

**SAFETY DATA SHEET**

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:**

**MANUFACTURER:** Griffin Bros. Inc.  
P.O. Box 7719  
Salem, OR 97303  
**INFORMATION PHONE:** (800) 456-4743

PURE:  LIQUID:   
MIXTURE:  SOLID:

**For Medical and Chemical Emergencies CHEMTREC: 1-800-424-9300**

**PRODUCT NAME:** METHANOL  
**PRODUCT NUMBER:** G-492  
**DATE PREPARED:** 10/23/2014  
**LAST REVISION:** 10/13/2015

**2. HAZARDOUS IDENTIFICATION:**

**GHS CLASSIFICATION:** Flammable liquids (Category 2) Eye irritation (Category 1) Skin irritation (Category 1) Skin sensitization (Category 1) Acute toxicity (Inhalation)(Category 2) Acute toxicity (Oral, dermal)(Category 3) Germ cell mutagenicity (Category 2) Carcinogenicity (Category 1B) Toxic reproduction (Category 2) STOT (Repeated exposure)(Category 2) Acute aquatic toxicity (Category 2)

**GHS Label elements, including precautionary statements:**

**SIGNAL WORD:** **Danger!**

**PICTOGRAM(s)**



**Hazard statement(s)**

- H225: Highly flammable liquid and vapours.
- H301: Toxic if swallowed.
- H304: May be fatal if swallowed.
- H311: Toxic in contact with skin.
- H314: Causes severe skin burns.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H331: Toxic if inhaled.
- H350: May cause cancer.
- H401: Toxic to aquatic life.

**Precautionary statement(s)**

- P201:** Obtain special instructions before use.
- P202:** Do not handle until all safety precautions have been read and understood.
- P210:** Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
- P233:** Keep container tightly closed.
- P241:** Use explosion-proof electrical/ventilating/lighting/.../equipment.
- P242:** Use only non-sparking tools.
- P243:** Take precautionary measures against static discharge.
- P260:** Do not breathe dust/fume/gas/mist/vapours/spray.
- P264:** Wash skin thoroughly after handling.
- P270:** Do not eat, drink or smoke when using this product.
- P271:** Use only outdoors or in a well-ventilated area.
- P272:** Contaminated work clothing should not be allowed out of the workplace.
- P280:** Wear protective gloves/protective clothing/eye protection/face protection.
- P281:** Use personal protective equipment as required.
- P284:** Wear respiratory protection.
- P301+P310:** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P303+P361+P353:** IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
- P305+P351+P338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P307+P311:** IF exposed: call a POISON CENTER or doctor/physician.

**FLAMMABLE LIQUID AND VAPOUR:** Burns with a clean, clear flame, which is almost invisible in daylight, or a light blue flame. Can decompose at high temperatures forming carbon monoxide and formaldehyde. Confined space toxicity hazard. Mild central nervous system depressant following inhalation, skin absorption or ingestion. May cause headache, nausea, dizziness, drowsiness, and un-coordination. Severe vision effects, including increased sensitivity to light, blurred vision, and blindness may develop following an 8-24 hour symptom-free period. Coma and death may result.

**IRRITANT:** Causes eye irritation. Aspiration hazard. Swallowing or vomiting of the liquid may result in aspiration (breathing) into the lungs.

**POSSIBLE REPRODUCTIVE HAZARD:** May cause fetotoxic (toxic to the fetus during the latter stages of pregnancy, often through the placenta) and teratogenic effects (causing malformations of the fetus), based on animal information.

**SIGNS AND SYMPTOMS OF EXPOSURE:** Irritation, pain, coughing, redness of skin.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS:

Chemical Name	CAS #	Weight %
METHANOL	67630	89 – 99%

### 4. FIRST AID MEASURES

**EYE CONTACT:** Immediately flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. Specific treatment is urgent. (see note to physician)

**INGESTION:** If swallowed immediately call a POISON CENTRE or doctor. Rinse mouth. Swallowing methanol is potentially life threatening. Onset of symptoms may be delayed for 18 to 24 hours after digestion. If conscious and medical aid is not immediately available, do not induce vomiting. In actual of suspected cases in ingestion or suspected ingestion transport to medical facility immediately. (See note to physician)

**SKIN CONTACT:** Wash with soap and water. Change contaminated clothing. Get medical attention if irritation develops or persists.

**AGGRAVATED MEDICAL CONDITIONS:** Pre-existing skin or respiratory conditions.

**SUPPLEMENTAL HEALTH INFORMATION:** The effects of long-term, low-level exposure to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the avoidance of all effects from repetitive acute exposures.

