

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier**

**Product Name** Silver Nitrate

**Other means of identification**

**Product Code(s)** M122  
**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**

|                             |                             |
|-----------------------------|-----------------------------|
| <b>Company Address</b>      | <b>Manufacturer Address</b> |
| VWR International, LLC      | VWR Chemicals, LLC          |
| Radnor Corporate Center     | 28600 Fountain Parkway      |
| 100 Matsonford Road         | Solon, Ohio 44139           |
| Radnor, PA 19087-8660       |                             |
| <b>Company Phone Number</b> | 1-800-448-4442              |
| <b>E-mail Address</b>       | 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<br>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**

|                       |                          |                       |                          |
|-----------------------|--------------------------|-----------------------|--------------------------|
| <b>Physical State</b> | Crystalline Powder       | <b>Odor</b>           | No information available |
| <b>Appearance</b>     | Fine White               | <b>Odor Threshold</b> | No information available |
| <b>Color</b>          | No information available |                       |                          |

| <u>Property</u>              | <u>Values</u>            | <u>Remarks • Method</u> |
|------------------------------|--------------------------|-------------------------|
| 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**

|                         |                          |
|-------------------------|--------------------------|
| <b>Softening Point</b>  | No information available |
| <b>Molecular Weight</b> | No information available |
| <b>VOC Content</b>      | No information available |
| <b>Density</b>          | 4.35                     |
| <b>Bulk Density</b>     | 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

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

| Chemical Name               | LD50 Oral            | LD50 Dermal | LC50 Inhalation |
|-----------------------------|----------------------|-------------|-----------------|
| Silver nitrate<br>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** The table below indicates whether each agency has listed any ingredient as a carcinogen.

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

**Persistence and Degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

| Chemical Name               | Partition coefficient |
|-----------------------------|-----------------------|
| Silver nitrate<br>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<br>7761-88-8 | -                                    | -                      | -                      | -                      |

| Chemical Name               | California Hazardous Waste Status |
|-----------------------------|-----------------------------------|
| Silver nitrate<br>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

|                                   |
|-----------------------------------|
| <b>15. REGULATORY INFORMATION</b> |
|-----------------------------------|

**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<br>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<br>7761-88-8 | 1 lb                        | X                      | -                         | X                          |

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Chemical Name               | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ                                       |
|-----------------------------|--------------------------|------------------------------------|--|
| Silver nitrate<br>7761-88-8 | 1 lb                     | -                                  | RQ 1 lb final RQ<br>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<br>7761-88-8 | X          | X             | X            |

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not regulated

|                              |
|------------------------------|
| <b>16. OTHER INFORMATION</b> |
|------------------------------|

Issuing Date 21-Apr-2009  
Revision Date 17-Feb-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**