



Material Safety Data Sheet

Ammonium hydroxide solutions

Section 1 - Chemical Product and Company Identification

MSDS Name:

Ammonium hydroxide solutions

Catalog Numbers:

LC11070, LC11080, LC11110, LC11120, LC11140, LC11160, LC11165, LC11170, LC11180, LC11190

Synonyms:

Ammonia water, aqua ammonia, ammonium hydrate.

Company Identification:

LabChem, Inc.
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name: | Percent |
|-----------|--------------------|---------|
| 7732-18-5 | Water | balance |
| 1336-21-6 | Ammonium hydroxide | 4.2-50 |

Section 3 - Hazards Identification

Potential Health Effects

Eye:

Contact may cause ulceration of the conjunctiva and cornea. Contact with liquid may cause eye burns and temporary loss of sight.

Skin:

Causes irritation with burning pain, itching, and redness. May cause severe skin irritation and burns.

Ingestion:

Ingestion may result in nausea, vomiting, gastric irritation, excessive salivation; in severe cases perforation, central nervous system depression, shock, convulsions, and pulmonary edema can occur.

Inhalation:

Mild exposure may cause irritation of the nose (coughing, sneezing). Exposure at higher concentrations may cause respiratory distress, pulmonary edema, shock, convulsions, cyanosis, central nervous system depression.



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Chronic:

Bronchitis, dermatitis, conjunctivitis can occur.

Section 4 - First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once. Cover burns with loose sterile non-medicated bandages.

Skin:

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes. Cover burns with a dry sterile bandage (secure, not tight).

Ingestion:

Do NOT induce vomiting. Get medical aid at once. Give oxygen if respiration is depressed. Give conscious non-convulsive victim large quantities of water to dilute the alkali.

Inhalation:

Give artificial respiration if necessary. Get medical aid. Keep victim warm, at rest. Move victim to fresh air.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information:

Negligible fire and explosion hazard when exposed to heat or flame. Avoid breathing corrosive vapors. Move container if possible, avoid breathing vapors or dust. Although not a flammable liquid (DOT), ammonia gas evolved is flammable, is an eye, skin, respiratory irritant.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:

1204°F (651.11°C)

Flash Point:

NFPA Rating:

CAS# 7732-18-5: Not published.

CAS# 1336-21-6: Not published.

Explosion Limits:

Lower: 16 Upper: 25

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Ventilate and wear protective clothing. Neutralize to pH 7 with a dilute acid or suitable agent. Wash down with water if necessary.



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Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Avoid breathing dust, vapor, mist, or gas.

Storage:

Protect from heat and incompatibles. Store capped in glass or plastic container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Provide local exhaust or general dilution ventilation.

Exposure Limits

| Chemical Name: | ACGIH | NIOSH | OSHA |
|--------------------|--|--|--|
| Water | None of the components are on this list. | None of the components are on this list. | None of the components are on this list. |
| Ammonium hydroxide | None of the components are on this list. | None of the components are on this list. | None of the components are on this list. |

OSHA Vacated PELs**Personal Protective Equipment****Eyes:**

Do not wear contact lenses when working with chemicals. An eye wash fountain should be available in the immediate work area. Wear splash-proof safety goggles.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Not required for laboratory use when working under approved hood. >300ppm - self-contained breathing apparatus with full facepiece.

Firefighting - self-contained breathing apparatus with full facepiece operated in pressure-demand or positive pressure mode.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid

Color: Colorless

Odor: Pungent to faint ammonia odor

pH: No information found.

Vapor Pressure: No information found.

Vapor Density: > air

Evaporation Rate: 1 (water)



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Viscosity: No information found.

Boiling Point: NH₃ vapor release

Freezing/Melting Point: < 32°F (< 0.00°C)

Decomposition Temperature: No information found.

Solubility in water: No information found.

Specific Gravity/Density: >1

Molecular Formula: No information found.

Molecular Weight: No information found.

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures. Heating evolves ammonia gas.

Conditions to Avoid:

Incompatible materials.

Incompatibilities with Other Materials

Acids, hypochlorites, halogens, sodium hydroxide, galvanized surfaces, strong oxidizing agents, metals and their alloys.

Hazardous Decomposition Products

Ammonia gas is released which may decompose above 842F to hydrogen and nitrogen gases.

Hazardous Polymerization

Has not been reported

Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000.

CAS# 1336-21-6: BQ9625000.

LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg.

CAS# 1336-21-6:

Oral, rat: LD50 = 350 mg/kg.

Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 1336-21-6: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:

Ammonium hydroxide is a corrosive irritant to skin, eye, respiratory tract and mucous membranes. Can cause severe burns, eye and lung injury at high solution concentrations. Skin and respiratory disease aggravated by exposure.



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Teratogenicity:

Reproductive:

Mutagenicity

Neurotoxicity

Section 12 - Ecological Information

No information found.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

0 to 10% W/W

11% to 28% W/W

Shipping Name: Not Regulated.

Ammonia solution

Hazard Class:

8

UN Number:

UN2672

Packing Group:

PG III

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 1336-21-6 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ)

CAS# 1336-21-6: final RQ = 1000 pounds (454 kg)

CERCLA/SARA Section 313

None of the components are on this list.

OSHA - Highly Hazardous

None of the components are on this list.

US State

State Right to Know

Ammonium hydroxide can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Massachusetts.

California Regulations

European/International Regulations



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Canadian DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 1336-21-6 is listed on Canada's DSL List.

Canada Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 1336-21-6 is listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: October 21, 1997

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