Material Safety Data Sheet
Silver Nitrate

ACC# 20810

Section 1 - Chemical Product and Company Identification

MSDS Name: Silver Nitrate
Synonyms: Nitric acid, silver salt
Company Identification:
Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7761-88-8</td>
<td>Nitric acid, silver(1+) salt</td>
<td>100</td>
<td>231-853-9</td>
</tr>
</tbody>
</table>

Hazard Symbols: C
Risk Phrases: 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless or white. **Danger!** Strong oxidizer. Contact with other material may cause a fire. Causes skin burns. Causes respiratory tract burns. May cause eye irritation. May cause
digestive tract irritation. May cause cyanosis with bluish skin. **Target Organs:** Blood.

**Potential Health Effects**

**Eye:** Contact with eyes may cause severe irritation, and possible eye burns.  
**Skin:** Causes severe skin irritation. Causes skin burns.  
**Ingestion:** Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. Lethal dose for humans is 2 grams.  
**Inhalation:** Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.  
**Chronic:** May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis, rapid heart rate, unconsciousness and possible death. Chronic inhalation or ingestion may cause argyria characterized by blue-gray discoloration of the eyes, skin and mucous membranes. Chronic skin contact may cause permanent discoloration of the skin.

---

**Section 4 - First Aid Measures**

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.  
**Skin:** Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.  
**Ingestion:** Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.  
**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  
**Notes to Physician:** Treat symptomatically and supportively.  
**Antidote:** None.

---

**Section 5 - Firefighting Measures**

**General Information:** Strong oxidizer. Contact with combustible materials may cause a fire. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.  
**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.  
**Autoignition Temperature:** Not applicable.  
**Flash Point:** Not applicable (estimated) Health: 3; Flammability: 0; Reactivity: 0  
**Explosion Limits:** Lower: Not available. Upper: Not available.

---

**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.  
**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Remove all sources of ignition.
Handling: Wash thoroughly after handling. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Do not store near combustible materials.

Storage: Keep away from sources of ignition. Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitric acid, silver(1+) salt</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Nitric acid, silver(1+) salt: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear impervious gloves.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: colorless or white

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate:

Viscosity: Not available.

Boiling Point: 824 deg F

Freezing/Melting Point: 414 deg F

Decomposition Temperature: 824 deg F

Solubility: Soluble in water.

Specific Gravity/Density: 4.35

Molecular Formula: AgNO3

Molecular Weight:

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, combustible materials, reducing agents.

Incompatibilities with Other Materials: Reacts dangerously (explosion, ignition, propellant type of burning, formation explosive products) with acetylene, ammonium hydroxide, aziridine, calcium carbide, ethanol, ethanol and nitric acid, ethyleneimine, 1-bromo-2-propyne, charcoal, chlorine trifluoride, ethylene oxide, ethylene hydroperoxide, hydrogen peroxide, magnesium arsenic, or cuprous
acetylide.

**Hazardous Decomposition Products:** Nitrogen oxides, oxides of silver.

**Hazardous Polymerization:** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:**
- CAS# 7761-88-8: VW4725000
- LD50/LC50:
  - CAS# 7761-88-8: Oral, mouse: LD50 = 50 mg/kg;

**Carcinogenicity:**
- CAS# 7761-88-8: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**Epidemiology:** No data available.

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Neurotoxicity:** No data available.

**Mutagenicity:** No data available.

**Other Studies:** No data available.

### Section 12 - Ecological Information

**Ecotoxicity:** Not available.

**Environmental Fate:** Not available.

**Physical/Chemical:** Not available.

**Other:** Not available.

### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

**RCRA D-Series Maximum Concentration of Contaminants:** None listed.

**RCRA D-Series Chronic Toxicity Reference Levels:** None listed.

**RCRA F-Series:** None listed.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14 - Transport Information

<table>
<thead>
<tr>
<th>Shipping Name: NITRATE</th>
<th>US DOT</th>
<th>IATA</th>
<th>RID/ADR</th>
<th>IMO</th>
<th>CANA TD: SILVER NITRATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class: 5.1</td>
<td></td>
<td></td>
<td></td>
<td>5.1(9.2)</td>
<td></td>
</tr>
<tr>
<td>UN Number: UN1493</td>
<td></td>
<td></td>
<td></td>
<td>UN1493</td>
<td></td>
</tr>
<tr>
<td>Packing Group: II</td>
<td></td>
<td></td>
<td></td>
<td>II</td>
<td></td>
</tr>
</tbody>
</table>

### Section 15 - Regulatory Information
US FEDERAL

TSCA
CAS# 7761-88-8 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)
CAS# 7761-88-8: final RQ = 1 pound (0.454 kg)

Section 302 (TPQ)
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 7761-88-8: acute, chronic, flammable.

Section 313
This material contains Nitric acid, silver(1+) salt (listed as SILVER), 100%, (CAS# 7761-88-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
CAS# 7761-88-8 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 7761-88-8 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Massachusetts. California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

C

Risk Phrases:
R 34 Causes burns.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 45 In case of accident if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)
CAS# 7761-88-8: 3

Canada
CAS# 7761-88-8 is listed on Canada’s DSL/NDSL List. This product has a WHMIS classification of C, D1A, E.

CAS# 7761-88-8 is not listed on Canada’s Ingredient Disclosure List.

Exposure Limits
CAS# 7761-88-8: OEL-ARAB Republic of Egypt: TWA 0.01 mg(Ag)/m3 OEL-A

AUSTRALIA: TWA 0.01 mg(Ag)/m3 OEL-BELGIUM: TWA 0.01 mg(Ag)/m3

OEL-DENMA
RK: TWA 0.01 mg(Ag)/m3 OEL-FINLAND: TWA 0.01 mg(Ag)/m3 STEL 0.03

mg(Ag)/m3 Skin OEL-THE NETHERLANDS: TWA 0.01 mg(Ag)/m3 OEL-THE

PHILIPPINES:
TWA 0.01 mg(Ag)/m3 OEL-SWITZERLAND: TWA 0.01 mg(Ag)/m3 OEL-UNITED

KIN
GDOM: TWA 0.01 mg(Ag)/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA chec

k ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI

TLV
Section 16 - Additional Information

MSDS Creation Date: 1/09/1995
Revision #10 Date: 12/12/1997
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Need help with a product? Send email to Fisher's customer service or call us at 1-800-766-7000.