

**METHYLAL****1152**  
April 1994CAS No: 109-87-5  
RTECS No: PA8750000  
UN No: 1234Dimethoxymethane  
Formal  
Formaldehyde dimethylacetal  
 $C_3H_8O_2 / CH_2-(OCH_3)_2$   
Molecular mass: 76.1

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.	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. Dizziness. Drowsiness. Headache. Sore throat. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
<b>Skin</b>	MAY BE ABSORBED! Dry skin. Redness. Pain. (Further see Inhalation).	Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
<b>Eyes</b>	Redness. Pain.	Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
<b>Ingestion</b>	Abdominal pain. Nausea. Vomiting. (Further see Inhalation).	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. Personal protection: self-contained breathing apparatus.	UN Hazard Class: 3 UN Pack Group: II Airtight.

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-30S1234 or 30GF1-I+II NFPA Code: H 2; F 3; R 2	Fireproof. Separated from strong oxidants. Cool. Keep in the dark. Well closed. 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.

**Chemical dangers**

The substance can presumably form explosive peroxides. May explode on heating. Reacts vigorously with strong oxidants causing fire and explosion hazard.

**Occupational exposure limits**

TLV: 1000 ppm as TWA; (ACGIH 2004).  
MAK: 1000 ppm, 3200 mg/m<sup>3</sup>; Peak limitation category: II(2);  
Pregnancy risk group: D; (DFG 2004).

**Routes of exposure**

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

**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, the skin and the respiratory tract. The substance may cause effects on the central nervous system. Exposure far above the OEL may result in unconsciousness.

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

The liquid defats the skin.

### PHYSICAL PROPERTIES

Boiling point: 42/C  
Melting point: -105/C  
Relative density (water = 1): 0.86  
Solubility in water, g/100 ml at 20/C: 33  
Vapour pressure, kPa at 20/C: 44  
Relative vapour density (air = 1): 2.6

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.7  
Flash point: -18/C o.c.  
Auto-ignition temperature: 237/C  
Explosive limits, vol% in air: 1.6-17.6  
Octanol/water partition coefficient as log Pow: 0

### ENVIRONMENTAL DATA

### NOTES

An added stabilizer or inhibitor can influence the toxicological properties of this substance, consult an expert.  
Check for peroxides prior to distillation; eliminate if found.  
Methylal is metabolized to methanol and formaldehyde and may exhibit the same toxic reactions as these compounds.  
See also ICSC0057 Methanol and 0275 Formaldehyde.  
Card has been partly updated in April 2005. See sections Occupational Exposure Limits, 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