



Health	3
Fire	0
Reactivity	0
Personal Protection	

# Material Safety Data Sheet

## Ammonium Chloride/Hydroxide Buffer, pH10 MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Ammonium Chloride/Hydroxide Buffer, pH10

**Catalog Codes:** SLB2695

**CAS#:** Mixture.

**RTECS:** Not applicable.

**TSCA:** TSCA 8(b) inventory: Ammoniumchloride; Ammoniumhydroxide; Ethylenediaminetetraacetic acid magnesium disodium salt; Water

**Cl#:** Not applicable.

**Synonym:**

**Chemical Name:** Not applicable.

**Chemical Formula:** Not applicable.

**Contact Information:**

**Sciencelab.com, Inc.**

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Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**  
1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Ammonium chloride	12125-02-9	6.76
Ammonium hydroxide	1336-21-6	57.2
Ethylenediaminetetraacetic acid magnesium	14402-88-1	0.5
Water	7732-18-5	35.5

**Toxicological Data on Ingredients:** disodium salt Ammonium chloride: ORAL (LD50): Acute: 1650 mg/kg [Rat.]. Ammonium hydroxide: ORAL (LD50): Acute: 350 mg/kg [Rat].

### Section 3: Hazards Identification

**Potential Acute Health Effects:** Very hazardous in case of ingestion, of inhalation. Hazardous in case of skin contact (corrosive). Slightly hazardous in case of eye contact (irritant). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.

**Potential Chronic Health Effects:** Non-corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. **CARCINOGENIC EFFECTS:** Not available. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available.

**DEVELOPMENTAL TOXICITY:** Not available. The substance is toxic to lungs, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

#### Section 4: First Aid Measures

**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 immediately.

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

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

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

**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 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

#### Section 6: Accidental Release Measures

**Small Spill:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

**Large Spill:** Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into

sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:** Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. 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:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:** Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

**Personal Protection:** Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Ammonium chloride STEL: 20 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] [1995] TWA: 10 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] TWA: 10 from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Not available.

**pH (1% soln/water):** Basic.

**Boiling Point:** The lowest known value is 100°C (212°F) (Water).

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** Weighted average: 0.96 (Water = 1)

**Vapor Pressure:** The highest known value is 63.3 kPa (@ 20°C) (Ammonium hydroxide). Weighted average: 39.92 kPa (@ 20°C)

**Vapor Density:** The highest known value is 0.62 (Air = 1) (Water).

**Volatility:** Not available.

**Odor Threshold:** The highest known value is 5 ppm (Ammonium hydroxide)

**Water/Oil Dist. Coeff.:** The product is much more soluble in water.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Easily soluble in cold water, hot water. Very slightly soluble in methanol. Insoluble in diethyl ether, n-octanol.

### Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Not available.

**Incompatibility with various substances:** Slightly reactive to reactive with alkalis.

**Corrosivity:** Slightly corrosive in presence of steel. Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Incompatible with lead and silver salts. (Ammonium chloride)

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

### Section 11: Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 350 mg/kg [Rat]. (Ammonium hydroxide).

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Extremely hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung corrosive). Very hazardous in case of ingestion, .

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Material is irritating to mucous membranes and upper respiratory tract. (Ammonium chloride)

### Section 12: 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 more toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:**

### Section 14: Transport Information

**DOT Classification:** Class 8: Corrosive material CLASS 6.1: Poisonous material.

**Identification:** : CORROSIVE LIQUIDS, POISONOUS, N.O.S. (Ammonium hydroxide) UNNA: UN2922 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:** Pennsylvania RTK: Ammonium chloride; Ammonium hydroxide Massachusetts RTK: Ammonium chloride; Ammonium hydroxide TSCA 8(b) inventory: Ammonium chloride; Ammonium hydroxide; Ethylenediaminetetraacetic acid magnesium disodium salt; Water CERCLA: Hazardous substances.: Ammonium chloride; Ammonium hydroxide;

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):** CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

**DSCCL (EEC):** R22- Harmful if swallowed. R35- Causes severe burns.

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:**

**National Fire Protection Association (U.S.A.):**

**Health:** 3

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:** Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

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