

ACETYLENE

C₂H₂

(IUPAC name: ethyne) is the chemical compound with the formula HC₂H. It is a hydrocarbon and the simplest alkyne. This colourless gas is widely used as a fuel and a chemical building block. It is unstable in pure form and thus is usually handled as a solution. As an alkyne, acetylene is unsaturated because its two carbon atoms are bonded together in a triple bond. The carbon-carbon triple bond places all four atoms in the same straight line, with CCH bond angles of 180°.

CAS Number : [74-86-2]

Batch: 522

1	General information	Appearance/Colour: Colourless gas Odour: Garlic like Poor warning properties at low concentrations. Important information on environment, health and safety Molecular weight: 26 g/mol Melting point: -80,8 °C Boiling point: -84 °C Critical temperature: 35,2 °C Autoignition temperature: 325 °C Flammability range: 2,4 %(V) - 88 %(V) Relative density, gas: 0,9 Relative density, liquid: Not applicable Solubility mg/l water: 1185 mg/l Maximum filling pressure (bar): 19 bar
2	Hazards identification	Classification Heating may cause an explosion. Explosive with or without contact with air. Extremely flammable. Risk advice to man and the environment Dissolved gas
3	Transport information	ADR/RID Class 2 classification code 4F UN 1001 Labels 2.1 hazard number 239 Packing instruction P200

Use: Approximately 20 percent of acetylene is consumed for oxyacetylene gas welding and cutting due to the high temperature of the flame; combustion of acetylene with oxygen produces a flame of over 3600 K (3300 °C, 6000 °F), releasing 11.8 kJ/g. Oxyacetylene is the hottest burning common fuel gas. Acetylene is the third hottest natural chemical flame after cyanogen at 4798 K (4525 °C, 8180 °F) and dicyanoacetylene's 5260 K (4990 °C, 9010 °F). Oxy-acetylene welding was a very popular welding process in previous decades, however, the development and advantages of arc-based welding processes have made oxy-fuel welding nearly extinct. Acetylene usage for welding has dropped significantly. However, oxy-fuel cutting is still very popular and oxy-acetylene cutting is present in nearly every metal fabrication shop. For use in welding and cutting, the working pressures must be controlled by a regulator, or the gas will spontaneously combust.

Package: steel cylinders