



# TULSTAR PRODUCTS, INC.

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## MATERIAL SAFETY DATA SHEET

### GENERAL INFORMATION

Company's Information: **TULSTAR PRODUCTS, INC.**  
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Tulsa, OK 74105  
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Emergency Phone Number: CHEMTREC 800-424-9300 (24 hours)

### PRODUCT INFORMATION

Product Name: Methylal Technical Grade  
Chemical Name: Methylal  
Formula:  $\text{CH}_2(\text{OCH}_3)_2$   
Molecular Weight: 76  
Synonym: Dimethoxymethane  
CAS Number: 109-87-5  
UN Number: UN 1234

### HAZARDOUS/NON-HAZARDOUS INGREDIENTS

<u>Common Name</u>	<u>Haz/Non Haz</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>CAS #</u>	<u>% (optional)</u>
Methylal	H	1000 ppm	1000 ppm	109-87-5	93 % min
Methanol	H	200 ppm	200 ppm	67-56-1	6.5 % max
Formaldehyde	H	1 ppm	0.3 ppm	60-00-0	<0.02 %
Water	N	no value Established	no value established	7732-18-5	<0.25 %

## **PHYSICAL/CHEMICAL CHARACTERISTICS**

Boiling Point:	108.14°F (42.3°C)
Vapor Pressure (mm Hg):	330 (68°F, 20°C)
Vapor Density (AIR = 1):	2.63
Solubility in Water:	32.3% (w/w) (60.8°F, 16°C)
Appearance:	Colorless liquid
Odor:	Mild ethereal
Specific Gravity:	0.86 (H <sub>2</sub> O = 1)
Melting Point:	-156.64°F (-104.8°C)
Evaporation Rate:	9.09 time : 0.11 (Butyl Acetate = 1)

## **FIRE & EXPLOSION HAZARD DATA**

Flash Point:	-0.4°F (-18°C)
Flammable Limits:	
LEL ->	1.6
UEL ->	17.6
Extinguishing Media:	Carbon dioxide, dry chemical, alcohol foam, water spray (water may be ineffective)
Special Fire Fighting Procedures:	Fire fighters should adopt respiratory protection.
Unusual Fire & Explosion Hazards:	Methylal is very flammable; vapors may flash back from a source of ignition; containers may explode in fire.
Special Hazard Designation:	
NFPA Code:	Key:
Health: 2	0 = minimal           3 = serious
Flammability: 3	1 = slight           4 = severe
Reactivity: 2	2 = moderate

## **REACTIVITY DATA**

Conditions to Avoid:	Strong acids, strong oxidizing agents
Incompatibility:	Strong acids, strong oxidizing agents (materials to avoid)
Hazardous Decomposition or Byproducts:	Formaldehyde and methanol

## **HEALTH HAZARD DATA**

Acute:	
Inhalation ->	Practically non-toxic to animals. Can cause irritation and at high concentration, reversible anesthesia.
Skin ->	Practically non-toxic to animals. Prolonged exposure can cause drying.
Ingestion ->	Practically non-toxic to animals.
Chronic:	
Mutagenicity ->	In vitro, mutagenic in bacterial cells; not mutagenic in mammalian cells. In vivo not mutagenic.
Reproductive Hazards ->	No information
Carcinogenicity:	No link between inhalation of methylal and carcinogenicity proved in an in vitro system.

## Signs & Symptoms

of Exposure: Headache, sleepiness, nausea

## Medical Conditions Aggravated

by Exposure: Chronic disease of the respiratory system and/or skin

## Emergency & First Aid Procedures:

Ingestion -> Induce vomiting

Inhalation -> Remove from contaminated area, give artificial respiration, then oxygen if needed.

Skin Contact -> Remove contaminated clothing and wash with water.

Eye Contact -> Flush with water for at least 15 minutes.

## **PRECAUTIONS FOR SAFETY HANDLING & USE**

Eliminate ignition source. Avoid eye or skin contact. Use respirator. Place leaking containers in well-ventilated area. Be prepared for fire. Contain spill to facilitate clean up.

Dispose of in accordance with federal, state and local regulations. Incineration or biological treatment.

Closed containers may develop excessive vapor pressures. Open containers slowly. Store in a cool, well-ventilated area. Keep away from heat, sparks and flames when transferring. Follow proper grounding procedures. Avoid breathing vapors.

## **CONTROL MEASURES**

Ventilation: Local exhaust, mechanical (general)

Protective Gloves: Use

Eye Protection: Chemical safety goggles

Other: Chemical protective clothing and boots if spills or splashing can occur.

Work/Hygienic

Practices: Avoid breathing vapors, contact with eyes, skin and clothing.