



MATERIAL SAFETY DATA SHEET

MSDS NUMBER 76

Revision Date: 06/30/2000

24 HOUR EMERGENCY ASSISTANCE:

800-633-8253

GENERAL MSDS ASSISTANCE:

Dion & Sons, Inc.

562-432-3946

F & L METHANOL

A. Product Identification

Synonyms: Carbinol; Methyl Alcohol; Wood Alcohol; Methylol
Chemical Name: Methanol
Chemical Family: Alcohol
Chemical Formula: CH₃OH
CAS Reg. No.: 67-56-1

Product and/or Components Entered on EPA's TSCA Inventory: YES

This product is in U.S. commerce, and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals; hence, it may be subject to applicable TSCA provisions and restrictions.

B. Components

Ingredients	CAS Number	% By Wt.	OSHA PEL	ACGIH TLV
Methanol	67-56-1	>99	200 ppm(S)	200 ppm(S) (skin)

(S) Skin notation

C. Personal Protection Information

Ventilation: Use adequate ventilation to control exposure below recommended levels.

Respiratory Protection: For concentrations exceeding the recommended exposure level, use NIOSH/MSHA approved air purifying respirator. In case of spill or leak resulting in unknown concentration, use NIOSH/MSHA approved supplied air respirator. If conditions immediately dangerous to life or health (IDLH) exist, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA) equipment.

Eye Protection: For splash protection use chemical goggles and face shield.

Skin Protection: Use protective garments to prevent skin contact.

NOTE: Personal protection information shown in Section C is based upon general information as to normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the expert assistance of an industrial hygienist or other qualified professional be sought.

D. Handling and Storage Precautions

Do not get in eyes, on skin or on clothing. Do not breathe vapors, mist, fume or dust. Do not swallow. May be fatal. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Wash thoroughly after handling. Launder contaminated clothing before reuse. Use only with adequate ventilation. Store in a well-ventilated area. Keep away from heat, sparks, and flames. Store in tightly closed container. Bond and ground during transfer.

E. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Not Applicable
Incompatibility (Materials to Avoid):	Anhydrides, sodium, organometallic compounds, oxygen and strong oxidizing agents.
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid:	Not Applicable
Hazardous Decomposition Products:	Carbon oxides formed when burned.

F. Health Hazard Data

Recommended Exposure Limits:

See Section B.

Acute Effects of Overexposure:

Eye:	May cause mild to moderate irritation. Blindness associated with methanol exposure is the result of systemic toxicity following skin contact, ingestion, or inhalation of high vapor concentrations.
Skin:	May cause slight to moderate irritation. Prolonged and repeated skin contact with vapor or liquid has a defatting effect on the skin and may cause dermatitis, drying, cracking, redness, and scaling. Absorption of methanol can occur following dermal contact, and prolonged or massive skin contact can lead to toxic systemic effects.
Inhalation:	May cause central nervous system depression with nausea, headache, dizziness, tiredness, delirium. Overexposure may cause metabolic acidosis which cause tissue injury. High vapor concentrations may irritate the lungs resulting in pneumonitis.
Ingestion:	May cause weakness, fatigue, dizziness, headaches, nausea, gastrointestinal disturbances, and some degree of inebriation. Methanol poisoning may cause degenerative damage to the kidneys, liver, heart, and other organs due to metabolic acidosis. Death may occur from cardiac or respiratory failure and possibly renal failure. If swallowed, may be aspirated resulting in inflammation and possible fluid accumulation in the lungs.

Subchronic and Chronic Effects of Overexposure:

Methanol cannot be made nontoxic. The toxicity of methanol depends on the amount that accumulates in the blood. Continuous and repeated high exposures to methanol are expected to exhibit the same effects as noted for acute poisoning with visual impairment being the first sign of poisoning.

Other Health Effects:

Methanol has been reported to damage DNA of rats and induce cytogenetic changes in mice following oral and intraperitoneal dosing. Exposure of pregnant rats to methanol by inhalation (20,000 ppm) throughout gestation produced maternal toxicity and malformations in their offspring at maternally toxic exposure levels. Administration of methanol orally (2.5 g/kg) to pregnant rats for three days during the later stage of gestation is reported to induce

behavioral changes in their progeny, without structural malformation.

