

Marking

CAS

Characterization acc. ADR

7664-41-7
UN 1005 AMMONIA,
ANHYDROUS, 2.3 (8), (C/D),
ENVIRONMENTALLY
HAZARDOUS**Cylinder Marking**

Shoulder color: yellow

Essential properties

liquified gas, lighter than air, colorless, pungent, hardly inflammable, corrosive, toxic, toxic to aquatic life

Symbols of risks**Physical Properties**

molecular weight	17,304 kg/kmol
gas density at 0°C and 1,013 bar	0,7714 kg/m ³
density ratio to air	0,5966
vapour pressure at 20°C	8,5737 bar

For additional safety information see safety data sheet *-NH3-002

Valves / Manifolds

Valve connection

acc. to national regulations

Recommended Manifolds

Spectrocem FE 121 SP;
Control valve PN 40

Specification / receptacles			
		Ammonia 3.8	
Composition			
NH ₃	≥	99.98	Vol.-%
Impurities			
oil	≤	5	ppmw
H ₂ O	≤	200	ppmw

Remarks

Applications:

Denitrification, cooling agent, heat treatment in metallurgy.

UHP: agent for building isolation layers of Si₃N₄ in photovoltaics and semiconductor industries

For larger demands barrel supply is possible.

Delivery only with end user statement!

No delivery to private person!

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Description

Colourless, toxic, corrosive, strong hygroscopic, liquified gas with characteristic odor. May cause chemical burns to skin and cornea. Ammonia forms explosive atmospheres with oxidizing gases, with halogens and Mercury. Very high solubility in water (alkaline). Strong exotherm reaction with acids.

In presence of humidity strong corrosive behaviour against aluminium, copper, silver and zinc.

Materials

Cylinders and Valves: any usual materials; except brass and copper(-alloys).

At brass resp. copper danger of stress corrosion cracking caused by humidity

Seals: PTFE, PCTFE, PA, PE, PP.

Physical Properties			
molecular weight	17,304 kg/kmol	vapour pressure at 20 °C	8,5737 bar
critical point		gas density at 0 °C and 1,013 bar	0,7714 kg/m ³
temperature	405,50 K	density ratio to air	0,5966
Pressure	113,53 bar	gas density at 15 °C and 1 bar	0,71979 kg/m ³
density	0,234 kg/l	conversion factor	
triple point		liquid at Ts to m ³ gas (15 °C, 1 bar)	0,947
temperature	195,25 K	virial coefficient	
Pressure	0,0607 bar	Bn at 0 °C	-14,9*10 ⁻³ bar ⁻¹
boiling point		B30 at 30 °C	-9,7*10 ⁻³ bar ⁻¹
temperature	239,82 K; -33,3 °C	gaseous state at 25 °C and 1 bar	
liquid density	0,6819 kg/l	specific heat capacity cp	2,0757 kJ/kg K
evaporation heat	1368,11 kJ/kg	thermal conductivity	242 *10 ⁻⁴ W/m K
		dynam. viscosity	10,02*10 ⁻⁶ Ns/m ²