



develop pressure. Combustion of released ammonia may form nitrogen oxides.

## SECTION 5

### PHYSICAL HAZARDS (REACTIVITY DATA)

**Stability:** Stable

**Conditions to Avoid:** Excessive temperatures, light.

**Incompatibility (Materials to Avoid):** Organic compounds, combustible materials, strong reducing agents, strong bases, alkalis, halides, strong acids; Chlorine, bromine, mercury, and hypochlorite (bleach) react with the ammonia to form explosive compounds. Avoid using metal containing copper or zinc.

**Hazardous Decomposition Products:** Oxides of Nitrogen, heating and contact of vapors with very hot surfaces may form hydrogen.

**Hazardous Polymerization:** Will not occur.

**Conditions to Avoid:** Do not mix concentrated silver solution with concentrated activator solution-**may explode!**

## SECTION 6

### HEALTH HAZARDS

**Toxicity:** Oral mouse LD50 for silver nitrate 50 mg/kg

Intraperitoneal mouse LD50 for silver nitrate 22 mg/kg

**Acute:** Silver/ammonia solution is a strong base and reacts corrosively with all body tissue.

**Chronic:** Inhalation of extremely high concentrations may cause bronchitis and/or pneumonia with some reduction in pulmonary function. Repeated inhalation may cause lung disease.

**Signs and Symptoms of Exposure:** Skin darkening and irritation, strong ammonia odor.

#### Medical Conditions Generally Aggravated by Exposure:

1. Inhalation: The gas can be suffocating and is irritating to the mucus membranes and lung tissues. Repeated or prolonged exposure to concentrations greater than 500 ppm IDLH level for Ammonia can cause permanent injury or death. Less exposure may cause irritation, headache, coughing, severe lung congestion, breathing difficulty, convulsions, shock.
2. Eyes: Severely irritation from liquid and fumes. May cause burns. Eye problems may cause greater susceptibility to effects of exposure. Burns may lead to blindness.
3. Skin: Silver Compounds can be absorbed into the circulation through breaks in the skin. Local irritation, burns, and blister form from contact.
4. Ingestion: Burning pain in mouth, throat, stomach, thorax, constriction of throat, coughing, followed by vomiting or diarrhea. Portable lethal ingestion dose is 3-4ml (1ounce).

#### Chemical Listed as Carcinogen or Potential Carcinogen:

**National Toxicology Program:** No

**I.A.R.C. Monographs:** No

**OSHA:** No

#### Emergency and First Aid Procedures:

**Ingestion:** If conscious, give salt water and/or milk to drink, induce vomiting. Highly toxic via oral route. Call physician. **Inhalation:** Remove to fresh air. If breathing has stopped or is difficult, administer artificial respiration or oxygen as needed. Seek medical aid. **Skin:** Immediately flush skin with water for 15 minutes. Remove contaminated clothing. Once deposited (at sight of injury) through breaks in skin, there is no known method by which the silver can be eliminated. The pigment is permanent Handle with care. **Eye contact:** Immediately flush with water for 15 minutes.

## SECTION 7

### SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES.

**Precautions to be Taken in Handling and Storage:** Store in dark, dry place. Keep container closed. Store away from incompatible materials, flammables and combustibles.

PEACOCK LABORATORIES, INC.  
1901 S 54<sup>th</sup> St.  
Philadelphia, PA 19143  
Tel: 215 729 4400  
www.peacocklabs.com

**Other Precautions:**

**Steps to be Taken in Case Material is Released or Spilled:** Soak up solution, place in plastic bag or bottle. Flush area with water.

**Waste Disposal Methods:** (Consult federal, state, and local regulations):  
Send to refinery for silver recovery.

**SECTION 8**

**SPECIAL PROTECTION INFORMATION/CONTROL MEASURES**

**Respiratory Protection (specify type):** Approved by NOISH/MSHA respirator with ammonia filter. Must be used when exposure limits are exceeded.

**Ventilation:** Local exhaust, to meet TLV requirements.

**Protective Gloves:** Rubber or neoprene.

**Eye Protection:** Chemical safety splash goggles to prevent eye contact. Contact lenses should not be worn.

**Other Protective Clothing or Equipment:** Rubber apron or protective coveralls.

**Work/Hygienic Practices:** Wash after handling-have shower and eye bath available. Do not get on clothing.

**SECTION 9**

**TRANSPORTATION**

**Proper Shipping Name:** Ammonia Hydroxide (Aqua Ammonia) Corrosive Material UN-2672

**Hazard Class:** 8, Corrosive Material.

**Label:** Corrosive UN-2672

**Identification No.:** UN-2672, Corrosive, PG III

**Other Requirements:** Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 any environmental release of this chemical equal to or over the reportable quantity of 100 lbs. must be reported promptly to the National Response Center, Washington, D.C. (1-800-424-8802). Any consumer product containing 5% or more ammonia requires a POISON label under FSHA (16 CFR 1500.129(1)).

**SECTION 10**

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