According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and According to The Hazardous Products Regulation (February 11, 2015) and their amendments.

## Section 1: IDENTIFICATION

| | |
|---|---|
| **Product Name:** | Ammonium Hydroxide, 5-30% Ammonia |
| **Synonyms:** | Aqua Ammonia, Ammonium Hydroxide. |
| **Product Use:** | Industrial. |
| **Restrictions on Use:** | Not available. |
| **Manufacturer/Supplier:** | LSB Chemical, LLC<br>3503 NW 63rd Street<br>Suite 500<br>Oklahoma, OK 73116 |
| **Website:** | www.lsbindustries.com |
| **Email:** | lsbproductsupport@lsbindustries.com |
| **Phone Number:** | (405) 235-4546 |
| **Emergency Phone:** | 24 Hour Emergency Telephone Number: 1-800-424-9300 (CHEMTREC) |
| **Date of Preparation of SDS:** | January 15, 2026 |

## Section 2: HAZARD(S) IDENTIFICATION

### GHS INFORMATION

**Classification:**
Acute Toxicity - Oral, Category 4
Skin Corrosion, Category 1B
Eye Damage, Category 1
Health Hazards Not Otherwise Classified, Category 1

### LABEL ELEMENTS

**Hazard Pictogram(s):**

**Signal Word:** Danger

**Hazard Statements:**
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
Causes burns to the respiratory tract.

**Precautionary Statements**

**Prevention:**
P260: Do not breathe mist, vapours, or spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves, protective clothing, eye protection and face protection.

**Response:** P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER or doctor.
P312: Call a POISON CENTER or doctor if you feel unwell.
P330: Rinse mouth.
P363: Wash contaminated clothing before reuse.

**Storage:** P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.

**Disposal:** P501: Dispose of contents and container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

## Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

| Hazardous Ingredient(s) | Common name / Synonyms | CAS No. | % wt./wt. |
|---|---|---|---|
| Ammonium hydroxide ((NH4)(OH)) | Not available. | 1336-21-6 | 100 |
| **Contains:** | | | |
| Ammonia | Not available. | 7664-41-7 | 5 - 30 |

## Section 4: FIRST-AID MEASURES

**Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** Causes burns to the respiratory tract. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Very high exposure to Ammonia may cause irritation of the nose, throat, and eyes, chemical pneumonitis, acute pulmonary edema, and sudden death (particularly in confided spaces). Exposures to lower concentrations produce irritation of the nose, and respiratory tract, coughing, a risk of chemical bronchitis and after an apparent arrest in the symptoms the victim may have a risk of acute pulmonary edema.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

**Acute and delayed symptoms and effects:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision. Splashes of Ammonium hydroxide cause severe pain, eye damage, and permanent blindness. Eye exposure to Ammonia may result in temporary or permanent blindness.

**Skin Contact:** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower for at least 15 minutes. Immediately call a poison center or doctor. Wash contaminated clothing before reuse.

**Acute and delayed symptoms and effects:** Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

**Ingestion:** If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** Harmful if swallowed. Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen. Ingestion of Ammonium hydroxide may cause corrosion to the esophagus and stomach with perforation and peritonitis. Symptoms may include pain in the mouth, chest, and abdomen, with coughing, vomiting and collapse.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

## Section 5: FIRE-FIGHTING MEASURES

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not considered flammable but escaping ammonia gas can burn in the range of 16-25% in air. Substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.
**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**
**Suitable Extinguishing Media:** Small Fire: Dry chemical, $CO_2$ or water spray.

Large Fire: Dry chemical, $CO_2$, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of nitrogen.

**Protection of Firefighters:** TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death. Contact with molten substance may cause severe burns to skin and eyes. Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

## Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

**Personal Precautions:** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.

**Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.

**Methods for Containment:** Stop leak if you can do it without risk. Use only non-sparking tools.

**Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Other Information:** See Section 13 for disposal considerations.

## Section 7: HANDLING AND STORAGE

**Handling:**
Do not swallow. Do not breathe mist, vapours, or spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

**Storage:**
Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Additional Hazards When Processed:**
Ammonium hydroxide is very volatile and may release anhydrous ammonia as a gas. Anhydrous ammonia is flammable, toxic by inhalation and corrosive. Take all appropriate precautions. Ammonium hydroxide reacts with many heavy metals and their salts forming explosive compounds. It attacks many metals forming flammable/explosive gas. The solution in water is a strong base, it reacts violently with acids. Use only non-sparking tools. Pressure may build in closed containers and flammable vapors may accumulate, open containers with care. Easily corrodes some metals (i.e. copper, copper alloys, zinc, brass).

## Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**
**Component**

Ammonium hydroxide [CAS No. 1336-21-6]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

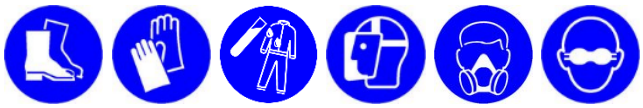
Ammonia [CAS No. 7664-41-7]

**ACGIH:** 25 ppm (TWA); 35 ppm (STEL); (1976);
**OSHA:** 50 ppm (TWA), 35 mg/m³ (TWA);
35 ppm (STEL) [Vacated];

**PEL:** Permissible Exposure Limit
**TLV:** Threshold Limit Value
**TWA:** Time-Weighted Average
**STEL:** Short-Term Exposure Limit

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear chemical safety goggles, and full face shield. Ensure that eyewash stations and safety showers are close to the

| | |
|---|---|
| | workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment. |
| **Hand Protection:** | Wear protective gloves. Consult manufacturer specifications for further information. |
| **Skin and Body Protection:** | Wear protective clothing. Chemical resistant materials and fabrics that pass ASTM 5903 liquid penetration and ASTM F730 permeation testing based on potential exposure. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20-2017 standards is recommended in areas where material is stored or handled. Clothing with full length sleeves and pants should be worn. |
| **Respiratory Protection:** | If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with organic vapor/acid gas cartridge and particulate filter, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators. |
| **General Hygiene Considerations:** | Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection. |

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance:** | Colorless liquid. |
| **Color:** | Colorless. |
| **Odor:** | Pungent. |
| **Odor Threshold:** | Not available. |
| **Physical State:** | Liquid. |
| **pH (1 N NH3 solution):** | ~ 11.6 |
| **Melting Point / Freezing Point:** | ~ -72.2 °C (-98 °F) (30% solution)<br>-9.4 °C (15.1 °F) (10% solution) |
| **Initial Boiling Point:** | 28.3 °C (82.9 °F) (30% solution)<br>71.1 °C (160 °F) (10% solution) |
| **Boiling Range:** | Not available. |

| | |
|---|---|
| **Flash Point:** | Not available. |
| **Evaporation Rate:** | Not available. |
| **Flammability:** | Not considered flammable but escaping ammonia gas can burn in the range of 16-25% in air. See Section 5. |
| **Lower Flammability Limit:** | 16 % (Ammonia) |
| **Upper Flammability Limit:** | 25 % (Ammonia) |
| **Vapor Pressure:** | 720 mmHg at 26.7 °C (80.1 °F) (30% solution)<br>130 mmHg at 26.7 °C (80.1 °F) (10% solution) |
| **Relative Vapor Density:** | 0.6 (Air = 1) at 0 °C (32 °F) |
| **Relative Density:** | 0.86 (Water = 1) (30% solution)<br>0.96 (Water = 1) (10% solution at 20 °C (68 °F)) |
| **Solubility:** | Soluble in water. |
| **Partition Coefficient: n-Octanol/Water:** | Not available. |
| **Auto-ignition Temperature:** | Not available. |
| **Decomposition Temperature:** | Not available. |
| **Kinematic Viscosity:** | Not available. |
| **Percent Volatile, wt. %:** | 100 |
| **VOC content, wt. %:** | Not available. |
| **Density:** | 1.09 g/cm³ |
| **Coefficient of Water/Oil Distribution:** | Not available. |
| **Particle Characteristics:** | Not available. |

## Section 10: STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity:** | Ammonium hydroxide reacts with many heavy metals and their salts forming explosive compounds. It attacks many metals forming flammable/explosive gas. The solution in water is a strong base, it reacts violently with acids. |
| **Chemical Stability:** | Stable at normal temperatures and pressure, above ambient temperature ammonia gas may be released. |
| **Possibility of Hazardous Reactions:** | Ammonia reacts with hypochlorite or other halogen sources to form explosive compounds that are sensitive to pressure or increases in temperature. Reaction with sulfuric acid or other strong mineral acids is exothermic; mixture becomes boiling hot. |

**Conditions to Avoid:** Contact with incompatible materials. Sources of ignition. Exposure to heat.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Heavy metals. Aluminum. Copper. Zinc. Chlorine. Halogens. Nitrates. Fluorine containing compounds. Sodium hypochlorite (bleach). Mercury.

**Hazardous Decomposition Products:** Thermal decomposition generates: Corrosive vapors. Toxic Gas.

## Section 11: TOXICOLOGICAL INFORMATION

### EFFECTS OF ACUTE EXPOSURE

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

| Component | CAS No. | $LD_{50}$ oral | $LD_{50}$ dermal | $LC_{50}$ |
|---|---|---|---|---|
| Ammonium hydroxide | 1336-21-6 | 350 mg/kg (rat) | Not available. | Not available. |
| Ammonia | 7664-41-7 | Not available. | 7000 mg/kg (rabbit) | 2000 ppm (rat); 4H |

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** Causes burns to the respiratory tract. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Very high exposure to Ammonia may cause irritation of the nose, throat, and eyes, chemical pneumonitis, acute pulmonary edema, and sudden death (particularly in confided spaces). Exposures to lower concentrations produce irritation of the nose, and respiratory tract, coughing, a risk of chemical bronchitis and after an apparent arrest in the symptoms the victim may have a risk of acute pulmonary edema.

