



Material Safety Data Sheet

Product Name

Di-Ammonium Phosphate (DAP)

Section 1 - Chemical Product and Company Identification

Product Name	MSDS No.
Anhydrous Ammonia	0002
Chemical Name	Version No.
Ammonia	02
Chemical Formula	
NH ₃	
Material Use	Next Revision
Mostly used in the production of fertilizers. Also, Ammonia has the following industrial Applications:manufacture of chemicals, synthetic fibers, cleaning solutions.	September,2023

Synonyms

Anhydrous Ammonia, Liquefied Ammonia, Ammonia Anhydrous: both standard & commercial grade.

Company Identification

Maaden Phosphate Company
P.O Box 11 10
Jubail 31961 KSA

Emergency Contact

+966-13-342-6666

For Information

+966-3-342-6688
cc@maaden.com.sa

Section 2 - Composition, Information on Ingredients

Chemical Name	CAS No.	Percent
Ammonia (NH3)	7664-41-7	99.9

Section 3 - Physical and Chemical Properties

Physical State	Liquefied gas	Molecular Weight	17.03
Appearance	Colorless gas, liquid under pressure. Mist of high concentration may appear greenish	Solubility	Soluble in water
Odor	Sharp Pungent Odor	Boiling Point	-33.35 °C
pH	Basic (1-1.6)	Melting Point	-77.7 °C
Vapor Pressure (kPa)	10 atm @ 25.7 °C	Vapor Density	0.89 g/l
Viscosity	0.255 centipoise at -28.3 °F (-33.5 °C)	Evaporation Rate	N/A
Bulk Density	620 kg/m ³	Specific Gravity	0.682 (liq NH ₃)

Section 4 - Hazards Identification

Emergency Overview

Target Organs

Lungs

Potential Health Effects

Eye

Irritation to eye, conjunctivitis, swelling of eye lid

Skin

Skin irritation

Ingestion

Ingestion is not a likely route

Inhalation

Irritation to nose and throat, coughing, Exposure to very high concentrations of gaseous ammonia can result in lung damage and death

Chronic

Corneal ulcers have been reported following splashing of ammonia water in the eye

Others

Contact with Liquid may cause cold burn/frost bite

Section 5 - First Aid Measures

Eyes	Immediately flush eyes with plenty of water. Do not rub.
Skin	Get under shower. Remove contaminated clothing and shoes
Ingestion	Drink water or milk. Never give anything to induce vomiting
Inhalation	Remove from exposure to fresh air. If breathing stops give artificial respiration
Antidote	N/A
Notes to Physician	Bronchospasm may be treated with the use of a bronchodilator such as albuterol and an anticholinergic inhalant such as Atrovent.

Section 6 - Firefighting Measures

Flammability	Flammable
Flammability Limits	LEL: 16%; I-JEL: 25%
Explosion Risk	<ul style="list-style-type: none">- Explosion hazard in a confined space.- Considered as Class I, Group D- Electrical Hazard
Auto-Ignition Temperature	651 °C
Flash Point	11 °C
Products of Combustion	Nitrogen (NO _x) and water

Fire Hazard in The Presence of Various Substances

May ignite in the presence of open flames and sparks. The presence of oil or other combustible materials will increase the fire hazard.

Explosion Hazard in The Presence of Various Substances

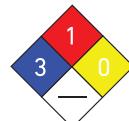
Ammonia not readily ignited but a mixture of ammonia and air will explode when ignited under favorable conditions.

Fire Fighting Media and Instructions

Stop ammonia leak (if it may be done safely) before extinguishing the fire. Use water spray to cool fire-exposed ammonia containers (do not direct water into spilled ammonia). Move ammonia containers from fire if without risk. Keep a safe distance as the ammonia cylinders may explode.

Extinguishing Media

- For small fire.....dry chemical or CO₂
- For large fire.....water spray, fog, or foam



Health: 3; Flammability: 1;
Reactivity: 0

Section 7 - Accidental Release Measures

General Information

Release may require isolation or evacuation.

Small Spills

- Stop or control the leak if this can be done without risk.
- Use water to cool and disperse vapors to protect personnel.
- Approach release from upwind

Large Spills

- Follow same procedure for small spills.
- Refer to the Emergency Response Guidelines.

