

MSDS # 46.30

Ammonium Hydroxide, 6.0M**Section 1: Product and Company Identification****Ammonium Hydroxide, 6.0M****Synonyms/General Names:** Aqueous ammonia**Product Use:** For educational use only**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.**24 Hour Emergency Information Telephone Numbers****CHEMTREC (USA): 800-424-9300****CANUTEC (Canada): 613-424-6666**

ScholarAR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

Section 2: Hazards Identification*Clear colorless liquid; strong ammonia odor.***HMIS (0 to 4)**

Health	2
Fire Hazard	0
Reactivity	0

WARNING! Severe body tissue irritant, moderately toxic, and serious inhalation hazard.

Target organs: Eyes, skin, mucous membranes.

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

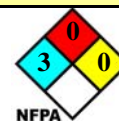
Section 3: Composition / Information on Ingredients

Ammonium Hydroxide, (1336-21-6), 1-2% as Ammonia

Water: (CAS No. 7732-18-5), 98-99%

Section 4: First Aid Measures*Always seek professional medical attention after first aid measures are provided.***Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.**Ingestion:** Call Poison Control immediately. *Do not induce vomiting.* Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink.**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.**Section 5: Fire Fighting Measures**When heated to decomposition, emits acrid fumes of NO_x and ammonia.**Protective equipment and precautions for firefighters:** Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact or static discharge.

**Section 6: Accidental Release Measures**

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all ignition sources and ventilate area. Contain spill with sand or absorbent material and place material in a sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

Section 7: Handling and Storage**White****Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.**Storage:** Store in Corrosive Area [White Storage] with other corrosive items. Store in a dedicated corrosive cabinet. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.**Section 8: Exposure Controls / Personal Protection**Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with an acid/organic cartridge. Exposure guidelines Ammonia: OSHA PEL: 35 mg/m³ and ACGIH TLV: 17 mg/m³, STEL: 24 mg/m³.

Section 9: Physical and Chemical Properties

Molecular formula	NH ₄ OH.	Appearance	Clear colorless, liquid.
Molecular weight	35.05.	Odor	Strong ammonia odor.
Specific Gravity	0.994 g/mL @ 20°C.	Odor Threshold	N/A.
Vapor Density (air=1)	N/A.	Solubility	Soluble in water.
Melting Point	N/A.	Evaporation rate	N/A (Butyl acetate = 1).
Boiling Point/Range	N/A.	Partition Coefficient	N/A (log P _{ow}).
Vapor Pressure (20°C)	N/A.	pH	11, basic.
Flash Point:	N/A.	LEL	N/A.
Autoignition Temp.:	N/A.	UEL	N/A.

N/A = Not available or applicable

Section 10: Stability and Reactivity

Stability: Stable under normal conditions of use and storage. Avoid heat and ignition sources.

Incompatibility: Acids, oxidizers, halogens, heavy metals.

Shelf life: Indefinite if stored properly.

Section 11: Toxicology Information

Acute Symptoms/Signs of exposure: *Eyes:* Redness, tearing, itching, burning, damage to cornea, conjunctivitis, loss of vision. *Skin:* Redness, blistering, burning, itching, tissue destruction with slow healing. *Ingestion:* Nausea, vomiting, burning, diarrhea, ulceration, convulsions, shock. *Inhalation:* Coughing, wheezing, shortness of breath, headache, spasm, inflammation and edema of bronchi, pneumonitis.

Chronic Effects: Repeated/prolonged skin contact may cause thickening, blackening or cracking. Repeated eye exposure may cause corneal erosion or loss of vision.

Sensitization: none expected

Ammonium Hydroxide: LD50 [oral, rat]; 350 mg/kg; LC50 [rat]; N/A; LD50 Dermal [rabbit]; 1 mg/severe

Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial): Toxic to beneficial microorganisms (e.g. soil and sewage treatment microorganisms). Do not release to the environment.

Section 13: Disposal Considerations

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer disposal after being neutralized to pH 7.

Section 14: Transport Information

DOT Shipping Name:	Corrosive liquids, n.o.s., (Ammonia).	Canada TDG:	Corrosive liquids, n.o.s., (Ammonia)..
DOT Hazard Class:	8, pg III .	Hazard Class:	8, pg III.
Identification Number:	UN1760.	UN Number:	UN1760 .

Section 15: Regulatory Information

EINECS: Listed (215-647-6) .

WHMIS Canada: E - Corrosive Material.

TSCA: All components are listed or are exempt.

California Proposition 65: Not listed .

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Section 16: Other Information

Current Issue Date: January 23, 2009

Disclaimer: Scholar Chemistry and Columbus Chemical Industries, Inc., ("S&C") believes that the information herein is factual but is not intended to be all inclusive. The information relates only to the specific material designated and does not relate to its use in combination with other materials or its use as to any particular process. Because safety standards and regulations are subject to change and because S&C has no continuing control over the material, those handling, storing or using the material should satisfy themselves that they have current information regarding the particular way the material is handled, stored or used and that the same is done in accordance with federal, state and local law. S&C makes no warranty, expressed or implied, including (without limitation) warranties with respect to the completeness or continuing accuracy of the information contained herein or with respect to fitness for any particular use.