

MSDS# 20810

Section 1 - Chemical Product and Company Identification

MSDS Name: Silver nitrate

Catalog Numbers: AC197680000, AC419350000, AC419350500, AC419352500, AC419360000, AC419360250, AC419360250, AC419365000, 19768-0050, 19768-0250, 19768-1000, 19768-5000, 41935-1000, 41935-5000, 41936-1000, BP2546-100, BP2546-25, BP2546-500, S181-100, S181-25, S181-500, S181-500LC, S486-100, S486-500

Synonyms: Nitric acid, silver salt.

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 7761-88-8  
Chemical Name: Silver nitrate  
%: >99  
EINECS#: 231-853-9

Hazard Symbols:



Risk Phrases:

O C N



34 50/53 8



Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Strong oxidizer. Contact with other material may cause a fire. Causes burns by all exposure routes. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns. May be harmful if absorbed through the skin.

Ingestion: Causes gastrointestinal tract burns. May be harmful if swallowed. Ingestion of soluble silver salts may cause argyria, characterized by permanent blue-gray pigmentation of the skin, mucous membranes, and eyes.

Inhalation: Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.

May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart

Chronic: rate, unconsciousness and possible death. Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discoloration of the eyes, skin, mucous membranes, and internal organs. This malady results from the accumulation of silver in the body.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician:

### Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use flooding quantities of water as spray.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: ; instability: OX

### 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. Provide ventilation. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

### Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use with adequate ventilation. Keep from contact with clothing and other combustible materials. Inform laundry personnel of contaminant's hazards.

Storage: Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from light. Avoid storage on wood floors.

### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Silver nitrate	0.01 mg/m <sup>3</sup> TWA (as Ag) (listed under Silver soluble compounds).	0.01 mg/m <sup>3</sup> TWA (as Ag) (listed under Silver soluble compounds).10 mg/m <sup>3</sup> IDLH (as Ag) (listed under Silver soluble compounds).	0.01 mg/m <sup>3</sup> TWA (as Ag) (listed under Silver soluble compounds).

OSHA Vacated PELs: Silver nitrate: 0.01 mg/m<sup>3</sup> TWA (as Ag) (listed under Silver soluble compounds)

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

#### Exposure Limits

#### 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 appropriate gloves to prevent skin exposure.

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. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

#### Section 9 - Physical and Chemical Properties

Physical State: Solid

Color: white

Odor: odorless

pH: ~ 6 (aq soln)

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 433 deg C ( 811.40°F)

Freezing/Melting Point: 212 deg C ( 413.60°F)

Decomposition Temperature:

Solubility in water: Soluble

Specific Gravity/Density: 4.35

Molecular Formula: AgNO<sub>3</sub>

Molecular Weight: 169.87

#### Section 10 - Stability and Reactivity

Chemical Stability: Becomes gray or grayish-black on exposure to light in the presence of organic matter.

Conditions to Avoid: Heating to decomposition, excess light, contamination.

Incompatibilities with Other Materials: Strong reducing agents, strong bases, alcohols, ammonia, hydrogen peroxide, acetylene, organic matter, charcoal.

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

Hazardous Polymerization: Will not occur.

#### Section 11 - Toxicological Information

RTECS#: CAS# 7761-88-8: VW4725000

RTECS:

**CAS# 7761-88-8:** Draize test, rabbit, eye: 1 mg Severe;

Draize test, rabbit, eye: 10 mg Moderate;

LD50/LC50: Oral, mouse: LD50 = 50 mg/kg;

Oral, rat: LD50 = 1173 mg/kg;

Other: Lethal oral dose for humans estimated at 28.6 mg/kg.

Carcinogenicity: Silver nitrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Other: Do not empty into drains.

#### Section 13 - Disposal Considerations

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

#### Section 14 - Transport Information

US DOT

Shipping Name: SILVER NITRATE

Hazard Class: 5.1

UN Number: UN1493

Packing Group: II

Canada TDG

Shipping Name: SILVER NITRATE

Hazard Class: 5.1

UN Number: UN1493

Packing Group: II

USA RQ: CAS# 7761-88-8: 1 lb final RQ; 0.454 kg final RQ

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: O C N

Risk Phrases:

R 34 Causes burns.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 8 Contact with combustible material may cause fire.

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 or if you feel unwell, seek medical advice immediately (show the label where possible).

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 7761-88-8: 3

Canada

CAS# 7761-88-8 is listed on Canada's DSL List

Canadian WHMIS Classifications: C, E, D1A, D2A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 7761-88-8 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

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

#### Section 16 - Other Information

MSDS Creation Date: 5/17/1999

Revision #14 Date 7/20/2009

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 event shall the company be liable for any claims, losses, or damages of any third party or for lost profits

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