Section 8 - Handling and Storage

Handling	<ul style="list-style-type: none">- Use with adequate ventilation.- Do not breathe gas/vapor.
Storage	<ul style="list-style-type: none">- Cylinders and tanks.- Keep in dry cool and well ventilated area. Ensure facilities are well maintained and emergency response
Additional Information	Keep away from ignition sources, strong acids and oxidizing agents

Section 9 - Exposure Controls, Personal Protection

Engineering Controls	Workers must be trained in the safe handling and use of ammonia. Maintain concentrations within exposure guidelines. Process block valves, equipment enclosures and other isolation facilities may be necessary.
Personal Protection	Wear appropriate respiratory protection contact may occur as a result of brief periodic exposures. Wear long sleeved clothing, ammonia resistant coveralls, chemical resistant gloves, and safety or chemical glasses with side Shields face shield, safety boots.
Personal Protection in Case of Large Release	Same as above
Exposure Limits	15 min for gaseous ammonia: 35 ppm 8 hr. TWA: 25 ppm IDLH: 300 ppm

Section 10 - Personal Protective Equipment

Eyes	Safety goggles, face shield
Skin	Butyl rubber, ammonia resistant coveralls, apron, boots, gloves.
Respirators	Self-contained breathing apparatus (SCBA) or air purifying respirator. Ammonia cartridge can be used if concentration of ammonia is less than 250 ppm.

Section 11 - Stability and Reactivity

Chemical Stability	Stable. Liquid under pressure floats and boils on water.
Instability Temperature	N/A
Conditions to Avoid	Keep away from ignition sources, strong acids, oxidizing materials and halogens.
Incompatibilities with Other Materials	Reacts with hypochlorite or other halogen sources to form explosive compounds. Highly reactive with oxidizing and reducing agents. Extremely reactive with acids.
Hazardous Decomposition Products	Emits fumes of NOx. Produces hydrogen above 450 °C
Hazardous Polymerization	Anhydrous ammonia is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur. Heat, ignition sources, contact with oxidizing agents, combustible materials and incompatibles.
Corrosivity	Highly corrosive to copper and its alloys and any metal surface. Slightly corrosive to aluminum and zinc.
Special Remarks	Same as above.

Section 12 - Toxicological Information

Significant Route of Exposure	Inhalation, eyes contact, skin contact.
Toxicity to Animals	Very toxic to marine environment
Chronic Effects on Humans	Exposure can cause coughing, chest pains, difficulty in breathing. Repeated significant overexposure can cause permanent lung function damage, edema and chemical pneumonitis. May cause serious damage to the eyes.
Other Effects on Humans	Slightly to very dangerous in case of skin contact, eyes contact, or inhalation. Material may be irritating or corrosive.

Section 13 - Ecological Information

Eco-toxicity	Hazardous for human and animal life. Ammonia is toxic hazards to fish. Free ammonia concentrations of 2.5 mg per liter at pH 7.4 to 8.5 are considered harmful to marine environment.
Degradation	Not available
Environmental Fate	Not available
Special Remarks	Do not release large amounts of Ammonia to the atmosphere.

Section 14 - Disposal Considerations

Waste Disposal	Dispose of in a manner consistent with local regulations.
-----------------------	---

Section 15 - Transport Information

DOT/ TDG Classification	DOT Class 2.3: Poisson Gas TDG Class 2.3: Toxic Compressed Gas.
Shipping Name	Ammonia, Anhydrous
Hazard Class	2.2
UN Number	UN1005
Packing Group	Not available
Special Provisions	Not available
Additional information	None

Section 16 - Additional Information

The information in this document is believed to be correct as of the date issued. Nothing herein contained shall be deemed to be representation or warranty with respect to the product described herein.

NOWARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE, AND ALL SUCH REPRESENTATIONS AND WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED BY MAADEN PHOSPHATE COMPANY.

This information and product are furnished on the condition that the person receiving them shall make their own determination as they assume the risk of their use thereof. The conditions and use of this product are beyond the control of MPC, and MPC disclaims any liability for loss or damage incurred in connection with the use or misuse of this substance.