

**MATERIAL SAFETY  
DATA SHEET**

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NAME USED ON LABEL: METHYLDIMETHOXYSILANE  
CHEMICAL NAME: METHYLDIMETHOXYSILANE  
SYNONYMS: DIMETHOXYMETHYLSILANE,  
CHEMICAL FAMILY: ORGANOSILANE ESTER  
FORMULA: C<sub>3</sub>H<sub>10</sub>O<sub>2</sub>Si  
HMIS CODES HEALTH: 4 FLAMMABILITY: 4 REACTIVITY: 1

**INGREDIENTS**

IDENTITY	CAS NO.	%	TLV OSHA PEL
METHYLDIMETHOXYSILANE (Gelest recommendation- TWA: 10ppm)	16881-77-9	>95	not established

**PHYSICAL DATA**

Boiling Point: 61°C	Melting Point: -136°C
Specific Gravity: 0.86	Vapor Pressure , 20°C: <150mm
Vapor Density (air = 1): > 1	Solubility in water: insoluble, reacts
% volatiles: 100	Evaporation rate (Butyl Acetate = 1): <1
Molecular Weight: 106.20	Other: N/A
Appearance & Color: Clear liquid, characteristic odor	

**FIRE & EXPLOSION DATA**

Flash Point, TCC: -17°C (1°F) Autoignition Temp.: not determined  
Flammability Limits: not determined  
Extinguishing Media: Water spray or fog, foam, carbon dioxide, dry chemical.  
Special Fire Fighting Procedures: Vapors extremely dangerous to eyes. Avoid eye and skin contact. Do not breathe fumes or inhale vapors.  
Unusual Fire and Explosion Hazards: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

**ENVIRONMENTAL INFORMATION**

Spill response: With adequate eye protection, absorb material and transfer to a suitable container for hydrolysis and disposal.  
Recommended Disposal: In a well ventilated area with adequate personal protection, hydrolyze material by mixing with cold water. Resulting waste is a solid containing methanol. Follow all chemical pollution control regulations for land fill.

**HEALTH HAZARD DATA**

Eye Contact: Causes immediate or delayed severe eye irritation and possible blindness. Even mild exposures can cause conjunctivitis and corneal scarring.

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Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose, LC: Lethal Concentration; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; HMIS: Hazardous Material information System; CAS No.: Chemical Abstract Service Registration Number  
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Skin contact: May produce irritation or contact dermatitis. Material generates methanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation may irritate the respiratory tract. Under experimental conditions, the kidney was found to be the target organ for similar methoxysilanes. Overexposure can cause lung damage - pulmonary toxin.

Note: The hydrolysis product of methyltrimethoxysilane is methanol.

Oral Toxicity: not determined

Inhalation Toxicity: not determined

### **SUGGESTED FIRST AID**

**EYES:** In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

**SKIN:** Flush with water, then wash with soap and water.

**INHALATION:** Move exposed individual to fresh air. Administer oxygen if needed. Call a physician.

**INGESTION:** Never give fluids or induce vomiting if patient is unconscious or having convulsions. To conscious individual give one full cup of water to dilute ingested material. Get medical attention.

*NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form methanol. The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of ethanol (10 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.*

### **REACTIVITY DATA**

Stability: Stable

Conditions to avoid: Material decomposes slowly in contact with moist air or with water liberating methanol. Avoid contact with oxidizing agents. Strong bases including amines can cause disproportionation of this material to pyrophoric products. Platinum, platinum and iron salts and other Lewis acids can cause generation of flammable hydrogen gas in the presence of moisture.

Hazardous decomposition products: Methanol, hydrogen, organic acid vapors and silicon dioxide.

### **SPECIAL PROTECTION INFORMATION**

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV, NIOSH approved organic vapor respirator.

Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.

Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

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## **OTHER PRECAUTIONS**

For research and industrial use only.

Storage and Handling: Short term storage in sealed containers. (May build pressure during extended storage. Vent slowly.)

For long-term storage self-venting containers are required.

## **TRANSPORTATION**

DOT SHIPPING NAME: FLAMMABLE LIQUID, N.O.S.

(METHYLDIMETHOXSILANE)

DOT HAZARD CLASS: 3

DOT LABEL: FLAMMABLE LIQUID

DOT ID No: UN1993 PG II

(Air transport of self-venting containers is prohibited.)

The information contained in this document has been gathered from reference materials and/or Sibond test data and is to the best knowledge and belief of Sibond accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Sibond makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore.