MEDICAL CHEMICAL CORPORATION
SINCE 1954

SDS for Silver Nitrate, 5% w/v
Catalog # 807E

Creation date: 05-08-2015 **Revision date: 11-20-2023** **Revision number: 1.05**

Section I - Product Identification

Product: A solution of silver nitrate in water.

Intended Uses: A general laboratory reagent.

Uses advised against: Not for consumer use. Intended for laboratory use only.

Country of origin: Manufactured in the United States.

Manufacturer Identification

Medical Chemical Corp.
19430 Van Ness Ave.
Torrance, CA 90501

Customer Service: Phone (310)787-6800
Email. Customerservice@med-chem.com
FAX (310)787-4464

Emergency Telephone Number

CHEMTREC Emergency Response Telephone Number: (800)424-9300. Note: The CHEMTREC phone number is only for emergencies involving spills, leaks, fire, exposure or accident. Please direct all other inquiries to our customer service phone number.

Section II - Hazard Identification

This item is considered hazardous by 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Eye damage/eye Irritation: Category 3 (H315) Causes skin irritation.
Acute toxicity (Oral): Category 4 (H302). Harmful if swallowed
Acute toxicity (Inhalation): Category 4 (H332). Harmful if inhaled.
Acute toxicity (Dermal): Category 2 (H312). Harmful in contact with skin.
Hazardous to the aquatic environment: Category 2 (H411): Toxic to aquatic life with long lasting effects

Signal word: Warning

Hazard statements

According to the harmonized classification and labeling recommended by OSHA and the EU, this substance is corrosive and causes serious eye damage. In case of skin contact immediately remove all contaminated clothing. Rinse with water or shower. Wash thoroughly after handling. Do not eat drink or smoke while using this product. If swallowed rinse mouth with water and immediately call a poison control center.

Precautionary statements

P210: Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.

P220 Keep away from clothing and other combustible materials.

P233: Keep container tightly closed

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P361+P354: IF ON SKIN: Take off Immediately all contaminated clothing. Immediately rinse with water for several minutes.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P405: Store locked up.

Safety Ratings

Health: Hazardous *Flammability*: Non-flammable *Reactivity*: Unstable if heated *Contact*: Hazardous
Recommended safety equipment: safety goggles, lab coat and proper gloves

NFPA Ratings

Health = 2 Flammability = 0 Reactivity = 2

Potential Health Effects

The toxicology of this compound has not been completely examined. Soluble silver salts are very toxic and ingestion causes chemical burns, nausea, vomiting, diarrhea, death etc. Signs of overexposure include changes in blood pressure, abdominal pain, diarrhea and inflammation and/or ulceration of the mucous membranes. May cause damage to the liver and kidneys. Systemic poisoning causes agyria which turns the skin and conjunctiva blue.

Inhalation: The vapor pressure of silver nitrate is low and not likely to be volatile except in extreme conditions. Breathing the mist or spray is extremely hazardous.

Ingestion: Ingestion will produce coma and death. Silver nitrate is toxic and corrosive.

Skin contact: Skin contact may result in burns and/or dermatitis. Causes discoloration of the skin which may not be apparent until hours after contact.

Eye contact: Irritating and corrosive. Even brief contact can cause irreversible eye damage

Chronic Exposure: Chronic exposure can cause silver poisoning including a permanent blue discoloration of the skin.

Aggravation of preexisting conditions: Preexisting eye, skin, and respiratory conditions may also be aggravated.

Section III - Composition/Information on Components

Ingredient	CAS#	EC/List No.	%
Silver nitrate	7761-88-8	231-853-9	4.8% w/w (5.0% w/v)

Section IV - First Aid Measures

General Advice: Get immediate medical attention..

Inhalation: Remove from source of exposure and get immediate medical attention for any breathing difficulty.

Ingestion: Rinse mouth with water but do not induce vomiting. Aspiration of silver nitrate into the lungs may prove fatal. If the patient is conscious administer water or milk to dilute the poison and an absorbent such as activated charcoal. Administer antidote for silver poisoning if available. Get immediate medical attention even if symptoms improve.

Skin Contact: In case of skin contact, remove contaminated clothing and flush with water. Wash affected area with soap and water. Launder clothing before reuse. Get medical advice.

Eye Contact: Remove contact lenses if feasible and flush with water for at least 15 minutes. Get medical attention.

Section V - Fire Fighting Measures

Fire: Use water. Do not use dry chemicals or foams. CO_2 or Halon may provide limited control.

Explosion: Not normally an explosion hazard, but can react with alcohols or aldehydes to form silver fulminate which is extremely explosive.

