Lanka Ammonia (Pvt) Ltd.

Manufactures of Ammonia Solutions and Impoerters of Rubber Chemicals

Material Safety Data Sheet

Description

Chemical Name : Ammonia Solution (24 Baume) COMPOSITION: 25% by weight of ammonia gas dissolved in water

Synonyms : Aqua Ammonia, Ammonium Hydroxide, Liquor Ammonia, Ammonia Water
CAS REGISTRY NO. 1336-21-6

Chemical Family: Ammonia Formula: NH20H+H2O MOL WST:35.05 (NH4OH)

Statement Of Health Hazard

Hazard Description : Irritant and corrosive to skin, eye, respiratory tract and mucous membranes. May cause severe burns, eye and lung injuries. Skin and respiratory related diseases aggravated by exposure. Not recognized by OSHA as a carcinogen. Not listed in the National Toxicology Program annual report. Not listed as a carcinogen by the International Agency for Research on Cancer.

Exposure Limits : Vapor

OSHA	50 ppm	35 mg/m3 PEL	8 hour TWA
NIOSH	35 ppm	27 mg/m3 STEL	15 minutes
NIOSH	25 ppm	18 mg/m3 PEL	10 hour TWA
ACGIH	25 ppm	18 mg/m3 TLV	8 hour TWA
ACGIH	35 ppm	27 mg/m3 STEL	15 minutes

Emergency Treatment

Effects Of Overexposure : Eye & Skin: Overexposure can severely irritate and burn the skin or eye causing permanent damage. Inhalation: Severe irritation to nose, throat and lungs causing headaches, coughing, severe lung congestion, breathing difficulty, convulsion or shock.

Emergency Aid : Skin: flush with copious amounts of water while removing contaminated clothing and shoes. Wash clothing before re-use. Do not rub, or apply ointment on affected area. Ingestion: if conscious, give large amount of water to drink and follow with vinegar or fruit juice. Refer immediately to physician. Eye: flush with copious amount of water for 15 min. Eyelids should be held apart and away from eyeball for thorough rinsing. SPEED AND THOROUGHNESS IN RINSING THE EYE IS MOST IMPORTANT IN PREVENTING LATENT PERMANENT INJURIES. Inhalation: remove to fresh air. Administer oxygen or artificial respiration if necessary. SEEK IMMEDIATE MEDICAL HELP.

Note To Physician : Respiratory injury may appear as delayed phenomenon, pulmonary edema may follow chemical bronchitis. Supportive treatment with necessary ventilation actions, including oxygen, may warrant consideration.

Physical Data

Boiling Pt. NH3, vapors released upon warming	Freezing Pt (-99 F)
Vapor Pressure: 6.4 psia @ 60 F	Vapor Density (Air=1): less than 1
Specific Gravity: 0.9089 @ 60 F	Solubility In Water: Complete
Percent Volatile: 100% @ 212 f	Evaporation Rate (Water=1) Similar
Appearance & Odor: Colorless liquid and pungent Odor	Surface Tension: 63 Dynes/cm

Fire and Explosion Hazard Data

Flash Point:	None
Autoignition Temp.	Not applicable
Flammable Limits In Air:	For evolved ammonia: LEL 16% UEL 25%
Extinguishing Media:	Non-combustible

Special Fire-Fighting Procedures : Must wear protective clothing and respiratory protection. See PROTECTIVE EQUIPMENT. Stop source if possible. Cool fire exposed containers with water spray. Stay upwind and use water spray to knock down vapor and dilute.

Unusual Fire And Explosion Hazards : Not generally a fire hazard, if relief valves are inoperative, heat-exposed storage containers may become explosion hazards. Ammonia contact with chemicals such as mercury, chlorine, iodine, bromine, silver oxide, or hypochlorites can form explosive compounds. Special hazards with chlorine to form choramine gas, also a primary skin irritant and sensitizer. Combustion may form toxic nitrogen oxides.

Chemical Reactivity

Stability : Stable at room temperature. Ammonia with react exothemically with acids and water.

