

MSDS

Material Safety Data Sheet

Section 1: Chemical Product and Company Identification

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| Catalog Number: 6827, 6830, 6975, 7002, 7003, 7005, 7010, 7011, 7020, S-145, S-165, S-170, S-192, S083500, S083550, S083650, SS083500, SS083550, SS083650, SS083700, SS083860, SX-1280, SX-951 | |
| Product Identity: SILVER NITRATE Solutions | |
| Manufacturer's Name: RICCA CHEMICAL COMPANY LLC | Emergency Contact(24 hr) -- CHEMTREC® Domestic: 800-424-9300 International: 703-527-3887 |
| CAGE Code: 0V553 | |
| Address: 448 West Fork Dr Arlington, TX 76012 | Telephone Number For Information: 817-461-5601 |
| Date Prepared: 7/30/04 | Revision: 5 Last Revised: 03/29/2007 Date Printed: 06/15/2007 4:43:16 pm |

Section 2. Composition/Information on Ingredients

| Component | CAS Registry # | Concentration | ACGIH TLV | OSHA PEL |
|------------------|----------------|---------------|---------------|---------------|
| Water, Deionized | 7732-18-5 | Balance | Not Available | Not Available |
| | | | Not Available | Not Available |
| Silver Nitrate | 7761-88-8 | 1 -- 10 | Not Available | Not Available |
| | | | 0.1 mg/m3 | 0.1 mg/m3 |

Section 3: Hazard Identification

Emergency Overview: Hazards increase as concentration increases. Most assume that solutions of Silver Nitrate do not reach hazardous concentrations until approximately 5%. Will temporarily discolor skin. Wash areas of contact with water. May be fatal if swallowed. Can cause sore throat, vomiting, and diarrhea.

Target Organs: nasal septum, eyes, skin.

Eye Contact: May cause irritation, redness, pain, and tearing.

Inhalation: Not likely to be hazardous by inhalation.

Skin Contact: May cause irritation and temporary discoloration of skin.

Ingestion: May cause burning in the mouth, blackening of the skin and mucous membranes, throat and abdomen, diarrhea and shock. A poison at higher concentrations.

Chronic Effects/Carcinogenicity: Chronic exposure can cause permanent bluish discoloration of the skin.

IARC - No.

NTP - No.

OSHA - No.

Reproductive Information: Reproductive effects cited in 'Registry of Toxic Effects of Chemical Substances' for Silver Nitrate.

Teratology (Birth Defect) Information: Mutation data cited in 'Registry of Toxic Effects of Chemical Substances' for Silver Nitrate.

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Section 4: First Aid Measures - In all cases, seek qualified evaluation.

Eye Contact: Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Skin Contact: Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops.

Ingestion: Dilute immediately with water or milk. Induce vomiting. Call a physician.

Section 5: Fire Fighting Measures

Flash Point: Not Available.

Method Used: Not Available.

LFL: Not Available.

UFL: Not Available.

Extinguishing Media: Use water or water spray on small fires. Do not use dry chemicals or carbon dioxide.

Fire & Explosion Hazards: Silver Nitrate reactions may cause fire. Silver Nitrate is a strong oxidizer.

Fire Fighting Instructions: Use normal procedures/instructions. Poisonous gases may be produced in fire.

Fire Fighting Equipment: Use protective clothing and breathing equipment appropriate for the surrounding fire.

Section 6: Accidental Release Measures

Do not flush to sewer. Containerize for disposal with a hazardous waste disposal facility. Dispose of in accordance with local regulations.

Section 7: Handling and Storage

As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

Safety Storage Code: General

Section 8: Exposure Control/Personal Protection

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

Section 9: Physical and Chemical Properties

Appearance: Clear, colorless liquid

Odor: Odorless

Solubility in Water: Infinite

Specific Gravity: Approximately 1.0 -- 1.07

pH: approximately 6

Boiling Point(°C): Approximately 100

Melting Point(°C): Approximately 0

Vapor Pressure: Not Applicable.

Section 10: Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.

Incompatibility: Ammonium Hydroxide, Organic Materials, Sulfides, Charcoal, Acetylene, Calcium Carbide, Ethanol, reducing agents, alkalis, Antimony salts, Arsenites, Bromides, Carbonates, Chlorides, Iodides, Ferrous salts, Thiocyanates, Phosphates, Tannic Acid and Tartrates.

