



Health	2
Fire	0
Reactivity	0
Personal Protection	

# Material Safety Data Sheet

## Ammonium Hydroxide, (1 + 9), for Lead, APHA Solution MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Ammonium Hydroxide, (1 + 9), for Lead, APHA Solution

**Catalog Codes:** SLA2776

**CAS#:** Mixture.

**RTECS:** Not applicable.

**TSCA:** TSCA 8(b) inventory: Ammonium hydroxide; Water

**CI#:** Not available.

**Synonym:** Ammonium Hydroxide, (1+9), for Lead, APHA Solution

**Chemical Name:** Not applicable.

**Chemical Formula:** Not applicable.

**Contact Information:**

**Sciencelab.com, Inc.**

14025 Smith Rd.

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
Ammonia, anhydrous	7664-41-7	2.7-3.1
Water	7732-18-5	96.9-97.3

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

### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, . Slightly hazardous in case of inhalation (lung sensitizer). 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:**

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. 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. Cover the irritated skin with an emollient. 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:** Not available.

### 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:** Forms explosive compounds with many heavy metals and halide salts. (Ammonium hydroxide)

## 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. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

### 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. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. 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. Do not store above 23°C (73.4°F).

## 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 hydroxide STEL: 35 (ppm) from ACGIH (TLV) [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 36°C (96.8°F) (Ammonium hydroxide). Weighted average: 93.6°C (200.5°F)

**Melting Point:** May start to solidify at -77°C (-106.6°F) based on data for: Ammonium hydroxide.

**Critical Temperature:** Not available.

**Specific Gravity:** Weighted average: 0.99 (Water = 1)

**Vapor Pressure:** The highest known value is 15.3 kPa (@ 20°C) (Ammonium hydroxide). Weighted average: 3.6 kPa (@ 20°C)

**Vapor Density:** The highest known value is 1.2 (Air = 1) (Ammonium hydroxide). Weighted average: 0.68 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** The highest known value is 34 ppm (Ammonium hydroxide)

**Water/Oil Dist. Coeff.:** Not available.

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

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

**Solubility:** Easily soluble in cold water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, high temperatures (Ammonium hydroxide)

**Incompatibility with various substances:** Slightly reactive to reactive with metals, acids.

**Corrosivity:**

Highly corrosive in presence of zinc, of copper. Corrosive in presence of aluminum. Non-corrosive in presence of glass.

**Special Remarks on Reactivity:**

Incompatible with the following: Acrolein, Acrylic acid, chlorosulfonic acid, dimethyl sulfate, fluorine, gold + aqua regia, hydrochloric acid, hydrofluoric acid, iodine, nitric acid, oleum, propiolactone, propylene oxide, silver nitrate, silver oxide, silver oxide + ethyl alcohol, nitromethane, silver permanganate, sulfuric acid, halogens. Forms explosive compounds with many heavy metals (silver, lead, zinc) and halide salts. (Ammonium hydroxide)

**Special Remarks on Corrosivity:**

Dissolves copper and zinc. Corrosive to aluminum and its alloys. Corrosive to galvanized surfaces. (Ammonium hydroxide)

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Eye contact. Inhalation.

**Toxicity to Animals:** Acute oral toxicity (LD50): 3500 mg/kg (Rat) (Calculated value for the mixture).

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

**Other Toxic Effects on Humans:**

Hazardous in case of skin contact (corrosive, irritant), of eye contact (corrosive), of ingestion, of inhalation (lung corrosive).

**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:**

Acute Potential Health Effects: Skin: Causes severe irritation. Causes skin burns. May cause deep, penetrating ulcers of the skin. Contact with skin may cause staining, inflammation, and thickening of the skin. Eye: Contact with liquid or vapor causes severe burns and possible irreversible eye damage including corneal injury and cataracts. Inhalation: Causes severe irritation of the upper respiratory tract with coughing, burns, breathing difficulty. May cause acute pulmonary edema, pneumoconiosis, fibrosis, and even coma. It is a respiratory stimulant when inhaled at lower concentrations. It may also affect behavior/ central nervous system (convulsions, seizures, ataxia, tremor), cardiovascular system (increase in blood pressure and pulse rate). Ingestion: Harmful if swallowed. Affects the Gastrointestinal tract (burns, swelling of the lips, mouth, and larynx, throat constriction, nausea, vomiting, convulsions, shock, and may cause severe and permanent damage), liver, and urinary system (kidneys) May affect behavior (convulsions, seizures, ataxia, excitement). Chronic Potential Health Effects: Ingestion: May cause effects similar to those of acute ingestion. Inhalation: Repeated exposure to low concentrations may cause bronchitis with cough, phlegm, and/or shortness of breath. May also cause liver and kidney damage, and affect the brain, and blood. Eye: May cause corneal damage and the development of cataracts and glaucoma. Skin: Repeated skin contact to low concentrations may cause dryness, itching, and redness (dermatitis) (Ammonium Hydroxide)

## 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 less toxic than the product itself.

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

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

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

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Connecticut hazardous material survey.: Ammonium hydroxide Illinois toxic substances disclosure to employee act: Ammonium hydroxide Illinois chemical safety act: Ammonium hydroxide New York release reporting list: Ammonium hydroxide Pennsylvania RTK: Ammonium hydroxide Massachusetts RTK: Ammonium hydroxide Massachusetts spill list: Ammonium hydroxide New Jersey: Ammonium hydroxide New Jersey spill list: Ammonium hydroxide New Jersey toxic catastrophe prevention act: Ammonium hydroxide Louisiana spill reporting: Ammonium hydroxide California Director's List of Hazardous Substances (8 CCR 339): Ammonium hydroxide TSCA 8(b) inventory: Ammonium hydroxide CERCLA: Hazardous substances.: Ammonium hydroxide: 1000 lbs. (453.6 kg)

**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-2B: Material causing other toxic effects (TOXIC).

**DSCL (EEC):**

R22- Harmful if swallowed. R34- Causes burns. S1/2- Keep locked up and out of the reach of children. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37- Wear suitable protective clothing and gloves. S39- Wear eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S46- If swallowed, seek medical advice immediately and show this container or label.

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

**Health Hazard:** 2

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:**

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

**Health:** 2

**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.

**Created:** 10/09/2005 03:55 PM

**Last Updated:** 11/01/2010 12:00 PM

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.*