

SAFETY DATA SHEET

1. Product Identification

Universal Oil
265 Jefferson Ave
Cleveland, OH 44113
(216) 771-4300

Product line: Windshield Washer Pre-Mix Products:
CAS: Not applicable (Mixture)
Synonyms: Aqueous Methanol
Recommended use: Windshield Washer Fluid
Restrictions: Do not use near heat/sparks/open flames.
Created: 17 June 2015
Revised: 17 June 2015
Emergency phone: CHEMTREC: (+1) 800-424-9300

2. Hazards Identification

Appearance: Clear, colorless liquid
Odor: Mild alcohol odor
Classification(s): Flammable Liquid, Category 3
Acute Toxicity, Category 1*
Reproductive Toxicity, Category 1B
Target Organ Toxicity, Repeat Cat. 2
Aspiration Hazard, Category 1**
Target organs: Central Nervous System, Eyes
Symbol(s):



Signal Word: DANGER
Hazard Statement(s): Flammable liquid and vapor. Fatal if swallowed. May damage fertility or the unborn child (fetotoxic and teratogenic effects). May cause damage to the eyes and central nervous system. May be fatal if swallowed and enters airways

Other hazard(s): Repeated exposure may cause dryness of the skin

Precaution(s): Keep away from heat/sparks/open flames/hot surfaces – no smoking. Do not breathe mist/vapors/spray. Use in a well ventilated area. Wear protective gloves/protective clothing. Do no ingest. IF SWALLOWED: Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Disposal: Keep out of waterways. Check local, national, and international regulations for proper disposal

**Classified based on human experience and epistemological data, not based on strict application of the GHS criteria*

***Classified based on human experience and very low viscosity, not based on strict application of the GHS criteria*

3. Composition/Information on Ingredients

Hazardous Ingredients:

Component	CAS No.	Conc (wt%)
Methanol	67-56-1	25 - 50

4. First Aid Measures

Eyes Remove contact lenses, if worn. Rinse with running water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

Skin Remove affected clothing and launder before reuse. Wash affected area for at least 15 minutes with soap and running water. Prolonged or repeated exposure may cause defatting of the skin – symptoms include redness, dryness, cracking

Inhalation Remove exposed person to fresh air immediately. Restore or assist breathing, if necessary. Get medical attention immediately – symptoms of exposure may include giddiness, intoxication, CNS depression, or coma

Ingestion Swallowing methanol is potentially lethal. Symptoms of methanol poisoning may be delayed up to 24 hours. Do NOT induce vomiting. If ingested, do not wait for symptoms to develop – Seek medical attention IMMEDIATELY.

Additional Info
Specific Treatments Note to physician: Treat for methanol poisoning Inhibit oxidation of methanol by administering ethanol or fomepizole. Increase formic acid metabolism by administering IV folinic acid. Treat acidosis with IV sodium bicarbonate.

5. Fire Fighting Measures

NFPA (estimated): **Health – 1 Fire – 3 Instability – 0**

Flash Point 35°C / 95°F

Extinguishing Media CO₂, dry chemical, water spray, aqueous film forming foam (alcohol resistant) type with 3% or 6% foam proportioning system.

Unsuitable Media General purpose synthetic foams or protein foams may work, but much less effectively. Water may be effective for cooling, but may not be effective for extinguishing a fire because it may not cool methanol below its flash point

Firefighting Procedures: Methanol burns with a clean, clear flame that is almost invisible in daylight. Stay upwind! Isolate and restrict area access. Concentrations of greater than 25% methanol in water can be ignited. Use fine water spray or fog to control fire spread and cool adjacent structures of containers. Contain fire control water for later disposal. Fire fighters must wear full face, positive pressure, self-contained breathing apparatus or airline and appropriate protective fire fighting clothing as per NFPA. Note that methanol fires may require proximity suits. Take care not to walk through any spilled chemical.

Unusual Hazards Burns with a clean flame that is difficult to see in certain conditions. Vapors may travel long distances along the ground and may be ignited from distant sources. See section 10 for additional information

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:

Flammable liquid – can burn without a visible flame. Do not walk through spilled material. Keep unnecessary personnel away. Wear appropriate personal protective equipment for emergency. Ventilate if released in a confined area. Eliminate sources of ignition if it is safe to do so.

Environmental precautions: Avoid release to the environment. Prevent from entering into soil, ditches, sewers, waterways or groundwater

Methods for removal: Use an explosion-proof pump to remove bulk liquid. Residual liquid can be absorbed on inert material. **Use only non-sparking tools.**

7. Handling and Storage

Max. Handling Temp: Do not store or handle at elevated temperatures. See Section 5 for flammability and Section 10 for chemical stability

Procedures: Use only in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Use appropriate containment to avoid environmental contamination. Vapors are heavier than air and will tend to accumulate in low areas. Avoid use in confined areas without adequate ventilation. Areas of inadequate ventilation could contain concentrations high enough to cause eye irritation, headaches, intoxication, nervous system depression or methanol poisoning. Avoid breathing dust, fume, gas, mist, vapors, or spray. Wash thoroughly after handling. Launder contaminated clothing before reuse. Empty container contains product residue which may exhibit hazards of the product. Do not weld, heat, or pressurize empty containers. Do not re-use containers. Dispose of packaging or containers in accordance with local, regional, national, and international regulations. Store away from strong oxidizers

Max Store Temp: Do not store or handle at elevated temperatures.