Hazardous Decomposition Products: Toxic fumes of Nitrogen Oxides may be emitted when heated to decomposition.

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

LD50, Oral, Rat: (Silver Nitrate) 1173 mg/kg. Toxic effects: behavioral - tetany; Lungs, throat or respiration - cyanosis; Gastrointestinal - hypermotility, diarrhea.

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Section 12. Ecological Information

Ecotoxicological Information: Toxicity of Silver to aquatic life is probably dependent on water hardness; the harder the water, the higher the concentration of silver needed to be considered toxic. Silver and its compounds have high chronic toxicity to aquatic life. Chronic toxic effects include shortened life span, reproductive problems, lower fertility, and changes in appearance or behavior in exposed animals.

Chemical Fate Information: The concentration of Silver found in fish is expected to be considerably higher than the average concentration of Silver in the water from which the fish was taken. Silver is highly persistent in the aquatic environment, with a half-life of greater than 200 days.

Section 13. Disposal Considerations

Absorb with suitable material and containerize for disposal with a RCRA approved waste disposal facility. Do not flush to the sewer. Always dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

Part Numbers: 6830-5, 6975-5, 7002-5, 7003-5, 7005-5, 7010-5, 7011-2.5, 7011-5, 7020-5, S-170 20-LT, S-192 20-LT, SS083550-20F, SS083650-20F, SS083700-20F, SX-1280 20-LT, SX-951 20-LT

D.O.T. Shipping Name: Environmentally Hazardous Substances, Liquid, n.o.s., RQ (Silver Nitrate)

D.O.T. Hazard Class: 9

U.N. / N.A. Number: UN3082

Packing Group: III

D.O.T. Label: 9



Section 15. Regulatory Information (Not meant to be all inclusive - selected regulation represented)

OSHA Status: These items meet the OSHA Hazard Communication Standard (29 CFR 1910.1200) definition of a hazardous material.

TSCA Status: All components of this solution are listed on the TSCA Inventory or are mixtures (hydrates) of items listed on the TSCA Inventory.

Sara Title III:

Section 302 Extremely Hazardous Substances: Not Applicable.

Section 311/312 Hazardous Categories: Acute: Yes Chronic, Fire, Pressure, Reactivity: No

Section 313 Toxic Chemicals: Not Applicable.

California: None Reported.

Pennsylvania: Silver Nitrate is listed as an Environmental Hazard on the state's Hazardous Substances List.

RCRA Status: D011

CERCLA Reportable Quantity: Silver Nitrate - 1 pounds.

WHMIS: D-2B: Poisonous and Infectious Material. Materials causing other toxic effects - Toxic Material.



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Section 16. Other Information

NFPA Ratings:

Health: 2 Flammability: 0 Reactivity: 0 Special Notice Key:None

HMIS Ratings:

Health: 2 Flammability: 0 Reactivity: 0 Protective Equipment:B (Protective Eyewear, Gloves)

Proper Shipping Name under section 14 is size specific. Sizes that contain a reportable quantity are considered hazardous for shipping purposes. The reportable quantity of Silver Nitrate is 1 pound (454 grams) per package. Contact Ricca Chemical Company at 888-467-4222 or visit us on our website at www.riccachemical.com to confirm the hazardous or non-hazardous nature for shipping purposes. 20 liter (5 gal) sizes of the following catalog numbers are considered hazardous by DOT: 6830, 6975, 7002, 7003, 7005, 7011, 7020, S083550 (SS083550) and S083650. 10 liter (2.5 gal) sizes of the following catalog numbers are considered hazardous by DOT: 7011. Smaller sizes of these catalog numbers are considered not regulated by the DOT.

Rev 1, 10-28-2004: (Section 16) added catalog number SS083550 to notes.

Rev 2, 10-07-2005: (Section 1) added Red Bird catalog number S-145.

Rev 3, 12-15-2005: (Section 1) added Red Bird catalog number S-170.

Rev 4, 03-29-2006: (Section 1) added Red Bird catalog number SX-1280.

Rev 5, 03-29-2007: (Section 1) added Red Bird catalog numbers S-192 and SX-951.

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.