

ETHYLENE

0475

March 1996

CAS No: 74-85-1
 RTECS No: KU5340000
 UN No: 1962
 EC No: 601-010-00-3

Ethene
 (cylinder)
 $C_2H_4 / CH_2=CH_2$
 Molecular mass: 28.0

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 water spray.
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.	In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.
EXPOSURE			
Inhalation	Drowsiness. Unconsciousness.	Ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin			
Eyes			
Ingestion			

SPILLAGE DISPOSAL

Evacuate danger area! Ventilation. Remove all ignition sources and turn off gas at source if possible.
 Personal protection: chemical protection suit including self-contained breathing apparatus.

PACKAGING & LABELLING

F+ Symbol
 R: 12-67
 S: (2-)9-16-33-46
 UN Hazard Class: 2.1

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-20S1962
 NFPA Code: H1; F4; R2

SAFE STORAGE

Fireproof. Separated from strong oxidants.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS COMPRESSED GAS, WITH CHARACTERISTIC ODOUR.

Physical dangers

The gas is lighter than air. As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers

The substance may polymerize to form aromatic compounds under the influence of temperatures above 600/C. Reacts with strong oxidants causing fire and explosion hazard.

Occupational exposure limits

TLV: 200 ppm as TWA; A4 (not classifiable as a human carcinogen); (ACGIH 2005).

MAK: Carcinogen category: 3B; (DFG 2005).

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

Exposure could cause lowering of consciousness.

PHYSICAL PROPERTIES

Boiling point: -104/C
Melting point: -169.2/C
Solubility in water: none
Vapour pressure, kPa at 15/C: 8100

Relative vapour density (air = 1): 0.98
Flash point: Flammable Gas
Auto-ignition temperature: 490/C
Explosive limits, vol% in air: 2.7-36.0

ENVIRONMENTAL DATA

NOTES

High concentrations in the air cause a deficiency of oxygen with the risk of unconsciousness or death. Check oxygen content before entering area. Card has been partly updated in October 2004 and 2005. See sections Occupational Exposure Limits, EU classification, Emergency Response.

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