



For Small & Medium Enterprises ;

QUICK GUIDE ON AMMONIA

BASIC INFORMATION

Introduction

Ammonia (NH₃) is a compound of nitrogen and hydrogen. It is a colourless gas with a characteristic of strong pungent smell.

Who is Affected

Ammonia is commonly found in the :

- ice making facilities
- detergent
- fertilizer

AMMONIA

DANGER



Hazard Statement

Flammable gas | Contain gas under pressure; may explode if heated | Toxic if inhaled | Causes severe skin burns and eye damage | Causes serious eye damage | Very toxic to aquatic life

Immediately Dangerous to Life or Health, IDLH *

Ammonia = 300 ppm

* Based on NIOSH CDC

Permissible Exposure Limit, PEL**

Ammonia = 25 ppm

** Based on USECHH Regulations 2000

Ammonia Properties

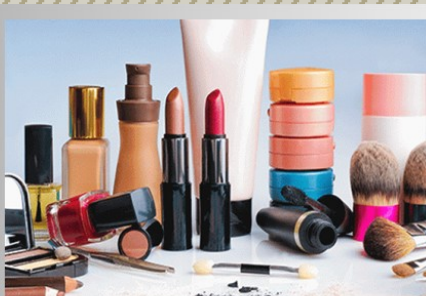
Property	DESCRIPTION
CAS No.	7664-41-7
Chemical Formula	NH ₃
Color	Colorless
Molar Mass	17.031 g/mol
Phase	Gas
Density (STP)	0.769 kg/m ³
Melting Point	-77.73 °C
Boiling Point	-33.34 °C
Vapor Pressure	857.3 kPa
Water Solubility	31% w/w (25°C)
Odour	Strong Pungent

Health Effects

ROE	Symptom	First Aid
Inhalation	- Burning sensation - Cough - Shortness of breath - Sore throat	- Fresh air, rest - Half -upright position. - Administration of oxygen may be needed - Refer immediately for medical attention.
Skin	- Redness - Pain - Blister - Skin burns - On contact with liquid : Frostbite	- Rinse skin with plenty of water or shower for at least 15 minutes. - On frostbite: rinse with plenty of water, do not remove clothes. - Refer immediately for medical attention.
Eye	- Redness - Pain - Blister - Skin burns - On contact with liquid : Frostbite	- Rinse with plenty of water for several minutes (remove contact lenses if easily possible) - Refer immediately for medical attention.

Use Of Ammonia

Cosmetics



Cleaning Agent



Refrigerant Gas



Fertilizer

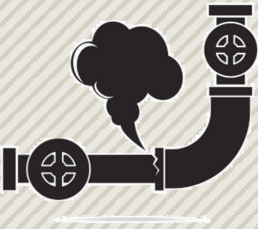




AMMONIA LEAK—HOW TO HANDLE

When ammonia leaks :

- safety alarm will be triggered or
- the pungent odour can be smelled.



In an Emergency:

999

1 Do not panic.

2 Put on a suitable respirator

3 Leave the room / area immediately.

4 Call BOMBA to do decontamination and cleaning

NEVER



Smoking



Try to find and close the source of leak.



Walk around contaminated area

Safety Precaution for Ammonia

- ⇒ Never work alone with this chemical
- ⇒ Unprotected persons should avoid all contact with this chemical, including contaminated equipment
- ⇒ Do not use with incompatible materials such as oxidizing agents (e.g., nitrogen oxide), halogens (e.g., chlorine, fluorine) and heavy metals (e.g., mercury, silver)
- ⇒ Never perform any welding, cutting, soldering, drilling or other hot work on an empty vessel, container or piping until all the ammonia has been cleared
- ⇒ Follow handling precautions in Safety Data Sheet
- ⇒ Activate Emergency Response Plan (if any)
- ⇒ Ensure suitable emergency equipment for fires, spills and leaks readily available

Personal Protective Equipment



Ammonia vapour cartridge



Material (Nitrile Rubber)



Material (Rubber wellington Boots)



Goggles

Prepared by,



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