

## Marking

<b>CAS-Number</b>	74-86-2
<b>Characterization acc. ADR</b>	UN 1001, Acetylene, dissolved, 2.1 Class 2, 4 F

## Cylinder Marking



shoulder:  
maroon

## Essential properties

Colourless, in pure form odorless, flammable gas, exothermic self-ignition, dissolved in acetone, lighter than air

## Symbols of Risks



highly flammable



gas, dissolved

## Physical Properties

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

For additional safety information see Material-/safety data sheet No. 001 (Acetylen)

## Valves / Manifolds

<b>Valve connection</b>	DIN 477 Nr. 3: Clamp
<b>Recommended Manifolds</b>	Spectrotec



Specifications / Cylinders		
	technical	
<b>Composition</b>		
C <sub>2</sub> H <sub>2</sub>	> 98	Vol. %
<b>Impurities</b>		
<b>Cylinders / Contents</b>		
F 05	0,8	kg
F 10	1,5	kg
F 20	3,5	kg
F 50	8,9	kg
B 12 * F 50	105,0	kg

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**Description**

Impurities in acetylene like PH<sub>3</sub>, H<sub>2</sub>S, AsH<sub>3</sub> and NH<sub>3</sub> 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 acetone.

**detection** test tubes

**Safety data**

Explosion Range	2,3 - 78 Vol.%(above 78% decomposition)
Ignition Temperature	305 °C

**Materials**

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

**Physical Properties**

<b>molecular weight</b>	26,038 kg/kmol	<b>vapour pressure at 20°C</b>	43,36 bar
<b>Critical Point</b>		<b>gas density at 0°C and 1,013 bar</b>	1,1775 kg/m <sup>3</sup>
temperature	308,33 K	<b>density ratio to air</b>	0,9066
Pressure	61,39 bar	<b>gas density at 15°C and 1 bar</b>	1,0996 kg/m <sup>3</sup>
density	0,231 kg/l	<b>Conversion Factor</b>	
<b>Triple Point</b>		liquid at Ts to m <sup>3</sup> gas (15°C, 1 bar)	
temperature	192,60 K	<b>Virial Coefficient</b>	
Pressure	1,282 bar	Bn at 0°C	-8,4 * 10 <sup>-3</sup> bar <sup>-1</sup>
<b>Boiling Point</b>		B30 at 30°C	-5,8 * 10 <sup>-3</sup> bar <sup>-1</sup>
temperature	189,35 K; -83,8 °C	<b>Gaseous State at 25°C and 1 bar</b>	
liquid density		specific heat capacity cp	1,687 kJ/kg K
evaporation heat	801,89 kJ/kg	thermal conductivity	215 * 10 <sup>-4</sup> W/m K
		dynam. viscosity	10,46 * 10 <sup>-6</sup> Ns/m <sup>2</sup>