

ACETYLENE**0089**
May 2003CAS No: 74-86-2
RTECS No: AO9600000
UN No: 1001
EC No: 601-015-00-0Ethyne
Ethyne
(cylinder)
C₂H₂
Molecular mass: 26.0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Extremely flammable.	NO open flames, NO sparks, and NO smoking.	Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out; in other cases extinguish with powder, carbon dioxide.
EXPLOSION	Gas/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Use non-sparking handtools. Use flame arrester to prevent flash-back from burner to cylinder.	In case of fire: keep cylinder cool by spraying with water.

EXPOSURE			
Inhalation	Dizziness. Dullness. Headache. Suffocation.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin			
Eyes			First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion		Do not eat, drink, or smoke during work.	

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation. Remove all ignition sources. (Extra personal protection: self-contained breathing apparatus).	F+ Symbol R: 5-6-12 S: (2-)9-16-33 UN Hazard Class: 2.1 Special insulated cylinder.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-20S1001 NFPA Code: H 1; F 4; R 3	Fireproof. Separated from - see Chemical Dangers. Cool.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS GAS DISSOLVED IN ACETONE UNDER PRESSURE.

Physical dangers

The gas mixes well with air, explosive mixtures are formed easily.

Chemical dangers

The substance may polymerize due to heating. The substance decomposes on heating and increasing pressure, causing fire and explosion hazard. The substance is a strong reducing agent and reacts violently with oxidants and with fluorine or chlorine under influence of light, causing fire and explosion hazard. Reacts with copper, silver, and mercury or their salts, forming shock-sensitive compounds (acetylides).

Occupational exposure limits

TLV: Simple asphyxiant, (ACGIH 2003).
MAK not established.

Routes of exposure

The substance can be absorbed into the body by inhalation.

Inhalation risk

On loss of containment this gas can cause suffocation by lowering the oxygen content of the air in confined areas.

Effects of short-term exposure

Suffocation.

PHYSICAL PROPERTIES

Boiling point: -85°C

Melting point: -81°C

Solubility in water, g/100 ml at 20°C: 0.12

Vapour pressure, kPa at 20°C: 4460

Relative vapour density (air = 1): 0.907

Flash point: Flammable Gas

Auto-ignition temperature: 305°C

Explosive limits, vol% in air: 2.5-100

Octanol/water partition coefficient as log Pow: 0.37

ENVIRONMENTAL DATA

NOTES

Piping material for this gas must not contain over 63% of copper.

Check oxygen content before entering area.

After use for welding, turn valve off; regularly check tubing, etc., and test for leaks with soap and water.

The technical product may contain impurities which alter the health effects; for further information see ICSC0694 Phosphine.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information