9057 Vendor 020843 9037

CCI

Columbus Chemical Industries

Chemtrec # (800) 424-9300
National Response Center # (800) 424-8802

MATERIAL SAFETY DATA SHEET

SB1162
SB1163

APR 20 1995
8-30-05

Ammonia Solution

Issued: 09/04/8

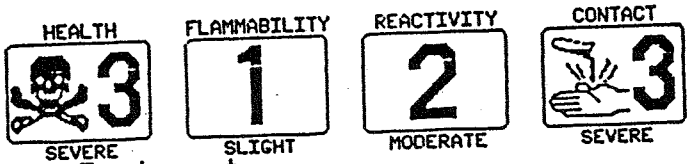
Effective: 09/03/86

SECTION I - PRODUCT IDENTIFICATION

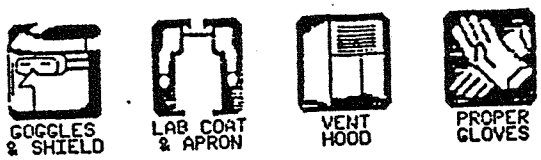
Product Name: Ammonia Solution
Formula: NH_3 in H_2O
Formula Wt: 17.03
CAS No.: 01336-21-6
NIOSH/RTECS No.: BQ9625000
Common Synonyms: Ammonium Hydroxide; Aqua Ammonia
Product Codes:

Columbus Chemical Industries, Inc.
N4335 Temkin Road
Columbus, WI 53925
(414) 623-2140

PRECAUTIONARY LABELLING



Laboratory Protective Equipment



Precautionary Label Statements

POISON! DANGER!
CAUSES BURNS
MAY BE FATAL IF SWALLOWED
VAPOR EXTREMELY IRRITATING

EXCEPTIONAL HEALTH AND CONTACT HAZARDS - READ MATERIAL SAFETY DATA SHEET

Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Keep in tightly closed container. Loosen closure cautiously. Use with adequate ventilation. Wash thoroughly after handling. In case of spill, flush spill area with water.

SECTION II - HAZARDOUS COMPONENTS

Component	%	CAS No.
Ammonia	20-30	1336-21-6

SECTION III - PHYSICAL DATA

Boiling Point: N/A

Vapor Pressure(mmHg): N/A

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SECTION III - PHYSICAL DATA (Continued)

Melting Point: -78°C (-108°F) Vapor Density(air=1): N/A

Specific Gravity: 0.90 (H_2O=1) Evaporation Rate: N/A (Butyl Acetate=1)

Solubility(H_2O): Complete (in all proportions) % Volatiles by Volume: 100

Appearance & Odor: Clear colorless solution with a strong odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A NFPA 704M Rating: 3-1-0

Flammable Limits: Upper - N/A % Lower - N/A %

Fire Extinguishing Media

Use extinguishing media appropriate for surrounding fire.

Special Fire-Fighting Procedures

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move exposed containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool; do not get water inside containers.

Unusual Fire & Explosion Hazards

Gives off flammable vapors. Vapors may form explosive mixture with air. Closed containers exposed to heat may explode.

Toxic Gases Produced

ammonia, hydrogen gas

SECTION V - HEALTH HAZARD DATA

Toxicity test results and safety and health effects are based on the solute.

Threshold Limit Value (TLV/TWA): 18 mg/m^3 (25 ppm)

Short-Term Exposure Limit (STEL): 27 mg/m^3 (35 ppm)

Permissible Exposure Limit (PEL): 35 mg/m^3 (50 ppm)

Toxicity: LD_{50} (oral-rat)(mg/kg) - 350

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MATERIAL SAFETY DATA SHEET

SECTION V - HEALTH HAZARD DATA (Continued)

Carcinogenicity: NTP: No IARC: No Z List: No OSHA reg: No

Effects of Overexposure

Inhalation of vapors may cause severe irritation or burns of the respiratory system, pulmonary edema, or lung inflammation.
Contact with skin or eyes may cause severe irritation or burns.
Prolonged eye contact may cause permanent damage to the cornea and blindness may occur.
Ingestion may cause severe burning to mouth and stomach.
Ingestion is harmful and may be fatal.

Medical Conditions Generally Aggravated By Exposure

None Identified

Routes Of Entry

inhalation, ingestion, eye contact, skin contact

Emergency and First Aid Procedures

CALL A PHYSICIAN.
If swallowed, do NOT induce vomiting; if conscious, give large amounts of water. Follow with diluted vinegar, fruit juice or whites of eggs, beaten with water.
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
In case of contact, immediately flush eyes or skin with plenty of water fo at least 15 minutes while removing contaminated clothing and shoes.
Wash clothing before re-use.

SECTION VI - REACTIVITY DATA

Stability: Stable Hazardous Polymerization: Will not occur

Conditions to Avoid: heat

Incompatibles: strong acids, alkali metals, strong oxidizing agents, bromine, chlorine, aluminum, copper, brass, bronze, mercury, dimethyl sulfate

Decomposition Products: ammonia

SECTION VII - SPILL AND DISPOSAL PROCEDURES

Steps to be taken in the event of a spill or discharge

Wear self-contained breathing apparatus and full protective clothing. Sto leak if you can do so without risk. Ventilate area. Carefully neutralize spill with dilute HCl. Flush area with flooding amounts of water. (Use caution.)

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MATERIAL SAFETY SHEET

SECTION VII - SPILL AND DISPOSAL PROCEDURES (Continued)

Disposal Procedure

Dispose in accordance with all applicable federal, state, and local environmental regulations.

EPA Hazardous Waste Number: D002, D003 (Corrosive, Reactive Waste)

SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

Ventilation:	Use general or local exhaust ventilation to meet TLV requirements.
Respiratory Protection:	Respiratory protection required if airborne concentration exceeds TLV. At concentrations up to 25 ppm, a chemical cartridge respirator with ammonia/amine cartridge is recommended. Above this level, a self-contained breathing apparatus is advised.
Eye/Skin Protection:	Safety goggles and face shield, uniform, protective suit, rubber gloves are recommended.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

Storage Color Code:

Special Precautions

Keep container tightly closed. Store in corrosion-proof area. Store below 25°C.

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

Proper Shipping Name	Ammonium hydroxide (12-44% ammonia)
Hazard Class	Corrosive material (liquid)
UN/NA	NA2672
Labels	CORROSIVE
Reportable Quantity	1000 LBS.

INTERNATIONAL (I.M.O.)

Proper Shipping Name	Ammonia solutions (10-35% ammonia)
Hazard Class	8
UN/NA	UN2672
Labels	CORROSIVE