



Material Safety Data Sheet

Ammonium Hydroxide Solutions Less than 10% w/w

Section 1 - Chemical Product and Company Identification

MSDS Name:

Ammonium Hydroxide Solutions Less than 10% w/w

Catalog Numbers:

LC11070, LC11080, LC11110, 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 or
011-703-527-3887

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
1336-21-6	Ammonium hydroxide	<10

Section 3 - Hazards Identification

Emergency Overview

Appearance: clear, colorless solution

Warning! Contact with liquid or vapors causes irritation or burns to eyes, skin, mucous membranes, respiratory and gastrointestinal tracts.

Target Organs: not available

Potential Health Effects

Eye:

Contact with vapor may cause eye irritation or burns. Contact with liquid may cause severe eye irritation or burns, eye damage, and permanent blindness.

Skin:

May cause skin irritation or burns.

Ingestion:

Harmful if swallowed. Causes gastrointestinal tract irritation or burns, with throat constriction, vomiting, shock, and convulsions.



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Inhalation:

Causes irritation to the respiratory tract with coughing, possible burns, and breathing difficulty. Coma can result from greater exposures.

Chronic:

Repeated exposure may cause damage to the eyes, skin, mucous membranes, and upper respiratory tract. May cause corneal damage, cataracts, and glaucoma.

Section 4 - First Aid Measures

Eyes:

Immediately 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.

Skin:

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.

Ingestion:

Do NOT induce vomiting. Get medical aid at once. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person.

Inhalation:

Move victim to fresh air immediately. If breathing is difficult, give oxygen. If not breathing, administer artificial respiration using a suitable mechanical device such as a one-way valve or a bag and mask. Do not use mouth-to-mouth resuscitation. Get medical aid at once.

Notes to Physician:

After inhalation exposure, observe for 24 to 72 hours as pulmonary edema may be delayed.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. A relatively high concentration of ammonia gas must be present in order for ignition to occur. However, a large and intense energy source may cause ignition and/or explosion in a confined space.

Extinguishing Media:

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

Autoignition Temperature:

1204°F (651°C)

Flash Point:

No information found.

NFPA Rating:

CAS# 7732-18-5: Health- 0, Flammability- 0, Instability- 0.

CAS# 1336-21-6: Health- 3, Flammability- 1, Instability- 0.

Explosion Limits:

Lower: 16 Upper: 25



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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 suitable containers labeled for later disposal. Ventilate and wear protective clothing. Carefully neutralize to pH 7 with a dilute acid or suitable agent. Wash down with water if necessary.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Avoid breathing dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood.

Storage:

Protect from heat and incompatibles. Store capped in glass or plastic container. Do not store in direct sunlight.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Provide local exhaust or general dilution ventilation to keep airborne levels below the permissible exposure limits.

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	25 ppm NH3 TWA 35 ppm NH3 STEL	None of the components are on this list	50 ppm NH3

OSHA Vacated PELs:

None.

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:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.



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Section 9 - Physical and Chemical Properties

Physical State:	Clear liquid
Color:	Colorless
Odor:	Ammonia odor
pH:	11.6 (1.0 N solution)
Vapor Pressure:	115 mm Hg @ 20°C (10% w/w solution)
Vapor Density:	0.60 (NH ₃)
Evaporation Rate:	No information found.
Viscosity:	No information found.
Boiling Point:	approx. 36°C for 28% w/w solution
Freezing/Melting Point:	-72°C (-98°F) for 28% w/w solution
Decomposition Temperature:	No information found.
Solubility in water:	Soluble
Specific Gravity/Density:	0.9 – 1.0
Molecular Formula:	No information found.
Molecular Weight:	No information found.

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, heat, sources of ignition.

Incompatibilities with Other Materials:

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

Hazardous Decomposition Products:

Ammonia gas, nitrogen oxides.

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.



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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.

Teratogenicity:

No information found

Reproductive:

No information found

Mutagenicity:

No information found

Neurotoxicity:

No information found

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

Shipping Name: Not regulated.

Hazard Class:

UN Number:

Packing Group:

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.



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California Regulations:

None.

European/International Regulations

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

Revision Date: December 23, 2009

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