

WARD'S

WARD'S Scientific Establishment Inc.
 1800 Madison Avenue
 Scarborough, Ontario M1B 1K1

MSDS No. AA 210
 Effective Date July 1, 1986

SECTION I NAME

AMMONIA SOLUTION (HOUSEHOLD)

24 HOUR EMERGENCY ASSISTANCE

CHEMTREC
 800-424-9300
 Health 3
 Fire 1
 Reactivity 2

Formula NH₄OH
 (N) Size 100ml. to 4 L.
 U.S. No. 1336-21-6

HAZARD RATING
 LEAST SLIGHT MODERATE HIGH EXTREME
 0 1 2 3 4

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

Hazardous Component(s)	%	TLV Units
Ammonium Hydroxide	20% AS	25ppm in air AS
	ammonia	Ammonia.
DANGER! MAY CAUSE BURNS - IRRITANT. See Section V		

SECTION III PHYSICAL DATA

Boiling Point (°F)	Approx. -77°C.	Specific Gravity (H ₂ O = 1)	0.897 (Liquid)
Boiling Point (°C)	Liberates Ammonia gas on heating.	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	755 @ 26.7°C (Total)	Evaporation Rate (either)	> 1
Vapor Density (Air = 1)	0.596 Ammonia Gas 15.6°C.		
Solubility in Water	Complete (initial condition, shifting as Ammonia is lost.)		
Appearance and Odor	Water white liquid; strong, pungent ammonia odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Liquid not flammable (NA).	Flammable Limits in Air % By Volume	NH ₃ GAS.	Lower	Upper
				16	25

Use any media for extinguishing the supporting fire.
 Wear full protective clothing with respirator mask having ammonia vapor canister.

SECTION V SPECIAL FIREFIGHTING PROCEDURES

Dangerous fire hazard; emits irritating fumes and liquid can inflict burns. Ammonium hydroxide is non-combustible and non-explosive, but ammonia vapors released from solution can form an explosive mixture with air.

SECTION VI CORROSIVE MATERIAL

owned by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

Threshold Limited Value
 TLV: 50ppm (Ammonia Gas); 0-ml. Rat-LD₅₀ 350 mg/kg.

Effects of Overexposure

Causes severe irritation or burns to eyes, skin and mucous membranes; highly toxic by oral and inhalation routes. Inhalation of gas causes edema, spasms, and asphyxia. **POISON.**

Emergency and First Aid Procedures

EXTERNAL: Flood with water, then wash with vinegar. FOR EYES: Flush thoroughly with water, preferably warm, for at least 15 minutes. Then get prompt medical attention. INTERNAL: Give large quantities of water follow with fruit juice and vegetable oil. Get prompt medical attention.

SECTION VI REACTIVITY DATA

Stability	Conditions to Avoid
Unstable	When heated, emits toxic fumes.
Stable	

Incompatibility (Materials to avoid)

Acids, acrolein, dimethyl sulfate, halogens, AgNO₃, Ag₂O, Ag₂SO₄.

Hazardous Decomposition Products

Ammonia fumes.

Hazardous Polymerization

Will Not Occur

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled
 Neutralize with sodium bisulfate and flush to sewer with copious amounts of water.

Waste Disposal Method

Neutralize with sodium bisulfate and flush to sewer with copious amounts of water.

SECTION VIII SPECIAL PROTECTION INFORMATION

Discharge, treatment, or disposal may be subject to federal, state, or local laws.
 Respiratory Protection: Work in ventilation hood or wear a NIOSH-approved respirator with ammonia (Specify Type) canister if necessary.
 Ventilation: Local Exhaust Recommended.
 Protective Gloves: Rubber.
 Eye Protection: Goggles, chemical safety glasses.
 Other Protective Equipment: Goggles and shield, lab coat, vented hood, proper gloves, eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing
 Store at 75°F. Store away from sources of ignition, separate from acids. Store in a well-ventilated area.
 Other Precautions: Read label on container before using.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Rev. No.	Date	Approved	Chemical Safety Coordinator
1	1/2/87	Ward's Scientific	

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