Conditions To Avoid : Avoid mixing with sulfuric acid or other strong mineral acids. Avoid mixing with hypochlorites (chlorine bleach) or other halogens and sodium hydroxide. Avoid contact with galvanized surfaces, copper, brass, bronze, aluminium alloys, mercury, gold, silver, and strong oxidizers. Avoid heating.

Hazardous Decomposition Products : Hydrogen and nitrogen gases above 450 C (842 F).

Spill or Leak Procedures

Steps To Be Taken : Wear respiratory protection and protective clothing, see PROTECTIVE EQUIPMENT. Stop source if possible. Stay upwind and use water spray to absorb the evolved gas. Dilute with large amounts of water. Contain spill by diking.

Waste Disposal : Listed as hazardous substance under CWA (40 CFR 1164.40 cfe 117.3 Reportable Quantity Category C. 1000 lbs / 454kg). Comply with all regulations. Suitably diluted product may be disposed of on agricultural land as fertilizer. Keep spill from entering streams or lakes.

Special Protectionn and Procedures

Respiratory Protection : MSHA/NIOSH approved respiratory protection with full face for gas and vapor contaminants effective for anhydrous ammonia and able to be used for entry and escape in emergencies. Refer to 29 CFR 1910. 134 and ANSI: Z88.2 for requirement and selection.

Ventilation : Local exhaust sufficient to keep ammonia gas below Permissible Exposure Limits. Refer to 29 CFR 1910. 134 and ANSI: Z9.2 for requirement and selection.

Protective Equipment : Splash-proof, chemical safety goggles, rubber gloves and boots to prevent contact. Respiratory protection. Cotton work clothes recommended. Refer to 29 CFR 1910. 132 to 1910.136 for requirements.

Special Precautions

Storage and Handling : Store in cool, well-ventilated area with containers tightly closed. OSHA 29 CFR 1910. 111 prescribes handling and storage requirements for anhydrous ammonia as a hazardous material.

Work-Place Protective Equipment : as discussed above should be bear, but outside of ammonia area. Eyewash and safety shower in immediate vicinity. See 29 CFR 1910.141 for workplace requirements.

Disposal : Aqua Ammonia is listed as a hazardous substance under FWPCA. See WASTE DISPOSAL. Classified as RCRA Hazardous waste due to corrosivity with designation D002 if disposed of in original form.

Personal : Avoid unnecessary exposure. Use protective equipment as needed. Do not wear contact lenses.

Labeling and Shipping

Hazard Class : 8 (Corrosive)

Proper Shipping Description : Ammonia Solutions (Ammonium Hydroxide), 8, UN2672, PG III, RQ

Placard : Corrosive

Identification No. : UN 2672

National Fire Protection Assoc. Hazardous Rating:

Hazardous Materials Identification System Labels :

Anhydrous Ammonia	
Health	**3**
Flammability	**1**
Reactivity	**0**
Personal Protection	**H**

Other Regulatory Requirements

Under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Section 103, any environmental release of this chemical equal to or over the reportable quantity of 100 lbs. Must be reported promptly to the National Response Center, Washington, D.C. (1-800-452-8802). Any consumer product containing 5% or more ammonia requires a POISON label under FHSA (16 CFR 1500. 129(1)).

The material is subject to the reporting requirements of Section 313, Section 304, Section 312, Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372. As of June 30, 1995, this material is reportable with the following qualifications: 10% of total aqueous ammonia is reportable as Ammonia (7664-41-4) under this listing.

EPA Hazard Categories – Immediate: Yes: Delayed: No: Fire; No: Sudden Release: Yes: Reactive: No.

Regulated Air Act – 40 CFR 112 ® at concentrations greater than 20% or amounts greater than 20,000 lbs

The information, data and recommendations in this material safety data sheet relate only to the specific material designated herein and no not relate to use in combination with any other materials or in any process. The information, data, and recommendations set forth herein are believed by us to be accurate. We make no warranties, either expressed or implied, with respect thereto and assume no liability in connection with any use of such information, data and recommendations.