

BUTANE**0232**

November 2003

CAS No: 106-97-8

RTECS No: EJ4200000

UN No: 1011

EC No: 601-004-00-0

n-Butane

(cylinder)

C₄H₁₀

Molecular mass: 58.1

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) if in liquid state. 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.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	ON CONTACT WITH LIQUID: FROSTBITE.	Cold-insulating gloves. Protective clothing.	ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention.
Eyes	ON CONTACT WITH LIQUID: FROSTBITE.	Face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion			

SPILLAGE DISPOSAL

Evacuate danger area! Consult an expert! Remove all ignition sources. Personal protection: self-contained breathing apparatus. Ventilation. NEVER direct water jet on liquid.

PACKAGING & LABELLING

EU classification
F+ Symbol
R: 12
S: (2-)9-16-33
Note: C
UN classification
UN Hazard Class: 2.1

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-20S1011
NFPA Code: H1; F4; R0

SAFE STORAGE

Fireproof. Cool.

IPCS

International
Programme on
Chemical Safety



Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission ©
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SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance

ODOURLESS, COLOURLESS COMPRESSED LIQUEFIED GAS.

Physical dangers

The gas is heavier than air and may travel along the ground; distant ignition possible, and may accumulate in low ceiling spaces causing deficiency of oxygen. As a result of flow, agitation, etc., electrostatic charges can be generated.

Occupational exposure limits

TLV: (aliphatic hydrocarbon gases, Alkane C1-C4) 1000 ppm (as TWA) (ACGIH 2005).

MAK: 1000 ppm, 2400 mg/m³; Peak limitation category: II(4); Pregnancy risk group: D; (DFG 2006).

Routes of exposure

The substance can be absorbed into the body by inhalation.

Inhalation risk

On loss of containment this liquid evaporates very quickly displacing the air and causing a serious risk of suffocation when in confined areas.

Effects of short-term exposure

Rapid evaporation of the liquid may cause frostbite. The substance may cause effects on the central nervous system.

PHYSICAL PROPERTIES

Boiling point: -0.5/C

Melting point: -138/C

Relative density (water = 1): 0.6

Solubility in water, g/100 ml at 20/C: 0.0061

Vapour pressure, kPa at 21.1/C: 213.7

Relative vapour density (air = 1): 2.1

Flash point: -60/C

Auto-ignition temperature: 365/C

Explosive limits, vol% in air: 1.8-8.4

Octanol/water partition coefficient as log Pow: 2.89

ENVIRONMENTAL DATA

NOTES

Check oxygen content before entering area.

Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

Information except physical properties also apply for Isobutane (CAS 75-28-5).

High concentrations in the air cause a deficiency of oxygen with the risk of unconsciousness or death.

Card has been partly updated in October 2005. See section Physical properties.

Card has been partially updated in July 2007: see Occupational Exposure Limits.

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