

# Safety Data Sheet

## Ammonium Hydroxide 8M

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Ammonium Hydroxide 8M  
**Recommended Use:** Science education applications  
**Synonyms:** N/A  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Harmful if swallowed. Causes serious eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

**GHS Classification:**

Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 1, Hazardous to the aquatic environment - Chronic Category 2, Acute Toxicity - Oral Category 4

**Acute Toxicity Dermal Contains** 15.5 % of the mixture consists of ingredient(s) of unknown toxicity

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	84.5
Ammonium Hydroxide	1336-21-6	15.5

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Ingestion:** IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Dangerous fire hazard; emits irritating fumes and liquid can inflict burns. Ammonia hydroxide is non-combustible and non explosive, but ammonia vapors released from solution can form an explosive mixture in air.  
**Hazardous Combustion Products:** Nitrogen oxides

### Section 6 Spill or Leak Procedures

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## Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Wear a self-contained breathing apparatus and appropriate Personal protection. (See Section 8.) Ventilate the contaminated area. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Avoid creating dusts. Cover material with absorbent and moisten and collect for disposal. Collect spillage.

## Section 7 Handling and Storage

**Handling:** Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapor/spray.

**Storage:** Keep container tightly closed in a cool, well-ventilated place.

**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
No data available	N/A	N/A	N/A	N/A

### Control Parameters

**Engineering Measures:** No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

**Personal Protective Equipment (PPE):** Lab coat, apron, eye wash, safety shower.

**Respiratory Protection:** No respiratory protection required under normal conditions of use.

**Eye Protection:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**Skin Protection:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Gloves:** Butyl rubber, Impervious rubber, Natural latex,, Natural rubber, Nitrile - Extra Thick (8 mm)

## Section 9 Physical Data

<b>Formula:</b> NH <sub>4</sub> OH * H <sub>2</sub> O	<b>Vapor Pressure:</b> Approx. 14 mmHg
<b>Molecular Weight:</b> 35.04 g/mol	<b>Evaporation Rate (BuAc=1):</b> > 1
<b>Appearance:</b> Colorless Liquid	<b>Vapor Density (Air=1):</b> 0.7
<b>Odor:</b> Strong Ammonia	<b>Specific Gravity:</b> Approx. 1.0
<b>Odor Threshold:</b> No data available	<b>Solubility in Water:</b> Soluble
<b>pH:</b> 11.7 at 20 °C	<b>Log Pow (calculated):</b> No data available
<b>Melting Point:</b> No data available 0 C	<b>Autoignition Temperature:</b> No data available 651 C
<b>Boiling Point:</b> 100 C	<b>Decomposition Temperature:</b> No data available
<b>Flash Point:</b> No data available	<b>Viscosity:</b> No data available
<b>Flammable Limits in Air:</b> (NH <sub>3</sub> ) LEL: 16% UEL: 27%	<b>Percent Volatile by Volume:</b> 100%

## Section 10 Reactivity Data

**Reactivity:** No data available

**Chemical Stability:** Stable under normal conditions.

**Conditions to Avoid:** None known.

**Incompatible Materials:** Water-reactive materials, Copper, Iron Salts, Zinc

**Hazardous Decomposition Products:** Nitrogen oxides

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Hazardous Polymerization:

Will not occur

## Section 11 Toxicity Data

**Routes of Entry:** Inhalation.  
**Symptoms (Acute):** Respiratory disorders  
**Delayed Effects:** No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Ammonium Hydroxide	1336-21-6	Oral LD50 Rat = 350 mg/kg		INHALATION LC50 Mouse 4500 ppm INHALATION LC50 Rat 9500 ppm

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available		Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.

### Target Organ Effects:

**Acute:** See Section 2  
**Chronic:** Mutation data cited., Not listed as a carcinogen by IARC, NTP or OSHA.

## Section 12 Ecological Data

**Overview:** Severe ecological hazard. This product may be toxic to plants and/or wildlife. Keep out of waterways.  
**Mobility:** No data  
**Persistence:** No data  
**Bioaccumulation:** No data  
**Degradability:** No data  
**Other Adverse Effects:** No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Ammonium Hydroxide	1336-21-6	96 HR LC50 PIMEPHALES PROMELAS 8.2 MG/L 48 HR EC50 DAPHNIA PULEX 0.66 MG/L 48 HR EC50 WATER FLEA 0.66 MG/L

## Section 13 Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

**Waste Disposal Code(s):** Not Determined

## Section 14 Transport Information

**Ground - DOT Proper Shipping Name:**  
UN2672, Ammonia Solutions, 8, III; Exception of 5 L limited quantity

**Air - IATA Proper Shipping Name:**  
UN number: 2672 Class: 8 Packing group: III Proper shipping name: Ammonia solution

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## Section 15

## Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Ammonium Hydroxide	1336-21-6	No	1000 lb RQ	1000 lb final RQ; 454 kg final RQ	No	No

## Section 16

## Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health