رقيط للغازات الصناعية
Rakeeth Industrial Gases

Acetylene (C2H2, Ethyne)

CAS: 74-86-2 EC: 200-816-9 UN: 1001

Acetylene Instrument Grade	
Purity (%)	99,0
Impurities	PH_3 0,1%
Typical Filling Pressure	15ºC:15 bar(a)

Characteristics

- Flammable
- Colourless gas with ether-like odour when very pure, otherwise garlic-like
- Supplied dissolved in acetone or DMF (N,N-dimethylmethanamide)
- Can decompose instantaneously at pressures higher than 1 bar
- Acetylene can be delivered as a non-dissolved gas for specific R&D applications.

Health Risks

- Asphyxiant, anaesthetic.

Transport

ADR Class 2, 4F 

DOT Class 2,1 

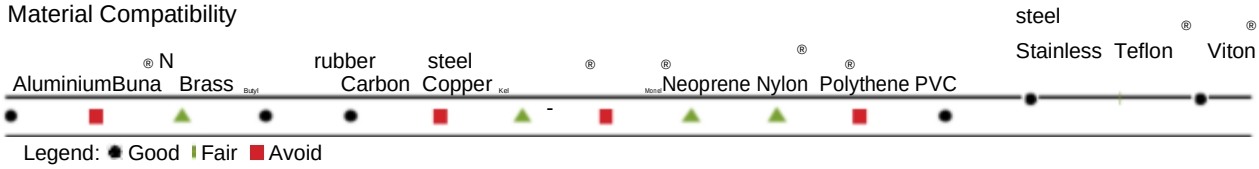
Product Description	Size (kg)	Grade	Material Number	Valve Connection
Acetylene IG N2.0	8,0	Instrument Grade	508103-DC-C	5/8” BSP LH Int

Physical Data	
Molecular Weight	26,038
Boiling Point at 1,013 bar [°C]	-84,15
Density at 1,013 bar, 20°C [kg/m_3]	1,090
Vapour Pressure at 0°C [bar]	26,4
Vapour Pressure at 20°C [bar]	43,41
Flammability Range in Air [% volume]	2,2 - 85,0
Specific Volume at 1,013 bar, 20°C [m_3/kg]	0,917

Recommended Regulator

W019220 or W019120

Material Compatibility



Source

- Acetylene is manufactured commercially by reaction between calcium carbide and water, and as a by-product of ethylene production.

Applications

- Acetylene is used as a raw material for the production of electrically conducting plastics, such as polyacetylene.
- Acetylene is used with high purity synthetic air or nitrous oxide as a fuel for the flame in atomic absorption flame spectroscopy. This is used in water, soil, food and biological research laboratories where sensitivity and accuracy of results are important.
- Acetylene is most commonly used in combination with oxygen for cutting or welding materials such as mild steel, where the standard industrial grade is sufficient.
- Acetylene with low phosphine levels is required for lead brazing or welding.
- Acetylene is used in organic synthesis (laboratory work) as well as in chemical synthesis.
- Acetylene is used as carbon source in the production of molecular manufacturing like fullerenes; well known examples are bucky balls or carbon nanotubes.
- Acetylene is used in the cultivation of plants; it improves the forming of new flowers.
- Acetylene is used as a component in calibration gases for the gas, oil as well as chemical industry.
- This unsaturated hydrocarbon exhibits high chemical reactivity, and is an important intermediate in the chemical industry. It is employed for the production of:
  - Acetaldehyde
  - Acrylic acids
  - Acrylic ethers
  - Acrylonitride
  - Carbazole
  - Butenyne (vinyl acetylene)
  - Chloroethene (vinyl chloride)
  - Diols
  - Ethene
  - Ethenoxyethenes (vinyl ethers)
  - Ethenyl acetate (vinyl acetate)
  - Ethenyl amides (vinyl amides)
  - Ethenyl sulphides (vinyl sulphides)
  - Neoprene
  - Phenylethene (styrene)
  - Polyoxymethylene
  - Pyrrolidine
  - Trichloroethene
  - Very fine carbon black, called ‘acetylene black’.