

Acetylene 2.6



Ethine

Marking

CAS

Characterization acc. ADR

Cylinder Marking

74-86-2
UN 1001 ACETYLENE,
DISSOLVED, 2.1, (B/D)



Shoulder color: marron

Essential properties

dissolved gas, lighter than air, colorless, flammable, possibly exothermic self-ignition

Symbols of risks



Physical Properties

molecular weight	26,038 kg/kmol
gas density at 0 °C and 1,013 bar	1,1775 kg/m ³
density ratio to air	0,9066
vapour pressure at 20 °C	43,36 bar

For additional safety information see safety data sheet *-C2H2-001

Valves / Manifolds

Valve connection

acc. to national regulations



Recommended Manifolds

Specification / receptacles			
		Acetylene 2.6	
Composition			
C ₂ H ₂	≥	99.6	Vol.-%
Impurities			
PH ₃	≤	10	ppmv
H ₂ S	≤	10	ppmv
Cylinder / Contents			
F 10 1,8kg		1.8	kg
F 50 10kg		10.0	kg
F 50*12 105kg		105.0	kg

Remarks

Applications:

Fuel gas for atomic absorption spectroscopy (AAS) and flame photometry

For reasons of quality no filling of customer owned cylinders.

For reasons of stability acetylene is dissolved under pressure in a solvent (acetone or DMF). During withdrawal the gas contains solvent vapours.

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Description

Impurities in acetylene like PH₃, H₂S, AsH₃ and NH₃ cause the typical odor ("carbide-like"). In pure state colourless, slightly ethereal smelling, strong narcotic acting gas. Under impact of energy (local heating, UV-radiation, pressure bumps) explosive disaggregation into the elements. Explosive acetylides are built up in contact with copper, silver, mercury and their salts and solutions. Safe storing and transportation as dissolved gas under pressure in cylinders with a porous mass, imbued with a solvent.

Materials

Cylinders and Valves: any usual materials; except brass or copper(-alloys) with Cu > 70 %
Seals: PTFE, PCTFE, PVDF, PE, PP

Physical Properties			
molecular weight	26,038 kg/kmol	vapour pressure at 20°C	
critical point		gas density at 0°C and 1,013 bar	1,1775 kg/m ³
temperature	308,33 K	density ratio to air	0,9066
Pressure	61,39 bar	gas density at 15°C and 1 bar	1,0996 kg/m ³
density	0,231 kg/l	conversion factor	
triple point		liquid at Ts to m ³ gas (15°C, 1 bar)	
temperature	192,60 K	virial coefficient	
Pressure	1,282 bar	Bn at 0°C	-8,4 * 10 ⁻³ bar ⁻¹
boiling point		B30 at 30°C	-5,8 * 10 ⁻³ bar ⁻¹
temperature	189,35 K; -83,8 °C	gaseous state at 25°C and 1 bar	
liquid density		specific heat capacity cp	1,687 kJ/kg K
evaporation heat	801,89 kJ/kg	thermal conductivity	215 * 10 ⁻⁴ W/m K
		dynam. viscosity	10,46 * 10 ⁻⁶ Ns/m ²

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