



Chief Medical Supplies Ltd.
411 – 19 Street, S. E.
Calgary, AB., Canada.
T2E 6J7
1.866.620.6034

Safety Data Sheet Silver Nitrate AgN-25

Document No. M-D6-009

Section I – Product and Company Identification

Synonyms: Lunar caustic; Silver (1+) nitrate; Nitric acid, silver (1+) salt

CAS no.: 7761-88-8

Molecular Weight: 169.87

Chemical Formula: AgNO₃

Product Codes: AgN-25

Company Identification:

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For information, call:

1-403-207-6034

Emergency Number:

1-403-207-6034

Section II – Hazards Identification

Appearance: White

Physical State: Solid

Odor: None

Hazards of Product: Contact with combustible / organic materials may cause fire. Causes burns by all exposure routes. Harmful by inhalation, in contact with skin and if swallowed.

Potential Health Hazards: Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of skin contact (permeate), of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (corrosive). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

Carcinogenic Effects: Not available

Mutagenic Effects: Not available.

Teratogenic Effects: Not available.

Developmental Toxicity: The substance is toxic to lungs. The substance may be toxic to mucous membranes, skin, and eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Section III – Composition/Information on Ingredients

Ingredient Name	Chemical Formula	CAS No.	% by weight
Silver Nitrate	AgNO ₃	7761-88-8	99-100%

Section IV – First Aid Measures

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available

Section V – Fire Fighting Measures

Conditions of flammability:	Not flammable
Means of extinction:	Not available
Flash point and method of determination:	Not available
Upper flammable limit:	Not available
Lower flammable limit:	Not available
Auto-ignition temperature:	Not available
Hazardous combustion products:	Organic materials, combustible materials
Explosion data - sensitivity to mechanical impact:	Not available
Explosion data - sensitivity to static discharge:	Not available
Fire Fighting Media and Instructions:	Not available

Special Remarks on Fire Hazards: Contact with combustible or organic materials may cause fire.

Special Remarks on Explosion Hazards: Silver nitrate mixed with dry powdered magnesium may ignite explosively on contact with a drop of water. An explosive fulminate may be formed if silver nitrate is mixed with alcohols. Highly explosive is formed by the addition of calcium carbide to silver nitrate solution.

Section VI – Accidental Release Measures

Small Spills: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spills: Oxidizing material. Corrosive solid. Stop leak if without risk. Do not get water inside container. Avoid contact with a combustible material (wood, paper, oil, clothing, etc.). Keep substance damp using water spray. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Section VII – Handling and Storage

Handling Procedures: Keep container dry. Keep away from heat. Keep away from sources of ignition. Keep away from combustible material. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage Requirements: Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalies, reducing agents and combustibles.

Section VIII – Exposure Controls/Personal Protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Eyewear: Splash goggles

Gloves: Protective gloves

Clothing: Lab coat

Breathing Apparatus: Vapor and dust respirator. A self-contained breathing apparatus should be used to avoid inhalation of the product.

Exposure Limits: TWA: 0.01 (mg/m Ag) from ACGIH (TLV) [United States] TWA: 0.01 (mg/m Ag) from OSHA (PEL) [United States]³ Consult local authorities for acceptable exposure limits.

Section IX – Physical and Chemical Properties

Physical state: Solid. (Crystals solid.)

Odour and appearance: None

Odour threshold: Not available

Specific gravity: 4.35 (water=1)

Vapour pressure: Not available

Vapour density: 5.8 (air=1)

Evaporation rate: Not available

Boiling point: Decomposition temperature: 440°C (824°F)

Freezing point: 212°C (413.6°F)

pH (1% soln/water): 6 - 7 [slightly acidic to neutral]

Coefficient of water/oil distribution: Not available

Taste: Bitter. Metallic

Color: Colorless. White

Critical Temperature: Not available.

Ionicity (in Water): Not available

Dispersion Properties: See solubility in water, diethyl ether

Solubility: Easily soluble in cold water, hot water. Soluble in diethyl ether. Very slightly soluble in acetone.