Health Hazard Categories:

	Animal	Human		Animal	Human
Known Carcinogen	___	___	Toxic	___	___
Suspect Carcinogen	___	___	Corrosive	___	___
Mutagen	___	___	Irritant	___	___
Teratogen	___	___	Target Organ Toxin	<u>X</u>	<u>X</u>
Allergic Sensitizer	___	___	Specify - Eye Hazard-Blindness, Lung		
Highly Toxic	___	<u>X</u>	Irritant, Liver Toxin, Nerve Toxin,		
			Heart Toxin, Blood Toxin, Lung-Aspiration Hazard		

First Aid and Emergency Procedures:

Eye: Flush eyes with running water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Skin: Wash skin with soap and water for at least fifteen minutes. If irritation or adverse symptoms develop, seek medical attention.

Inhalation: Immediately remove from exposure. If breathing is difficult, give oxygen. If breathing ceases, administer artificial respiration followed by oxygen. Seek immediate medical attention.

Ingestion: POISON! Call a physician. Seek immediate medical attention before inducing vomiting.

Note to Physician: Ethanol may be used as antidote for methanol poisoning. The blood ethanol level should be in the range of 1 to 1.5 mg/L.

Note to Emergency Responder: Induce vomiting under medical supervision due to possibility of aspiration into lungs.

G. Physical Data

Appearance:	Clear, Colorless Liquid
Odor:	Slight Alcohol Odor
Boiling Point:	148F (65C)
Vapor Pressure:	96 mm Hg at 68F (20C)
Vapor Density (Air = 1):	1.11
Solubility in Water:	Negligible; Completely Miscible
Specific Gravity (H₂O = 1):	0.7910
Percent Volatile by Volume:	100
Evaporation Rate (Ethyl Ether = 1):	

H. Fire and Explosion Data

Flash Point (Method Used):	52F (11C) (ASTM D56, TCC)
Flammable Limits (% by Volume in Air):	LEL - 6.0 UEL - 36.5
Fire Extinguishing Media:	Dry chemical, alcohol, foam, carbon dioxide (CO ₂), water spray or any Class B extinguishing agent
Special Fire Fighting Procedures:	Evacuate area of all unnecessary personnel. Shut off source, if possible. Use NIOSH/MSHA approved self-contained breathing apparatus and other protective equipment and/or garments described in Section C if conditions warrant. Water fog or spray may be used to cool exposed containers and equipment.
Fire and Explosion Hazards:	Carbon oxides formed when burned. Highly flammable vapors which are heavier than air may accumulate in low areas and/or spread along

ground away from handling site. Closed containers exposed to heat may rupture.

I. Spill, Leak and Disposal Procedures

Precautions Required if Material is Released or Spilled:

Evacuate area of all unnecessary personnel. Wear protective equipment and/or garments described in Section C if exposure conditions warrant. Shut off source, if possible and contain spill. Protect from ignition. Keep out of water sources and sewers. Absorb in dry, inert material (sand, clay, etc.). Transfer to disposal drums using non-sparking equipment. Use water spray to reduce vapors.

Waste Disposal (Insure Conformity with all Applicable Disposal Regulations):

Incinerate or otherwise manage in RCRA permitted waste management facility.

J. DOT Transportation

Shipping Name: Methanol
Hazard Class: 3 (Flammable liquid)
ID Number: UN 1230
Packing Group: II
Marking: Methanol, UN 1230
Label: Flammable liquid and Poison
Placard: Flammable/1230
Hazardous Substance/RQ: Methanol/5000#
Shipping Description: Methanol, 3 (Flammable liquid), UN 1230, PG II, RQ*
Packaging References: 49 CFR 173.202; 173.243

* Enter the letters "RQ" as shown only if the hazardous substance is present in a quantity, in one package, which equals or exceeds the reportable quantity (RQ) shown for the substance.

K. RCRA Classification - Unadulterated Product as a Waste

Ignitable (D001)

Prior to disposal, consult your environmental contact to determine if TCLP (Toxicity Characteristic Leaching Procedure, EPA Test Method 1311) is required. Reference 40 CFR Part 261.

L. Protection Required for Work on Contaminated Equipment

Contact immediate supervisor for specific instructions before work is initiated. Wear protective equipment and/or garments described in Section C if exposure conditions warrant.

M. Hazard Classification

This product meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Section F)	<input type="checkbox"/> Unstable
<input checked="" type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

N. Additional Comments

This product contains the following chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. (See Section B).

Methanol

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