8. Exposure Controls/Personal Protection

Exposure Limits

US

Guidelines by component

Methanol (CAS # 67-56-1)

OSHA TWA: 200 ppm or 260mg/m³

OSHA STEL: 250 ppm or 325mg/m³

ACGIH TWA: 200 ppm

ACGIH STEL: 250 ppm

Other Exposure Limits: Not determined

Engineering Controls: Use in a well ventilated area. Local and general ventilation should keep methanol vapor concentration below permissible limits. Where exposure potential exceeds recommended limits, use a NIOSH/OSHA approved supplied air respirator as recommended. Vapors are heavier than air and will tend to accumulate in low-lying areas.

Personal Protective Equipment

Respiratory (based on methanol concentrations):

- <2000 ppm: supplied air respirator
- <5000 ppm: supplied air respirator operated in continuous-flow mode
- <6000 ppm: supplied air respirator with a tight-fitting facepiece operated in a continuous-flow mode; or Full facepiece self-contained breathing apparatus or full facepiece supplied air respirator

Eye: Face shield or chemical splash goggles when splashing may occur. If possible, remove contact lenses before handling

Gloves: Use butyl rubber or nitrile rubber gloves.

Clothing: Use chemical resistant pants and jackets, preferably of butyl or nitrile rubber

Other: Locate the nearest eyewash station and safety shower before handling this product. Limit exposure whenever possible. Consider flammability and always use non-sparking tools.

Hygiene: Wash thoroughly after handling this product.

9. Physical and Chemical Properties

Appearance	Clear, colorless liquid
Odor	Mild alcoholic odor
Odor threshold	Not determined
pH	Not determined
Melting Point	-26°C / -15°F
Initial Boiling Pt	82°C / 180°F
Flash Point	35°C / 95°F
Evaporation Rate	Not determined
Upper Flammable Lm	Not determined
Lower Flammable Lm	Not determined
Explosive Data	Vapors of this product may form explosive mixtures with air
Vapor Pressure	Not determined
Vapor Density	>1 (where air = 1)
Volatile Organics	Not determined
Evaporation Rate	Not determined
Density	0.957 mg/cu. cm @ 15.6°C
Solubility	Miscible in water, alcohol; insoluble in organic solvents
K_{ow}	Not determined
Viscosity	Not determined
Autoignition Point	Not determined
Decomposition Temp	Not determined

10. Stability and Reactivity

Stability	Material is normally stable at ambient temperatures and pressures. Has low vapor pressure – vapors may form explosive mixtures with air!
Decomposition Temp	Not determined
Incompatibility	Oxidizers and strong acids or bases. Contact with these materials may cause violent or explosive reactions. May react with metallic aluminum or magnesium to generate explosive hydrogen gas.
Polymerization	Will not occur
Thermal Decomposition	Primarily oxidizes to carbon dioxide in normal combustion conditions. In lower oxygen environments carbon monoxide, formaldehyde, or formic acid may be formed.
Conditions to Avoid	Flammable liquid and vapor – keep away from strong oxidizers, acids, bases as well as heat/sparks/open flames/hot surfaces

11. Toxicological Information

- Acute Exposure –

Eye Irritation	Expected to cause mild to moderate irritation of the eye if exposed to liquid or in high vapor concentrations. May cause irritation, tearing, or burning of the eyes.
Skin Irritation	Expected to be mildly irritating to the skin. Symptoms of irritation may include redness, drying, and cracking of the skin.
Respiratory Irritation	Methanol may cause irritation of mucous membranes, especially if concentrations exceed 1000 ppm.
Dermal Toxicity	Methanol can be absorbed through the skin and presents a toxicity hazard similar to that of inhalation or ingestion.
Inhalation Toxicity	Inhalation of this product may be harmful or fatal. Symptoms may include headaches, sleepiness, nausea, confusion, loss of consciousness, digestive and visual disturbances and even death. If exposure exceeds recommended levels, or if you feel unwell – seek medical help for methanol poisoning. If left untreated, may cause permanent blindness, nervous system effects, or death.
Oral Toxicity	Toxic or fatal if ingested. Symptoms of methanol poisoning include heachaches, sleepiness, nausea, confusion, intoxication, loss of consciousness, digestive and visual disturbances, coma or death. Seek medical attention immediately for methanol poisoning. If ingested, DO NOT wait for symptoms to develop before getting treatment.

