CUST021

I. General Information

Chemical Name & Synonyms
AMMONIUM HYDROXIDE ,Ammonia water

Chemical Family
Alkali

Proper DOT Shipping Name
AMMONIUM HYDROXIDE

Manufacturer
Master Chemical

Manufacturer's Address
642 N Tillamook St. Portland, OR

Trade Name & Synonyms
Aqua Ammonia   "Klanz Industrial Ammoni

Formula
NH_4OH / $(H_2O)_7$

DOT Hazard Classification
ORM-A

Manufacturer's Phone Number
503-288-6837

Chemtrec Phone Number
800-424-9300

II. Ingredients

Principal Hazardous Components	Percent	Threshold Limit Value (units)
NH_3	4%	50ppm - odor detectable
		700ppm -eye irritation
		1000-6500ppm for sustained period may be fatal.

III. Physical Data

Boiling Point (°F)
$186°F$

Vapor Pressure (mm Hg.)
@$25°C$ 600

Vapor Density (Air = 1)
.72

Solubility in Water
100%

Specific Gravity (H_2O = 1)
.980

Percent Volatile By Volume (%)
4%

Evaporation Rate (_____ = 1)
*butyl acetate=1 >1

pH
11.8

Appearance & Odor
water clear appearance; pungent, irritation ordor.

IV. Fire & Explosion Hazard Data

Flash Point (Test Method)
NONE

Flammable Limits
non-flammable

Extinguishing Media
water

Auto Ignition Temperature
$651°C$ (NH_3)

LEL 16% by volume in air (NH_3) UEL 25% by volume i air (NH_3)

Special Fire Fighting Procedures
dilute with large volumes of water - gas given off due to heat can be explosiv

Unusual Fire & Explosion Hazards
None except for the gas released from liquid as it is heated

V. Health Hazard Data

Threshold Limit Value	OSHA Threshold Limit Value 50ppm	ACGIH Threshold Limit Value 25ppm

Carcinogen - NTP Program / **Carcinogen - IARC Program**
This material is not considered as carcinogen by either of the agencies

Symptoms of Exposure INHALATION: Coughing, Chest pain, and difficulty in breathing may occur with brief exposure. EYE: Vapors extremely irratating. contact with mist or liquid severe damage to permanent injury (blindness) could occur. SKIN:will cause irratation. prolonged contact will cause severe burns and tissue damage.

Medical Conditions Aggravated By Exposure
Persons with pre-existing eye or pulmonary disease.

Do Not wear contact lenses when handling ammonia.

Primary Route(s) of Entry
Inhalation, Skin or eye contact.

Emergency First Aid IF INHALED: Remove to fresh air. Give artificial respiration if not breathing. EYE CONTACT: Immediately flush with lost of running water for 30 minu SKIN CONTACT: Immediately flush skin with losts of running water for 30 minutes. IF SWALLOWED, do not induce vomiting. If conscious give lots of water. IN ALL CASES GET IMMEDIATE MEDICAL ATTENTION

VI. Reactivity Data

Stability	X	Unstable / **Stable**	Conditions To Avoid Heat, Sparks, and open flames
Incompatability			Materials To Avoid Acids, oxidizing materials
Hazardous Polymerization	X	May Occur / Will Not Occur	Conditions To Avoid

Hazardous Decomposition Products
NH₃ on heating - combustible products probably nitrogen oxi

VII. Environmental Protection Procedures

Spill Response Wear rubber gloves and goggles and proper breathing appratis if necess For small spills or drips, mop or wipe up and dispose of in DOT-approved waste containers. Keep non-neutralized material out of sewers, storm drains, surface waters, and soil.

Waste Disposal Method Dispose of contaminated prodcut and material used in cleaning up spills or leaks in a manner apporved for this material. Consult appropriated Federal, State and Local regulatory agencies to ascertain proper disposal procedures. NOTE: empty containers can have residues and are subject to proper waste disposal as above.

VIII. Special Protection Information

Eye Protection Chemical goggles and full face shield.	Skin Protection Alkali-resistant slicker suit rubber boots, gloves with gauntlets.
Respiratory Protection (Specific Type) NIOSH approved cannister respirator.	Ventilation Recommended exhaust ventilation capable of maintaining emmissions at the point of use below PEL.
Other Protection	

IX. Special Precautions

Hygienic Practices In Handling & Storage
Store in cool dry place. Vent container frequently, and more often in warm weather, to relieve pressure. Keep container tightly closed when not in use. Do not use pressure to empty container. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING.

Precautions For Repair & Maintenance Of Contaminated Equipment
Do not cut, grind, weld or drill on or near this container.

Other Precautions
Containers, even those that have been emptied, will retain product residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.