

Safety Data Sheet

Ammonium Hydroxide, 0.1M, Laboratory Grade

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Ammonium Hydroxide, 0.1M, Laboratory Grade
Recommended Use: Science education applications
Synonyms: Ammonia Solution 1M, Ammonium Hydroxide 1M
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;

Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.

GHS Classification:

Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u> | <u>CAS #</u> | <u>%</u> |
|----------------------|--------------|----------|
| Water | 7732-18-5 | 99.84 |
| Ammonium Hydroxide | 1336-21-6 | 0.16 |

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: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.
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: Carbon dioxide, Carbon monoxide, Nitrogen oxides

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No adverse health effects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. 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. Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Block any potential routes to water systems. Gather and store in a sealed container pending a waste disposal evaluation.

Safety Data Sheet

Section 7 Handling and Storage

Handling: Do not mix with ... (to be specified by the manufacturer). 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. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Butyl rubber, Nitrile

Section 9 Physical Data

| | |
|---|---|
| Formula: NH ₄ * OH | Vapor Pressure: N/A |
| Molecular Weight: 35.06 | Evaporation Rate (BuAc=1): < 1 |
| Appearance: Colorless Liquid | Vapor Density (Air=1): As NH ₃ gas 0.596 at 15.6 °C |
| Odor: None | Specific Gravity: 0.9 g/cm ³ at 20 °C |
| Odor Threshold: No data available | Solubility in Water: Soluble |
| pH: 11.7 at 20 °C | Log Pow (calculated): No data available |
| Melting Point: <= 0 C | Autoignition Temperature: No data available 651 C |
| Boiling Point: 100 C | Decomposition Temperature: No data available |
| Flash Point: No data available | Viscosity: No data available |
| Flammable Limits in Air: LEL 16% (NH ₃ gas) UEL 25% | Percent Volatile by Volume: 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

Hazardous Decomposition Products: Nitrogen oxides, Carbon dioxide, Carbon monoxide

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 |
|---------------|------------|-----------|-------------|-----------------|
|---------------|------------|-----------|-------------|-----------------|

Safety Data Sheet

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|--------------------|-----------|------------------------------|---|
| 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 Mouse 21430 ppm INHALATION LC50 Rat 9500 ppm |

Carcinogenicity:

| Chemical Name | CAS Number | IARC | NTP | OSHA |
|-------------------|------------------------|------------|------------|------------|
| No data available | 7732-18-5 1336-21-6 | 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: | Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife. Components of this product are hazardous to wildlife and aquatic life. |
| 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

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| Ground - DOT Proper Shipping Name: Not regulated for ground transportation per US DOT. | Air - IATA Proper Shipping Name: Not regulated for air transportation per IATA. |
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Safety Data Sheet

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 |

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

Revised: 08/21/2018

Replaces: 06/15/2018

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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 |