Hazard Class 5.1
 Packing Group II

Reportable Quantity (RQ) 1 LB / 0.454 KG
 Emergency Response Guide Number 140

IATA

UN/ID no. 1493
 Proper shipping name SILVER NITRATE
 Hazard Class 5.1
 Packing Group II
 ERG Code 140

| |
|-----------------------------------|
| 15. REGULATORY INFORMATION |
|-----------------------------------|

International Inventories

TSCA Complies
 DSL/NDSL Complies
 EINECS/ELINCS Complies
 ENCS Complies
 IECSC Complies
 KECL Complies
 PICCS Complies
 AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Component | SARA 313 - Threshold Values % |
|--|-------------------------------|
| Silver nitrate 7761-88-8 (95-100) | - |

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
 Chronic Health Hazard No
 Fire Hazard Yes
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

| Chemical Name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-----------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Silver nitrate 7761-88-8 | 1 lb | X | - | X |

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level

pertaining to releases of this material

| Chemical Name | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ |
|-----------------------------|--------------------------|------------------------------------|--|
| Silver nitrate 7761-88-8 | 1 lb | - | RQ 1 lb final RQ RQ 0.454 kg final RQ |

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

| Chemical Name | California Prop. 65 |
|----------------------------|---------------------|
| Silver nitrate - 7761-88-8 | - |

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|-----------------------------|------------|---------------|--------------|
| Silver nitrate 7761-88-8 | X | X | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not regulated

16. OTHER INFORMATION

Issuing Date 21-Apr-2009

Revision Date 08-Jan-2016

Revision Note

No information available

Disclaimer

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

End of Safety Data Sheet