### 5. FIRE FIGHTING MEASURES:

**SUITABLE EXTINGUISHING MEDIA:** Dry chemical, foam or carbon dioxide.

**UNSUITABLE EXTINGUISHING MEDIA:** 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.

**SPECIAL FIRE FIGHTING PROCEDURES:** Stay upwind and uphill. Isolate and restrict area access. Use fine water spray or fog to control fire spread and cool adjacent structures or 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 FIRE AND EXPLOSION HAZARDS:** Methanol vapours may burn with an invisible flame or clean clear flame that is almost invisible in daylight. Extinguish all nearby sources of ignition. Vapors are heavier than air and may travel to distant ignition sources and flash back. Avoid accumulation on water because this product will float on water and possibly ignite. Closed containers may rupture violently and suddenly release large quantities of methanol when exposed to fire or excessive heat for a sufficient period of time.

**COMBUSTION PRODUCTS:** During a fire, toxic gases and vapours, carbon monoxide, carbon dioxide, formaldehyde may be generated.

### 6. ACCIDENTAL RELEASE MEASURES:

**Overview:** Flammable liquid! Can burn without a visible flame. Release can cause an immediate risk of fire and explosion. Eliminate all ignition sources, stop leak and use absorbent materials. If necessary, contain spill by diking. Fluorocarbon alcohol resistant foams may be applied to spill to diminish vapours and fire hazard. Maximize methanol recovery for recycling or re-use. Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Wear adequate personal protection and remove all sources of ignition. Notify all governmental agencies as required by law.

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### Methods and materials for containment and cleaning up:

**Small Spills:** Soak up spill with non-combustible absorbent material. Recover methanol and dilute with water to reduce fire hazard.

Prevent spilled methanol from entering sewers, confined spaces, drains, or waterways. Restrict access to unprotected personnel. Put material in suitable, covered, labeled containers. Flush area with water. **Large Spills:** If necessary, contain spill by diking. Alcohol resistant foams may be applied to spill to diminish vapours and fire hazard. Maximize methanol recovery for recycling or reuse. Collect liquid with explosion proof pumps.

Remove all sources of ignition. Use non-sparking tools. Prevent further leakage or spillage if safe to do so. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with local regulations.

## 7. HANDLING AND STORAGE:

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid contact with skin and eyes. Avoid inhalation of vapours or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**OTHER PRECAUTIONS:** Avoid storage with incompatible materials. Anhydrous methanol is non-corrosive to most metals at ambient temperatures except for lead, nickel, monel, cast iron and high silicon iron. Coatings of copper (or copper alloys), zinc (including galvanized steel), or aluminum are unsuitable for storage. These materials may be attacked slowly by the methanol. Storage tanks of welded construction are normally satisfactory. Protect from freezing. Follow all SDS/label precautions even after container is emptied because it may retain product residues. For industrial use only. Keep away from children. Keep containers closed while not in use.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTION:

### EXPOSURE CONTROLS:

Chemical Name	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
METHANOL	200ppm Skin	250ppm Skin	200ppm 262mg/m <sup>3</sup>	250ppm 328mg/m <sup>3</sup>

### PERSONAL PROTECTIVE EQUIPMENT

- RESPIRATORY PROTECTION:** Wear a NIOSH/MSHA approved respirator appropriate for vapor concentration at point of use.
- PROTECTIVE GLOVES:** Rubber or other impervious material with gauntlets.
- VENTILATION:** Local exhaust sufficient to keep exposure below TLV.
- WORK / HYGENIC PRACTICES:** Use good personal hygiene when handling this product. Wash hands after use, before smoking, or using the toilet.
- ENGINEERING CONTROLS:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- EYE PROTECTION:** Wear safety glasses. If splashing is probable, wear full face shield. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work areas.
- OTHER PROTECTIVE EQUIP:** Boots, apron, lab coat or coveralls of impervious material, safety shower, eyewash.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

<b>a) Appearance:</b> Clear, Colorless liquid	<b>k) Vapor pressure (mm/hg):</b> 12.8 kPa @ 68°F
<b>b) Odor:</b> Mild alcohol odor.	<b>l) Vapor density (Air = 1):</b> 3.5
<b>d) pH:</b> n/a	<b>m) Relative density (Specific Gravity):</b> 0.82 @ 68°F
<b>e) Melting point/freezing point:</b> -144.04°F	<b>n) Water solubility:</b> Complete
<b>f) Initial boiling point and boiling range:</b> 148.4°F	<b>p) Auto-ignition temperature:</b> 867.2 deg F
<b>g) Flash point:</b> 51.8 deg F <b>Method Used:</b> n/a	<b>r) Viscosity:</b> n/a
<b>h) Evaporation rate:</b> 4.1 (n-butyl acetate =1)	<b>-) Pounds Per Gallon:</b> 5.7
<b>j) Upper/lower flammability: UEL:</b> 36.5% <b>LEL:</b> 6%	<b>OTHER:</b> No other data is available for this product. . . .