Solubility in water: 122 g/100 ml water @ 0 deg. C. Solubility in water: 952 g /100 ml water @ 190 deg. C

Solubility in alcohol: 1 g/30 ml alcohol; 1g/ 6.5 ml boiling alcohol. Solubility in acetone: 1 g/ 253 ml acetone

Section X – Stability and Reactivity

Stability: Oxidizer: Contact with combustible/organic material may cause fire. Light sensitive.

Conditions to avoid: Incompatible products. Excess heat. Combustible material. Avoid dust formation. Protect from light.

Incompatible materials: Reactive with reducing agents, combustible materials, organic materials, alkalis.

Conditions of reactivity: Sensitive to light. Incompatible with antimony salts, arsenites, bromides, carbonates, chlorides, iodides, thiocyanates, ferrous salts, hypophosphites, morphine salts, oils, creosote, phosphates, tannic acid, tartrates, vegetable decoctions, and extracts, sodium hydroxide, charcoal, thimerosal, benzalkonium chloride, halogenated acids and their salts, alcohols. Silver nitrate reacts with acetylene in presence of ammonia to form silver acetylide, a sensitive powerful detonator when dry. Reaction between silver nitrate and chlorosulfonic acid is violent. Silver nitrate is reduced by hydrogen sulfide in the dark. Silver nitrate is easily reduced to metallic silver by ferrous salts, arsenites, hypophosphites, tartrates, sugars, tannins, volatile oils.

Hazardous decomposition products: Nitrogen Oxides (NO_x)

Instability Temperature: Not available

Corrosivity: Non-corrosive in presence of glass

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur

Section XI – Toxicological Information

Route of entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Effects of acute exposure: Skin: Causes severe irritation and burns. It may cause dermatitis. It may be absorbed through the skin. Eyes: Causes severe irritation, corneal opacification, bleeding conjunctiva, burns of conjunctiva, argyria, blindness Inhalation: Causes irritation of the respiratory tract and mucous membranes with possible chemical burns. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Ingestion: Severe gastrointestinal tract irritation and burns, pain and burning in the mouth, violent abdominal pain, argyria -grayish/blackening of skin and mucous membranes, throat and abdomen, salivation, vomiting of black material, diarrhea, hypermotility, ulcerative gingivitis . May affect kidneys (lesions of kidneys, anuria), lungs

Effects of chronic exposure: Causes damage to the following organs: lungs. May cause damage to the following organs: mucous membranes, skin, eyes

Toxicological Data on Ingredients: Silver nitrate: ORAL (LD50): Acute: 1173 mg/kg [Rat]. 50 mg/kg [Mouse]. 473 mg/kg [Guinea pig].

Exposure limits: TWA: 0.01 (mg/m Ag) from ACGIH (TLV) [United States] TWA: 0.01 (mg/m Ag) from OSHA (PEL) [United States]³ Consult local authorities for acceptable exposure limits.

Irritancy of product: Not available

Sensitization to product: Not available

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

Reproductive toxicity: Not available

Teratogenicity: Not available

Mutagenicity: Mutagenic effects have occurred in humans.

Toxicologically synergistic products: Not available

Section XII – Ecological Information

Ecotoxicity: Not available

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available

Section XIII – Disposal Considerations

Waste disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section XIV – Transport Information

Special shipping information: Silver nitrate UNNA: 1493 PG: II

Transport of Dangerous Goods (TDG): None

Department of Transportation (DOT): CLASS 5.1: Oxidizing material

International Maritime Dangerous Goods (IMO): None

International Civil Aviation Organization (ICAO): None

Section XV – Regulatory Information

WHIMIS classification: CLASS C: Oxidizing material. CLASS E: Corrosive solid. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

SERA: Not available

TSCA: Not available

Section XV – Other Information

SDS creation date: Jun 26, 2009

Last revision date: Jan 08, 2016

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 Chief Medical Supplies 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 Chief Medical Supplies has been advised of the possibility of such damages.

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR