Anhydrous Ammonia

INVENTEC PERFORMANCE CHEMICALS

PERFORMANCES

Anhydrous ammonia is a liquefied gas much used in the chemical industry and as reactive agent in the synthesis of:

- **Production of synthesis intermediates**
- **Production of nitric acid and urea**
- **Neutralization of acids and synthesis of catalysts** *(petrochemical industry)*
- **Rubber industry** *(avoids latex coagulation)*
- **Refrigeration industry** *(very good heat of vaporization)*

SPECIFICATIONS

Standard characteristics	Limit values
Purity	≥ 99,9 % weight
Moisture content	≤ 400 ppm weight
Oil content	≤ 5 ppm weight

CHARACTERISTICS

		Unit	Value
Chemical Formula			NH_3
Molecular weight		g/mol	17,03
Boiling point	at 1,013 bar	°C	-33,4
Melting point	at 1,013 bar	°C	-77,7
Critical temperature		°C	132,8
Critical pressure *(critical point)*		bar	114,4
Latent heat of vaporization		kcal/kg	327,68
Latent heat of melting *(melting point)*		kcal/kg	79,42
Liquid density	at 0°C	kg/dm^3	638
Vapor pressure	at 20°C	bar absolute	8,6
Flammability limit : Lower limit Upper limit	in the air at 20°C below 1,013 bar	 % volume % volume	 15,4 33,6
Auto-ignition temperature	below 1,013 bar	°C	630

PACKAGING

	Bottles		Container
Capacity (liter)	26	88	930
Tare (kg)	16	38	460
Load (kg)	15	45	480
Diameter (mm)	300	300	860
Height (mm)	630	1530	2330
Outflow external diameter (mm)	21,7	21,7	26,1
Tap : left pitch (mm)	1,814	1,814	1,814
Test pressure (bar)	30	33	33

- Packaging technical characteristics are available upon request to the commercial department.
- Feasibility of filling packaging of the customers if they are in conformity with the legislation.
- Contact us for any other specific packaging.

STORAGE AND SHELF LIFE

Precautions for handling and storage:

French plants are controlled by the regulation of listed Establishments and have to comply with it *(or with the local legislation).*

- All packaging will be stored in a dry, well-ventilated, easily accessible place, sheltered from sunlight and bad weather, away from any ignition source.
- It is recommended to store all packaging either in a specific place or isolated and sheltered by a fence.
- All packaging and piping will be grounded to discharge static electricity.
- Leak detectors, put at ground level, will be connected to an audible alarm, which will trigger in the event of leaks.
- The whole equipment will be tested with an appropriate leak detector before use.
- Material and electrical equipment in an explosive atmosphere will comply with the regulations *(grounding, equipotential bonding, ATEX material).*

INVENTEC can study the set up and assembling of your storage tanks, piping, and pumps, according to the prevailing regulations.

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CONDITIONS OF USE

Please refer to the Material Safety Data Sheet (MSDS) before using the product.

Workers handling the product should be trained about risks and preventive measures.

Anhydrous Ammonia is not compatible with :

- ✓ Halogen
- ✓ Oxidizing agents
- ✓ Acids
- ✓ Metals
- ✓ Fluorine
- ✓ Chlorine
- ✓ Bromine
- ✓ Nitrogen protoxyde

- **Whatever the material, we advise to carry out resistance tests before any use.**
- **Anhydrous ammonia is a toxic, irritating and flammable gas. An explosive combination may form with air but ignition occurs at high temperature only, requiring a lot of energy from the ignition source.**
- **Spillage of anhydrous ammonia on the skin may cause deep burns because of its causticity and cold. The injured area should be washed with lots of water. Inhalation may cause pulmonary œdema.**

HEALTH SAFETY AND ENVIRONMENT (HSE)

Consult the Material Safety Datasheet (MSDS) on the website : www.quickfds.com

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