**Eye:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision. Splashes of Ammonium hydroxide cause severe pain, eye damage, and permanent blindness. Eye exposure to Ammonia may result in temporary or permanent blindness.

**Skin:** Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

**Ingestion:** Harmful if swallowed. Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

Ingestion of Ammonium hydroxide may cause corrosion to the esophagus and stomach with perforation and peritonitis. Symptoms may include pain in the mouth, chest, and abdomen, with coughing, vomiting and collapse.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to Ammonium hydroxide may cause damage to the tissues of the mucous membranes, upper respiratory tract, eyes and skin. Prolonged or repeated exposure to Ammonia may cause eye, liver, kidney, or lung damage.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**
**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

## Section 12: ECOLOGICAL INFORMATION

**Ecotoxicity:** Very toxic to aquatic life with long lasting effects.

**Ammonium hydroxide (CAS No. 1336-21-6):**
Pimephales promelas: LC50 = 8.2 mg/L, 96 hr;
Daphnia magna: EC50 = 0.66 mg/L, 48 hr;
Daphnia pulex: EC50 = 0.66 mg/L, 48 hr.

**Ammonia (CAS No. 7664-41-7):**
Cyprinus carpio: LC50 = 0.44 mg/L, 96 hr;
Daphnia magna: EC50 = 25.4 mg/L, 48 hr;
Lepomis macrochirus: LC50 = 0.26 - 4.6 mg/L, 96 hr.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** **Ammonia (CAS No. 7664-41-7):** log Pow = -1.14 (at 25 °C)

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

## Section 13: DISPOSAL CONSIDERATIONS

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

## Section 14: TRANSPORT INFORMATION

**For > 10 to 30 % Ammonia Solutions**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** UN2672, AMMONIA SOLUTION, 8, PG III

**Class:** 8

**UN Number:** UN2672

**Packing Group:** III

**Placard(s):**


**ERG Guide:** 154

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** UN2672, AMMONIA SOLUTION, 8, PG III

**Class:** 8

**UN Number:** UN2672

**Packing Group:** III

**Placard(s):**


**ERG Guide:** 154

**For 5 to 10 % Ammonia Solutions**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** UN1760, CORROSIVE LIQUID, N.O.S. (Ammonia solution), 8, PG III

**Class:** 8

**UN Number:** UN1760

**Packing Group:** III

**Placard(s):**


**ERG Guide:** 154

**Canada Transportation of Dangerous Goods (TDG)**

| | |
|---|---|
| **Proper Shipping Name:** | UN1760, CORROSIVE LIQUID, N.O.S. (Ammonia solution), 8, PG III |
| **Class:** | 8 |
| **UN Number:** | UN1760 |
| **Packing Group:** | III |
| **Placard(s):** |  |
| **ERG Guide:** | 154 |

## Section 15: REGULATORY INFORMATION

**Chemical Inventories**

**US (TSCA)**
The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**
The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**
This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

| Component | Section 302 (EHS) TPQ (lbs.) | Section 304 EHS RQ (lbs.) | CERCLA RQ (lbs.) | Section 313 | RCRA CODE | CAA 112( r ) TQ (lbs.) |
|---|---|---|---|---|---|---|
| Ammonium hydroxide | Not listed. | Not listed. | 1000 | 313 | Not listed. | Not listed. |
| Ammonia | 500 | 100 | 100 | 313 | Not listed. | 10000 |

**State Regulations**
**Massachusetts**
US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

| Component | CAS No. | RTK List |
|---|---|---|
| Ammonium hydroxide | 1336-21-6 | Listed. |
| Ammonia | 7664-41-7 | E |

**Note:** E = Extraordinarily Hazardous Substance

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

| Component | CAS No. | RTK List |
|---|---|---|
| Ammonium hydroxide | 1336-21-6 | SHHS |
| Ammonia | 7664-41-7 | SHHS |

**Note:** SHHS = Special Health Hazard Substance

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

| Component | CAS No. | RTK List |
|---|---|---|
| Ammonium hydroxide | 1336-21-6 | E |
| Ammonia | 7664-41-7 | E |

**Note:** E = Environmental Hazard

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## Section 16: OTHER INFORMATION

**Disclaimer:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Any party handling, transferring, transporting, storing, applying or otherwise using this product should review thoroughly all applicable laws, rules, regulations, standards and good engineering practices. Such thorough review should occur before the party handles, transfers, transports, stores, applies or otherwise uses this product.

**Date of Preparation of SDS:** January 15, 2026

**Version:** 1.1

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: 1 (519) 488-0351**

**www.aegisreg.com**