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Material Safety Data Sheet

Silver Nitrate

ACC# 20810

Section 1 - Chemical Product and Company Identification

MSDS Name: Silver Nitrate

Catalog Numbers: S78168, S78169, S78171, S78171-1, S78172, S78173, S78173-1, S78173-2, S181 100, S181 25, S181 500, S181-, S181-100, S181-25, S181-500, S181100, S18125, S181500, S486 100, S486 500, S486-, S486-100, S486-500, S486100, S486500

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

CAS#	Chemical Name	Percent	EINECS/ELINCS
7761-88-8	Nitric acid, silver(1+) salt	100	231-853-9

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.

Section 7 - Handling and Storage

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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Nitric acid, silver(1+) salt	none listed	none listed	none listed

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 29CFR 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

	US DOT	IATA	RID/ADR	IMO	Canada TD
Shipping Name:	SILVER NITRATE	No information available.	No information available.	No information available. SILVER NITRATE	
Hazard Class:	5.1			5.1(9.2)	
UN Number:	UN1493			UN1493	
Packing Group:	II			II	

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 depleters. This material does not contain any Class 2 Ozone depleters.

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 or 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

USTRALIA: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

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