

MATERIAL SAFETY DATA SHEET

May 1994

MSDS Identity number : 1#2#3

NFPA HAZARD RATING
HEALTH 2

MSDS Revision date : November 14, 1991

FIRE 0

Signature of Preparer



REACTIVITY 0
SPECIFIC HAZARD COR

Section I - PRODUCT INFORMATION

Manufacturer's Name:

Michlin Diazo Products Corp.

Phone No: (313) 846-5700

10501 Haggerty Street

Dearborn, MI 48126

CHEM-TEL 24 Hr. Emergency No: (800) 255-3924

Common Name: **AQUA AMMONIA**

Chemical Name: AMMONIUM HYDROXIDE SOLUTION

PRODUCT USE : Diazo developer, fertilizers, household cleaners

Section II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

INGREDIENTS OSHA ACGIH C.A.S. No. PERCENT

Number 1 Strength

AMMONIA GAS IN WATER 35(STEL) 35(STEL) 1336-21-6 29.4%

WATER NONE NONE 7732-18-5 70.6%

Non-Hazardous Corrosive Inhibitor Mixture Trace

Number 2 Strength

AMMONIA GAS IN WATER 35(STEL) 35(STEL) 1336-21-6 25.5%

WATER NONE NONE 7732-18-5 74.5%

Non-Hazardous Corrosive Inhibitor Mixture Trace

Number 3 Strength

AMMONIA GAS IN WATER 35(STEL) 35(STEL) 1336-21-6 17.8%

WATER NONE NONE 7732-18-5 82.2%

Non-Hazardous Corrosive Inhibitor Mixture Trace

Section III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical State: Liquid

Odor threshold <= 5 ppm

Appearance/Odor : Colorless liquid with pungent irritating odor.

Specific Gravity(H₂O=1) : 0.8974 @ 15.5 Degree C

Boiling Point (Deg. C) : 27 C Vapor Pressure (MM Hg) : 550 @ 20 Deg. C.

Evaporation Rate (Water=1): No Data

Vapor Pressure: 475 MMHg @ 15.5 Degree C

Percent volatile by volume No Data

Solubility in water: Complete

Freezing Point: Approximately -75 Degree C

pH: 11 - 13

Sensitivity to Mechanical Impact: N/A

Rate of Burning Will not burn

Section IV - FIRE AND EXPLOSION DATA

FLASH POINT None
FLAMMABLE LIMITS Not applicable, non flammable
AUTOIGNITION TEMPERATURE For ammonia 651 Degree Centigrade
FIRE EXTINGUISHING MEDIA: CO₂, Dry Chemical, Water Spray

SPECIAL FIRE FIGHTING PROCEDURE: Not considered a primary fire hazard, but care should be taken to avoid exposure to liquid product involved in fire. Evacuate area of unprotected personnel. Wear protective clothing including a NIOSH-Approved self-contained breathing apparatus. Apply water from as far a distance as possible.

Section V - REACTIVITY DATA

STABILITY: Unstable _____ Stable X

INCOMPATIBILITY (Materials to Avoid) :
Strong acids. Ammonia reacts with chlorine, bromine, mercury, silver, silver solder. Avoid the use of non ferrous metals.

HAZARDOUS DECOMPOSITION PRODUCTS: High temperature decomposition products may include oxides of nitrogen.

HAZARDOUS POLYMERIZATION:
May Occur _____ Will Not Occur X

Section VI - HEALTH HAZARD DATA

* ROUTES OF ENTRY:

INHALATION - Ammonia odor can be detected at 5 ppm. At 200 to 300 ppm, Ammonia gas may cause varying degrees of irritation to the skin or mucous membranes. Severe irritation of the nose and throat occurs at ammonia concentrations of 400 ppm. Serious coughing and bronchial spasms can occur at ammonia concentrations of 1700 ppm; less than 30 minutes of exposure to this concentration may be fatal.

EYES - Noticeable irritation to eyes occurs at ammonia concentrations of 100 ppm. Severe irritation of eyes occurs at 400 ppm.

SKIN - Contact with liquid Ammonia Hydroxide may produce second degree burns.

INGESTION - Toxic

HEALTH HAZARDS SIGNS AND SYMPTOMS OF EXPOSURE :

ACUTE OVER EXPOSURE - Irritation and destruction of tissue on exposed parts of the body. Sever coughing and bronchial spasms can occur.

CHRONIC OVER EXPOSURE - Ammonia is not accumulated in the body and there is no evidence of chronic effect.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE :

Persons having chronic respiratory disease or persons who have shown evidence of undue sensitivity to ammonia should not be employed where they will be exposed to ammonia.

*** EMERGENCY AND FIRST AID PROCEDURES**

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids open during this flushing with water. Call a physician immediately. No oil or other non-water soluble preparation should be placed into the eyes.

SKIN CONTACT: Flush area with water while removing contaminated clothing. Seek medical attention as soon as possible for all burns regardless of how minor they may appear initially.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

*** CHEMICAL NOT LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN**

SECTION VII - PRECAUTION FOR SAFE HANDLING AND USE

Store in cool, well-ventilated area away from all sources of ignition and out of direct sunlight. Keep containers tightly closed. Zinc, copper, and copper based alloys such as brass are rapidly corroded by moist ammonia. Avoid use of these metals in ammonia service.

See Section VIII for use of personal protective equipment.

SECTION VIII - CONTROL MEASURES

VENTILATION:

Work area mechanical exhaust ventilation must be used to control release of air contaminate. Ammonia ventilation system must insure work area does not exceed 30 PPM

RESPIRATORY PROTECTION: NIOSH and U.S. Bureau of Mines approved respirators for ammonia, NIOSH-Approved self-contained breathing apparatus must be used when exposure limits are exceeded for anyone who must remain in the work area.

PROTECTIVE GLOVES:

If you are required to handle Aqua ammonia: Rubber (Latex) or Neoprene gloves should be worn to prevent skin contact.

EYE PROTECTION:

Chemical splash goggles should be worn to prevent eye contact with liquid and vapor.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

If transferring large amounts of ammonia hydroxide use rubber or plastic apron.

Have readily available an emergency water source for eye wash.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Evacuate area of spill.

Contain liquid spill and allow to evaporate.

Prevent discharge of spilled liquid into sewers or streams.

IF SPILL IS EXCEEDS 125 GALLONS, REPORT INCIDENT TO EPA, STATE, & LEPC
Local Emergency Planning Committee

OSHA Hazard Communication (29CFR 1910.1200) Classification: Toxic, Corrosive.

Shipping Name: Ammonia Solution or Ammonium Hydroxide

Shipping Class: 8 (9.2)

U.S. DOT Classification: Corrosive Liquid

Product Identification: (PIN): NA 2672

DISPOSAL OF UNUSED AMMONIUM HYDROXIDE:

The EPA established water standards that each city or township must meet before the water from their sewer department can be discharged into lakes or streams, often Ammonium Hydroxide can help meet their standard.

Contact your local sewer department for approval before disposing of unused Ammonium Hydroxide down the sewer, sink drain, or toilet.

The information, data, and recommendations in this material safety data sheet relate only to ammonia and its use in the ammonia developing diazo machines. The information, data, and recommendations set forth herein are believed by Michlin Diazo Products Corp. to be accurate. Michlin Diazo Products Corp. makes no warranties, either expressed or implied, with respect thereto and assumes no liability in connection with any use of such information, data, and recommendations.