Special information: Pyrolysis will release toxic compounds. Silver nitrate is an oxidizer and may intensify existing fire.

*Special protective gear and precaution*s: Self contained breathing apparatus and protective gear recommended.

Section VI - Accidental Release Measures

Use personal protective gear, absorb with a suitable absorbent and dispose at a licensed disposal site. Should not be released into the environment.

Section VII - Handling and Storage

P233+P102+P403+P405; Store protected from light in a well-ventilated place. Keep container tightly closed. Keep out of reach of children. Store locked up.

Section VIII - Exposure Control/Personal Protection

Component	ACGIH TLV	OSHA PEL	NIOSH	NIOSH IDLH
silver nitrate	0.01 mg/m^3as Ag	0.01 mg/m^3 as Ag	0.01 mg/m^3 as Ag	10 mg/m^3 as Ag

Legend

ACGIH: American Conference of Governmental Industrial Hygienists.
OSHA*:* Occupational Safety and Health Administration.
NIOSH: National Institute for Occupational Safety and Health.
IDLH: Immediately dangerous to life or health.

Ventilation System: Local exhaust such as explosion proof chemical fume hoods are recommended. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

Personal Respirator: Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

Skin protection: Protective gloves are required.

Eye Protection: Laboratory safety goggles or similar products are required.

Section IX - Physical and Chemical Properties

Appearance and Odor: A clear, colorless and odorless liquid.

Flash point: Not applicable.
Auto ignition temperature: Not applicable
Boiling point range: No data
Decomposition temperature: No data
Melting point: ~ 0 °C
pH: ~7
Vapor pressure (mm Hg): 18 @ 20 °C
Viscosity: ~ 0.01 poise
Flammable Limits: Not applicable.
Boiling Point: ~ 100 °C (212 °F)
Density: 1.04 g/ml @ 22.5 °C
Evaporation Rate (Water = 1): 1
Partition coefficient (n-Octanol/Water): No data
Solubility: Infinitely miscible with water
Vapor density (air = 1): 0.6
Volatile organic carbon (VOC): Not applicable.

Section X - Stability and Reactivity

Stability: Stable under normal conditions.

Hazardous Decomposition Products: The manufacturer is unaware of any.

Hazardous polymerization: Will not occur.

Incompatibilities: Silver salts react with ammonia, alcohols and aldehydes to form the explosive salt silver fulminate. Silver nitrate is a strong oxidizer and reacts with many organic compounds.

Conditions to avoid: Silver salts are light sensitive.

Section XI - Toxicological Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silver nitrate	1173 mg/kg (Rat)	No data	No data

Cancer lists

Ingredient	*Known Carcinogenicity?*	*NTP?*	*Anticipated?*	*IARC Category*
Silver nitrate	No	No	No	No

Section XII - Ecological Information

Soluble silver salts are an environmental hazard.

Environmental Fate: Silver salts are not biodegradable and accumulate in the environment.
Soil Mobility: Unknown
Environmental Toxicity: Warning: (H411) Hazardous to the aquatic environment, long-term hazard.

Silver Nitrate:

Toxicity to freshwater fish (fathead minnow):LC50 = 0.0012 mg/l, 96 h
Toxicity to invertebrates (water flea): EC50 = 0.00022 mg/l, 48 h
Toxicity to freshwater algae (Chlorella vulgaris): EC50 = 0.0026 mg/l, 96 h

Section XIII - Disposal Considerations

Disposal at a licensed chemical disposal facility is the preferred disposal method. Local governments usually forbid drain disposal of silver compounds. Because of the commercial value of silver salts they are frequently recycled. Dispose of contents and container in accord with all federal, state and local regulations.

Section XIV - Transportation Information

Not regulated.

Section XV - Regulatory Information

Chemical Inventory Status

Ingredient	*TSCA*	*EC*
Silver nitrate	Yes	Yes

Federal and State Regulations

Ingredient	*SARA 302 RQ*	*SARA 302 TPQ*	*SARA 313 List*	*SARA 313 Category*	*RCRA 261.33*	*TSCA 8(D)*	*Ca. Prop 65*
Silver nitrate	No	No	Yes	Silver Cmpd	No	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes

SARA 311/312

Acute:	Yes
Chronic:	Yes
Fire:	No
Reactivity:	No

Section XVI - Other Information

This information is believed to be correct at the time of publication but is not guaranteed as such, nor does it purport to be all inclusive. Medical Chemical Corp. assumes no liability for the accuracy or completeness of the information. The user assumes all responsibility for compliance with federal, state and local laws.

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