

# WARD'S 54970 MATERIAL SAFETY DATA SHEET

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MSDS No. SS 160  
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## SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	SILVER NITRATE
Chemical Synonyms	Silver Nitrate
Formula	AgNO <sub>3</sub>
Unit Size	up to 2.5 Kg.
C.A.S. No.	7761-88-8

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Silver Nitrate	100%	See Section V.

**WARNING! STRONG OXIDIZER! POISON**

**CORROSIVE. MAY BE HARMFUL IF SWALLOWED. EYE IRRITANT.**

## SECTION III PHYSICAL DATA

Melting Point (°F)	212°C (414°F)	Specific Gravity (H <sub>2</sub> O = 1)	4.35
Boiling Point (°F)	Decomposes 440°C (824°F)	Persistent Volatility by Volume (%)	Non-volatile (NA).
Vapor Pressure (mm Hg)	Negligible as solid.	Evaporation Rate	=1
Vapor Density (Air=1)	Not applicable.		
Solubility in Water	1 gram dissolves in 0.4 ml... water at 25°C, 0.1 mL. boiling water.		
Appearance & Odor	White, transparent or colorless crystals; no odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-combustible (NA).	Flammable Limits in Air % by Volume	Lower NA Upper NA
Extinguisher Media	Use any media suitable for extinguishing supporting fire.		

**SPECIAL FIREFIGHTING PROCEDURES**  
 Wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

**TOXIC. Dangerous to eyes in solid or dust form; skin and respiratory irritant. Wear goggles.**

(1993 EMERGENCY RESPONSE GUIDEBOOK, DOT # 5800.6, GUIDE PAGE NO. 45)

**UNUSUAL FIRE AND EXPLOSION HAZARDS**  
 Oxidizing material. Increases flammability of combustible, organic or other readily oxidizable materials. Fire or excessive heat may produce hazardous decomposition products; can react vigorously with flammable materials.

D.O.T. **SILVER NITRATE, 5.1, UN 1493**  
 Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

## SECTION V HEALTH HAZARD DATA

**Threshold Limited Value**  
 RTECS No. VV4725003 Toxicity data: Or-mus LD50: 50 mg/kg, ipr-mus LD50: 22 mg/kg. TWA: 0.1 mg/m<sup>3</sup> as silver metal. (ACGIH 1992-93).

**Effects of Overexposure**  
**CONTACT:** Caustic and irritating to eyes, skin and mucous membranes. Can cause burns, causing skin to darken and/or peel. **INGESTION:** **POISONOUS IF SWALLOWED.** Can cause severe gastroenteritis if swallowed. **INHALATION:** Excessive inhalation can cause cosmetic discoloration (argyria).

**Emergency and First Aid Procedures**  
**INHALATION:** Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get immediate medical attention. **SKIN:** Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. **INGESTION:** If swallowed, if conscious, give a teaspoonful of table salt (sodium chloride) dissolved in a glass of warm water, induce vomiting. Repeat until vomit fluid is clear. Get immediate medical attention. Never give anything by mouth to an unconscious person.

## SECTION VI REACTIVITY DATA

Stability	Unstable	Conditions to Avoid	Protect from light. Excessive temperature and heat.
Incompatibility (Materials to Avoid)	Stable	X	
Hazardous Decomposition Products	Reducing agents, organics.		

**Hazardous Decomposition Products**  
 Thermal decomposition produces metallic silver, nitrogen, oxygen and oxides of nitrogen.

Hazardous Polymerization	Conditions to Avoid
May Occur	Will Not Occur
	X

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled**  
 This is valuable material. Recover as much as possible for use or consult with silver recovery firms. Sweep up and place in a suitable container for disposal. Flush spill area with water.

**Waste Disposal Method**  
 Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. Dispose of in an approved chemical landfill or contract with a licensed waste disposal agency.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection**  
 None should be needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved respirator.

Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

**Protective Gloves**  
 Rubber. **Eye Protection**  
 Chemical safety glasses.

**Other Protective Equipment**  
 Goggles, smock, apron, ventilation hood, proper gloves, eye wash station and fire extinguisher.

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing**  
 Store in a cool, dry place and protect from light. Do not store near combustible materials. Wash thoroughly after handling. Keep container tightly closed when not in use.

**Other Precautions**  
 Read label on container before using. Do not wear contact lenses when working with chemicals. Avoid breathing dust. Use with adequate ventilation. Do not get in eyes, on skin, on clothing. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 4	Date 3/4/96	Approved	Michael Raszeja	Chemical Safety Coordinator
				MR

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