



## Univar USA Inc Material Safety Data Sheet

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AVIATION LABORATORIES

C/O ASIG-PDX

8133 N.E. AIRTRANSWAY

PORTLAND

OR 97218

MSDS No:

Version No:

Order No:

Univar USA Inc., 17425 NE Union Hill Rd., Redmond WA 98052  
(425) 889 3400

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### Emergency Assistance

For emergency assistance involving chemicals call  
Chemtrec - (800) 424-9300



**Material Safety Data Sheet**  
The Dow Chemical Company

**Product Name:** METHYL CARBITOL(TM) SOLVENT FUEL  
ADDITIVE GRADE

**Issue Date:** 03/30/2009

**Print Date:** 26 Nov 2009

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

**1. Product and Company Identification**

**Product Name**  
METHYL CARBITOL(TM) SOLVENT FUEL ADDITIVE GRADE

**COMPANY IDENTIFICATION**  
The Dow Chemical Company  
2030 Willard H. Dow Center  
Midland, MI 48674  
USA

Customer Information Number: 800-258-2436

**EMERGENCY TELEPHONE NUMBER**  
**24-Hour Emergency Contact:** 989-636-4400  
**Local Emergency Contact:** 989-636-4400

**2. Hazards Identification**

**Emergency Overview**

**Color:** Colorless  
**Physical State:** Liquid.  
**Odor:** Mild  
**Hazards of product:**

No significant immediate hazards for emergency response are known.

**Potential Health Effects**

**Eye Contact:** May cause pain disproportionate to the level of irritation to eye tissues. May cause slight temporary eye irritation.  
**Skin Contact:** Prolonged contact is essentially nonirritating to skin.  
**Skin Absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.  
**Inhalation:** No adverse effects are anticipated from single exposure to vapor.  
**Ingestion:** Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

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**Effects of Repeated Exposure:** In animals, diethylene glycol methyl ether has been reported to produce effects in the liver and kidney and, only after very high oral doses, in the testes and thymus.  
**Birth Defects/Developmental Effects:** In animals, diethylene glycol methyl ether is slightly toxic to the fetus at doses nontoxic to the mother following skin contact; birth defects have been seen only following high oral doses which have little relevance to human exposure.

### 3. Composition information

Component	CAS #	Amount
Diethylene glycol monomethyl ether	111-77-3	> 99.0 %

### 4. First-aid measures

**Eye Contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Skin Contact:** Wash skin with plenty of water.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

**Ingestion:** No emergency medical treatment necessary.

**Notes to Physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**Emergency Personnel Protection:** If potential for exposure exists refer to Section 8 for specific personal protective equipment.

### 5. Fire Fighting Measures

**Extinguishing Media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

### 6. Accidental Release Measures

**Steps to be Taken if Material is Released or Spilled:** Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled

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material if possible. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

**Personal Precautions:** Isolate area. Refer to Section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental Precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

## 7. Handling and Storage

### Handling

**General Handling:** See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

### Storage

Store in the following material(s): Carbon steel. Stainless steel. Phenolic lined steel drums. Do not store in: Aluminum. Copper. Galvanized iron. Galvanized steel. See Section 10 for more specific information.

## 8. Exposure Controls / Personal Protection

### Exposure Limits

Component	List	Type	Value
Diethylene glycol monomethyl ether	Dow IHG	TWA	30 ppm

### Personal Protection

**Eye/Face Protection:** Use safety glasses.

**Skin Protection:** No precautions other than clean body-covering clothing should be needed.

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

**Respiratory Protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

**Ingestion:** Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

### Engineering Controls

**Ventilation:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

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## 9. Physical and Chemical Properties

Physical State	Liquid.
Color	Colorless
Odor	Mild
Odor Threshold	No test data available
Flash Point - Closed Cup	96 °C (205 °F) <i>ASTM D3278</i>
Flammability (solid, gas)	No
Flammable Limits In Air	Lower: 1.38 %(V) <i>Literature</i> Vapor Upper: 22.7 %(V) <i>Literature</i> Vapor
Autoignition Temperature	240 °C (464 °F) <i>Literature</i>
Vapor Pressure	0.19 mmHg @ 20 °C <i>Literature</i>
Boiling Point (760 mmHg)	194 °C (381 °F) <i>Literature</i> .
Vapor Density (air = 1)	4.2 <i>Literature</i>
Specific Gravity (H2O = 1)	1.020 20 °C/20 °C <i>Literature</i>
Liquid Density	1.022 g/cm3 @ 20 °C <i>Literature</i>
Freezing Point	-69 °C (-92 °F) <i>Literature</i>
Melting Point	Not applicable.
Solubility in water (by weight)	100 % @ 20 °C <i>Literature</i>
pH	No test data available
Decomposition Temperature	No test data available
Partition coefficient, n-octanol/water (log Pow)	-1.18 <i>Estimated</i>
Evaporation Rate (Butyl Acetate = 1)	0.02
Dynamic Viscosity	3.5 mPa.s @ 25 °C <i>Literature</i>
Kinematic Viscosity	No test data available

## 10. Stability and Reactivity

### Stability/Instability

Thermally stable at typical use temperatures.

