

DIETHYL ETHER

0355

March 2002

CAS No: 60-29-7

RTECS No: KI5775000

UN No: 1155

EC No: 603-022-00-4

Ethyl ether

Ethyl oxide

Ether

 $C_4H_{10}O$ / $(C_2H_5)_2O$

Molecular mass: 74.1

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Extremely flammable.	NO open flames, NO sparks, and NO smoking. NO contact with hot surfaces.	Alcohol-resistant foam. Powder. Carbon dioxide.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Do NOT use compressed air for filling, discharging, or handling. Use non-sparking handtools.	In case of fire: keep drums, etc., cool by spraying with water.

EXPOSURE			
Inhalation	Cough. Sore throat. Drowsiness. Vomiting. Headache. Laboured breathing. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	Dry skin.	Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
Eyes	Redness. Pain.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Dizziness. Drowsiness. Vomiting.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Remove all ignition sources. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. (Extra personal protection: filter respirator for organic gases and vapours.)	F+ Symbol Xn Symbol R: 12-19-22-66-67 S: (2-)9-16-29-33 UN Hazard Class: 3 UN Pack Group: I Airtight.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-30S1155 NFPA Code: H 1; F 4; R 1	Fireproof. Separated from strong oxidants. See Chemical Dangers. Cool. Keep in the dark. Store only if stabilized.

IMPORTANT DATA

Physical State; Appearance

VERY VOLATILE, COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.

Physical dangers

The vapour is heavier than air and may travel along the ground; distant ignition possible. As a result of flow, agitation, etc., electrostatic charges can be generated.

Chemical dangers

The substance can form explosive peroxides under the influence of light and air. Reacts violently with halogens, interhalogens, sulfur compounds and oxidants causing fire and explosion hazard. Attacks plastic and rubber.

Occupational exposure limits

TLV: 400 ppm as TWA; 500 ppm as STEL (ACGIH 2001).
EU OEL: 100 ppm (TWA); 200 ppm (STEL).

Routes of exposure

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

Inhalation risk

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

Effects of short-term exposure

The substance is irritating to the eyes and the respiratory tract. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system, resulting in narcosis.

Effects of long-term or repeated exposure

The liquid defats the skin. The substance may have effects on the central nervous system. Caution, may cause addiction.

PHYSICAL PROPERTIES

Boiling point: 35°C
Melting point: -116°C
Relative density (water = 1): 0.7
Solubility in water, g/100 ml at 20°C: 6.9
Vapour pressure, kPa at 20°C: 58.6
Relative vapour density (air = 1): 2.6

Relative density of the vapour/air-mixture at 20°C (air = 1): 1.9
Flash point: -45°C c.c.
Auto-ignition temperature: 160-180°C
Explosive limits, vol% in air: 1.7-48
Octanol/water partition coefficient as log Pow: 0.89

ENVIRONMENTAL DATA

NOTES

Use of alcoholic beverages enhances the harmful effect.
Check for peroxides prior to distillation; eliminate if found.

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