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WONDER

MATERIAL SAFETY DATA SHEET**AMMONIA****24 HOUR CHEMICAL EMERGENCY PHONE****CHEMTREC 1-800-424-9300**

November 09, 1993

This Material Safety Data Sheet is principally directed to managerial, safety, hygiene and medical personnel. The description of physical, chemical and toxicological properties and handling advice is based on experimental results, past experience and literature search. It is intended as a starting point for the development of health and safety procedures.

The information herein is given in good faith and believed to be accurate and complete, *but no warranty, expressed or implied, is made.*

This Material Safety Data Sheet (MSDS) meets the requirements of the Federal OSHA Hazard Communications Standard (29 CFR 1910.1200).

SECTION I PRODUCT IDENTIFICATION

Chemical Name: Ammonium Hydroxide

Chemical Family: Ammonia

Trade/Common Name: Clear ammonia, sudsy ammonia, lemon ammonia or pine ammonia.

CAS Number.: 1336-21-6

UN/NA Number: 2672

Formula: NH_4OH

Molecular Weight: 35.05

NFPA Hazard Code: 2 0 1

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DOT Shipping/Hazard Class: Not Classified

SECTION II INGREDIENTS: HAZARDOUS & NONHAZARDOUS

<u>Material</u>	<u>CAS #</u>	<u>Wt %</u>	<u>Exposure Limits</u>
Ammonia	7664-41-7	<4	OSHA STEL 35 ppm ACGIH TWA 25 ppm STEL 35 ppm
Nonionic surfactant	9016-45-9	<0.75	Not established
Perfume	Mixture	<0.50	"
Dye	Mixture	<0.004	"
Opacifier 50-00-0"	100-42-5	<0.03	"
Water	7732-18-5	>96	"

Hazardous ingredients appear in boldface type

SECTION III PHYSICAL DATA

Boiling Point: na

Specific Gravity: 0.98

Vapor Pressure: 58.2mm Hg @ 25°C for 3.3% ammonia.

Vapor Density: 0.10 @ 25°C

% Volatile by Volume: Approximately 98%

Solubility in Water: 100%

Evaporation Rate: na

pH: Approximately 12

Odor: Unperfumed material has an ammonia odor.

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SECTION IV FIRE AND EXPLOSION DATE

Flash Point: na

Fire Extinguishing Media:

Use extinguishing media appropriate for surrounding fire.

Special Fire Fighting Procedure:

Fire fighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

Unusual Fire & Explosion Hazards:

Vapors may form explosive mixture with air within the following limits - upper 25% lower 16%. The autoignition temperature for ammonia gas is 1204°F.

Toxic Gases Produced: Ammonia and nitrogen oxides.

SECTION V HEALTH HAZARD INFORMATION

Inhalation: Vapors may be irritating to the mucous membranes and lung tissue.
LC50 = 4230 ppm (ammonia).

Skin Contact: Irritant, redding of the skin.

Eye Contact: Severe irritation to liquid exposure, mild irritation from vapor exposure.

Ingestion: Can cause vomiting, nausea and corrosive burns to the esophagus and stomach. LD50 = 350 ppm.

Effects of Overexposure:

Acute: Irritating effects increase with strength and time of exposure.

Chronic: Constant irritation to eyes and throat.

Emergency and First Aid Procedures:

Eyes: Copiously wash eyes with water for at least 15 minutes. Consult an eye specialist immediately.

Inhalation: Remove person to fresh air.

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Ingestion: If accidentally swallowed; drink water or milk and obtain medical attention. DO NOT INDUCE VOMITING.

Carcinogenicity: NTP: no IARC: no Z LIST: no OSHA: no

SECTION VI REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Heating above ambient temperatures causes the vapor pressure of ammonia to increase rapidly.

Incompatibility: Strong acids. Aqua ammonia reacts with chlorine, bromine, mercury, silver, silver solder, and hypochlorite to form explosive and/or toxic compounds.

Hazardous Polymerization: Will not occur.

SECTION VII DISPOSAL, SPILL or LEAK PROCEDURES

SPILLS: Spilled liquids should be contained and absorbed with a suitable absorbent material, not washed into sewers or ground water. Prevent large quantities from contact with vegetation or waterways. Releases will liberate irritating vapors.

DISPOSAL: Consult local, state or federal regulatory agencies for acceptable disposal procedures and locations. Disposal in sewers or streams may be illegal.

SECTION VIII SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS: Local exhaust ventilation should be used to control release of air contaminants in the work place.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT:

Respiratory: Use NIOSH/MSHA approved protective equipment for ammonia when exposure limits are exceeded.

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Eyes: Use goggles to prevent eye contact.

Skin: Use rubber or plastic gloves to prevent skin contact.

Other: Use rubber apron, etc. to protect body from any splashing conditions. Use rubber protective shoes if spills occur. Safety showers and eye-wash fountains should be available in storage and handling areas.

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS: Normal handling of bottled product requires safety requirements as stated on label.

SECTION X REGULATORY EVALUATION

This product may be reportable under the following regulations

OSHA Hazardous Communications Standard 29 CFR 1910.1200

Superfund Amendment and Reauthorization Act of 1986 (SARA Title III)

Comprehensive Environmental Response, Compensation and Liability Act of 1980
(CERCLA)

It is the responsibility of the user/purchaser to evaluate the applicability of the above regulations.

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