

BUTYLENE OXIDE (STABILIZED)**0636**

April 1997

CAS No: 106-88-7
 RTECS No: EK3675000
 UN No: 3022
 EC No: 603-102-00-9

1,2-Butene oxide
 1,2-Epoxybutane
 Ethyloxirane
 C_4H_8O
 Molecular mass: 72.12

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Foam, alcohol-resistant foam, powder, carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive. Risk of fire and explosion on contact with oxidants, acid(s), metal chlorides.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		AVOID ALL CONTACT!	
Inhalation	Confusion. Cough. Dizziness. Headache. Laboured breathing. Nausea. Sore throat. Unconsciousness.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	Redness.	Protective gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
Eyes	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. (See Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Rest. Refer for medical attention.

SPILLAGE DISPOSAL

Evacuate danger area in case of large spills! Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Personal protection: filter respirator for organic vapours of low boiling compounds.

PACKAGING & LABELLING

F Symbol
 Xn Symbol
 R: 11-20/21/22-36/37/38-40-52/53
 S: (2-)9-16-29-36/37-61
 UN Hazard Class: 3
 UN Pack Group: II
 Airtight.

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-30GF1-I+II-9
 NFPA Code: H2; F3; R2

SAFE STORAGE

Fireproof. Separated from incompatible materials. See Chemical Dangers.
 Cool. Store only if stabilized.

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

COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air and may travel along the ground; distant ignition possible. The vapour mixes well with air, explosive mixtures are easily formed. As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers

The substance may polymerize on contact with acids, bases, tin, aluminium and iron chlorides with fire or explosion hazard. Reacts with strong oxidants causing fire hazard.

Occupational exposure limits

TLV not established.

MAK: skin absorption (H); Carcinogen category: 2; (DFG 2005).

Routes of exposure

The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.

Inhalation risk

No indication can be given about the rate in which a harmful concentration in the air is reached on evaporation of this substance at 20/C.

Effects of short-term exposure

The substance irritates the eyes, the skin and the respiratory tract. Exposure at high levels could cause lowering of consciousness.

Effects of long-term or repeated exposure

The substance may have effects on the nervous system. This substance is possibly carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 63.3/C

Melting point: -130/C

Relative density (water = 1): 0.83

Solubility in water, g/100 ml at 25/C: 9.5

Vapour pressure, kPa at 20/C: 18.8

Relative vapour density (air = 1): 2.2

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.3

Flash point: -22/C

Auto-ignition temperature: 439/C

Explosive limits, vol% in air: 3.9-20.6

Octanol/water partition coefficient as log Pow: 0.416

ENVIRONMENTAL DATA

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.

Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.

Vapours are uninhibited and may polymerize, blocking valves and vents.

Card has been partly updated in October 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