Aspiration Hazard	This product has a very low viscosity and may be fatal if aspirated into the airways. Do NOT induce vomiting, as this increases risk of aspiration.
- Chronic Exposure –	
Chronic Toxicity	This product may cause dryness or defatting of the skin, dermatitis, or may aggravate existing skin conditions.
Carcinogenicity	This product and its components are NOT listed by the IARC, NTP, ACGIH, or OSHA as carcinogens
Mutagenicity	Available information does not suggest that this product is a germ cell mutagen
Reproductive Toxicity	Available information does not suggest that this product is a reproductive toxin.
Teratogenicity	Methanol has produced fetotoxicity in rats and teratogenicity in mice exposed by inhalation to high concentrations of methanol vapors.
- Additional Information –	
Target organ toxicity	Product is toxic to organs: Central nervous system, eyes. Methanol poisoning produces metabolic acidosis (formic acid) that may damage the liver, kidneys, or other organs.
Synergistic effects	In animals, high concentrations of methanol has increased the toxicity of other chemicals, particularly liver toxins such as carbon tetrachloride. Ethanol significantly <i>reduces</i> the toxicity of methanol due to competition with alcohol dehydrogenase, and is sometimes used to treat methanol poisoning
Pharmacokinetics	Methanol is oxidized to carbon dioxide and water in a multi-step process. Metabolic intermediates are responsible for the toxicity of methanol. The half-life of methanol is 1.5-3 hours for low doses (less than 100mg/kg).

12. Ecological Information

- Environmental Toxicity –	
Freshwater Fish	Acute LD50 = 63 g/l (96h)
Freshwater Invertebrates	Acute LD50 = 120g/l (48h); 33g/l (24h)
Algae	Not determined
Saltwater Fish	Not determined
Saltwater Invertebrates	Not determined
Bacteria	See Miscellaneous
Miscellaneous	Study of methanol on sewage sludge bacteria reported a retardation of bacterial digestion at concentrations of 0.5%.

- Environmental Fate –	
Biodegradation	This product easily biodegrades in water and soil. Products of biodegradation are carbon dioxide and water.

Bioaccumulation	Product is very mobile in soil and water and is volatile – it is not expected to bioaccumulate.
Soil Mobility	Product has high mobility in soil, and evaporates easily at environmentally relevant temperatures
Other Effects	Not determined

13. Disposal Considerations

Disposal Considerations

All disposal practices must be in accordance with local, regional, national, and international regulations. Store material for disposal as indicated in Section 7. Disposal by controlled incineration or by secure land fill may be acceptable – review applicable regulations or regulatory bodies before making disposal decisions.

Contaminated Containers or Packaging

Empty containers are likely to contain flammable vapors or explosive mixtures of vapor and air. Do NOT weld, cut, or grind empty containers. Rinse empty containers with water and dispose of in accordance with local, regional, national, and international regulations

14. Transportation Information

Description shown may not apply to all shipping situations. Consult applicable shipping codes to determine any additional shipping requirements

US DOT

UN No	1986
UN Proper Name	Alcohols, flammable, toxic, n.o.s. (methanol solution)
UN Class	3
Packing Group	III
Marine Pollutant	No

IMDG

UN 1986, Alcohols, flammable, toxic, n.o.s. (methanol solution), Class 3(6.1), PG III
Stowage Cat. "A" (on deck or under deck)

ICAO/IATA

UN 1986, Alcohols, flammable, toxic, n.o.s. (methanol solution), Class 3(6.1), PG III
Passenger Aircraft – less than 60L
Cargo Aircraft – less than 220L

15. Regulatory Information

- Global Chemical Inventories/Regulations –

USA	All components of this material are on the US TSCA
Other TSCA Reg.	None known

- EU** Components of this product and similar mixtures are registered under REACH. Consult the European Chemicals Agency regarding REACH registration, reporting, and other legal requirements for methanol solutions before importing to the EU.
- New Zealand** May require notification before sale under New Zealand Regulations
- Canada** All components of this product are listed on the Canadian Domestic Substances List (DSL).
- Canada WHMIS** B2, D1B, D2A, D2B
- Other U.S. Federal Regulations -**
- SARA Ext. Haz. Subst.** No chemicals in this product are listed on the SARA 302 Extremely Hazardous Substances list.
- SARA Sect. 313** This product contains methanol (CAS # 67-56-1), found in SARA 313. See 40 CFR 372
- SARA 311/312 Class** *Acute Hazard* - YES
Chronic Hazard - YES
Fire Hazard - YES
Reactivity Hazard - NO
- CERCLA Haz. Sub.** Methanol (CAS # 67-56-1) is listed. See 40 CFR 302
- State Regulations -**
- CA Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Right to Know Component	Right to Know States
Methanol (CAS # 67-56-1)	NJ, PA, MA

- Other -

Not determined

16. Other Information

Revision updates may be in many sections and the MSDS should be read in its entirety. Prepared according to the UN Globally Harmonized System for the Classification and Labeling of Chemicals (GHS) by Universal Oil, 265 Jefferson Ave. Cleveland, OH. 44113.

Disclaimer: The information presented herein has been compiled from sources considered to be dependable and is accurate to the best knowledge of Universal Oil Inc. Universal Oil Inc., makes no warranty whatsoever expressed or implied of merchantability or fitness for the particular purpose, regarding the accuracy of such data or the results to be obtained from the use thereof. Universal Oil Inc., assumes no legal responsibility for use or reliance upon this data. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.