

**ETHANOL (ANHYDROUS)****0044**

October 2000

CAS No: 64-17-5  
RTECS No: KQ6300000  
UN No: 1170  
EC No: 603-002-00-5

Ethyl alcohol  
 $\text{CH}_3\text{CH}_2\text{OH} / \text{C}_2\text{H}_6\text{O}$   
Molecular mass: 46.1

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
<b>FIRE</b>	Highly flammable.	NO open flames, NO sparks, and NO smoking. NO contact with strong oxidants.	Powder, alcohol-resistant foam, water in large amounts, carbon dioxide.
<b>EXPLOSION</b>	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.	In case of fire: keep drums, etc., cool by spraying with water.

EXPOSURE			
<b>Inhalation</b>	Cough. Headache. Fatigue. Drowsiness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest.
<b>Skin</b>	Dry skin.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
<b>Eyes</b>	Redness. Pain. Burning.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Burning sensation. Headache. Confusion. Dizziness. Unconsciousness.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Ventilation. Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.	F Symbol R: 11 S: (2-)7-16 UN Hazard Class: 3 UN Pack Group: II

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-30S1170 NFPA Code: H 0; F 3; R 0	Fireproof. Separated from strong oxidants.

### IMPORTANT DATA

**Physical State; Appearance**

COLOURLESS LIQUID, WITH CHARACTERISTIC ODOUR.

**Physical dangers**

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

**Chemical dangers**

Reacts slowly with calcium hypochlorite, silver oxide and ammonia, causing fire and explosion hazard. Reacts violently with strong oxidants such as nitric acid, silver nitrate, mercuric nitrate or magnesium perchlorate, causing fire and explosion hazard.

**Occupational exposure limits**

TLV: 1000 ppm as TWA; A4 (not classifiable as a human carcinogen); (ACGIH 2004).  
MAK: 500 ppm, 960 mg/m<sup>3</sup>; Peak limitation category: II(2); Carcinogen category: 5; Pregnancy risk group: C; Germ cell mutagen group: 5; (DFG 2004).

**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 will be reached rather slowly on evaporation of this substance at 20/C.

**Effects of short-term exposure**

The substance irritates the eyes. Inhalation of high concentration of vapour may cause irritation of the eyes and respiratory tract. The substance may cause effects on the central nervous system.

**Effects of long-term or repeated exposure**

The liquid defats the skin. The substance may have effects on the upper respiratory tract and central nervous system, resulting in irritation, headache, fatigue and lack of concentration. See Notes.

### PHYSICAL PROPERTIES

Boiling point: 79/C  
Melting point: -117/C  
Relative density (water = 1): 0.8  
Solubility in water: miscible  
Vapour pressure, kPa at 20/C: 5.8  
Relative vapour density (air = 1): 1.6

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.03  
Flash point: 13/C c.c.  
Auto-ignition temperature: 363/C  
Explosive limits, vol% in air: 3.3-19  
Octanol/water partition coefficient as log Pow: -0.32

### ENVIRONMENTAL DATA

### NOTES

Ethanol consumption during pregnancy may adversely affect the unborn child.  
Chronic ingestion of ethanol may cause liver cirrhosis.  
The flash point of 50% water solution is 24/C.  
Card has been partly updated in April 2005. See section 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