**Conditions to Avoid:** Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible Materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

### Hazardous Polymerization

Will not occur.

### Thermal Decomposition

Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

## 11. Toxicological Information

### Acute Toxicity

#### Ingestion

LD50, Rat > 7,000 mg/kg

#### Skin Absorption

LD50, Rabbit 20,420 mg/kg

### Repeated Dose Toxicity

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In animals, diethylene glycol methyl ether has been reported to produce effects in the liver and kidney and, only after very high oral doses, in the testes and thymus.

**Developmental Toxicity**

In animals, diethylene glycol methyl ether is slightly toxic to the fetus at doses nontoxic to the mother following skin contact; birth defects have been seen only following high oral doses which have little relevance to human exposure.

**Genetic Toxicology**

In vitro genetic toxicity studies were negative.

**12. Ecological Information**

**ENVIRONMENTAL FATE**

**Movement & Partitioning**

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

**Henry's Law Constant (H):** 4.43E-08 atm\*m3/mole; 25 °C Estimated

**Partition coefficient, n-octanol/water (log Pow):** -1.18 Estimated

**Partition coefficient, soil organic carbon/water (Koc):** < 1 Estimated

**Persistence and Degradability**

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

**Indirect Photodegradation with OH Radicals**

Rate Constant	Atmospheric Half-life	Method
2.60E-11 cm3/s	4.9 h	Estimated

**OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method
77.9 %	28 d	OECD 301B Test
100 %	28 d	OECD 302B Test

**Theoretical Oxygen Demand:** 1.73 mg/mg

**ECOTOXICITY**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

**Fish Acute & Prolonged Toxicity**

LC50, fathead minnow (Pimephales promelas): 5,741 mg/l

LC50, bluegill (Lepomis macrochirus): 7,500 mg/l

LC50, rainbow trout (Oncorhynchus mykiss): 1,000 mg/l

LC50, common carp (Cyprinus carpio): > 5,000 mg/l

**Aquatic Invertebrate Acute Toxicity**

LC50, water flea Daphnia magna: 1,192 mg/l

**Aquatic Plant Toxicity**

EC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum), biomass growth inhibition, 96 h: > 1,000 mg/l

EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: > 500 mg/l

**Toxicity to Micro-organisms**

EC50; activated sludge, respiration inhibition, 0.5 h: > 1,995 mg/l

**13. Disposal Considerations**

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF

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PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

#### 14. Transport Information

**DOT Non-Bulk**  
NOT REGULATED

**DOT Bulk**  
NOT REGULATED

**IMDG**  
NOT REGULATED

**ICAO/IATA**  
NOT REGULATED

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

#### 15. Regulatory Information

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

<b>Immediate (Acute) Health Hazard</b>	No
<b>Delayed (Chronic) Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Reactive Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

<u>Component</u>	<u>CAS #</u>	<u>Amount</u>
Diethylene glycol monomethyl ether	111-77-3	> 99.0 %

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:**

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

<u>Component</u>	<u>CAS #</u>	<u>Amount</u>
Diethylene glycol monomethyl ether	111-77-3	> 99.0 %

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

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**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

WARNING: This product contains a chemical(s) known to the State of California to cause birth defects or other reproductive harm.

Component	CAS #	Amount
Ethylene glycol monomethyl ether	109-86-4	500.0PPM
Ethylene glycol monoethyl ether	110-80-5	250.0PPM

**US. Toxic Substances Control Act**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

**CEPA - Domestic Substances List (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

**16. Other Information**

**Product Literature**

Additional information on this product may be obtained by calling your sales or customer service contact. Ask for a product brochure.

**Recommended Uses and Restrictions**

Fuel additive. Industrial solvent. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

**Revision**

Identification Number: 78399 / 1001 / Issue Date 03/30/2009 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

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*obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current,  
please contact us for the most current version.*

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For Additional Information contact MSDS Coordinator during business hours, Pacific time: (425) 889-3400

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