## 10. STABILITY AND REACTIVITY:

**STABLE:** Stable

**INCOMPATIBILITY:** Avoid contact with strong oxidizers, strong mineral or organic acids, and strong bases. Contact with these materials may cause a violent or explosive reaction. May be corrosive to lead, aluminum, magnesium, and platinum. May react with metallic aluminum or magnesium and generate hydrogen gas. May attack some forms of plastic, rubber, and coatings.

**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Formaldehyde, carbon oxides

**HAZARDOUS POLYMERIZATION:** Will Not Occur

**CONDITIONS TO AVOID:** Avoid contact with sparks, heat, open flame, or ignition sources.

## 11. TOXICOLOGICAL INFORMATION:

**Routes of Entry:** Absorbed through skin. Inhalation.

**Mutagenicity:** There is insufficient information available to conclude that methanol is mutagenic.

**Synergistic Products:** In animals, high concentrations of methanol can increase the toxicity of other chemicals, particularly liver toxins like carbon tetrachloride. Ethanol significantly reduces the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

**Potential for Accumulation:** Methanol is readily absorbed into the body following inhalation and ingestion. Skin absorption may occur if the skin is broken or exposure is prolonged. Once absorbed, methanol is rapidly distributed to body tissues. A small amount is excreted unchanged in exhaled air and the urine. The rest is first metabolized to formaldehyde, which is then metabolized to formic acid and/or formate. The formic acid and formate are eventually converted to carbon dioxide and water. In humans, methanol clears from the body, after inhalation or oral exposure, with a half-life of 1 day or more for high doses (greater than 1000 mg/kg) or about 1.5-3 hours for low doses (less than 100 mg/kg or 76.5-230 ppm (100-300 mg/m<sup>3</sup>)).

**Medical Conditions Aggravated By Exposure:** Persons with pre-existing skin disorders, eye problems, respiratory conditions, or impaired liver or kidney functions may be more susceptible to the effects of this substance.

**12. ECOLOGICAL INFORMATION:** DO NOT discharge into sewer or waterways. No other data available.

**13. DISPOSAL CONSIDERATIONS:** Review federal, provincial or state, and local government requirements prior to disposal. Store material for disposal as indicated in Section #7, *Handling and Storage*. Disposal by controlled incineration or by secure land fill may be acceptable.

Recycle wherever possible. Large volumes may be suitable for re-distillation or, if contaminated, incinerated. Can be disposed of in a sewage treatment facility. Methanol levels of up to 0.1% act as a food source for bacteria; above this level may be toxic to bacteria. When pumping through sewage collection systems, the level of methanol should be kept below the flammable range (a 25% methanol/water mixture is non-flammable at temperatures below 39°C). 1 ppm of methanol is equivalent to 1.5 ppm BOD loading in the sewage plant.

**Container Disposal:** Empty containers may contain hazardous residue. Return to supplier for reuse if possible. Never weld, cut or grind empty containers. If disposing of containers, ensure they are well rinsed with water, then disposed of at an authorized landfill. After cleaning, all existing labels should be removed.

**14. TRANSPORT INFORMATION:**

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	1230	METHANOL	3, (6.1)	II

GUIDE NUMBER: 128

**15. REGULATORY INFORMATION:**

**CANADIAN FEDERAL REGULATIONS:**

**CEPA, DOMESTIC SUBSTANCES LIST:** Listed (Canadian Environmental Protection Act (CEPA) Schedule I)

**WHMIS CLASSIFICATION:** B2, D1B, D2A, D2B, E

**UNITED STATES REGULATIONS:**

**29CFR 1910.1200 (OSHA):** Hazardous

**40CFR 116-117 (EPA):** Hazardous

**40CFR 355, Appendices A and B:** Subject to Emergency Planning and Notification

**40CFR 372 (SARA Title III):** Listed

**40CFR 302 (CERCLA):** Listed

**TOXIC SUBSTANCES CONTROL ACT (TSCA):** Listed in the inventory

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986:** Not listed

**16. OTHER INFORMATION:**

**HMIS INFORMATION:** HEALTH: 2 FLAMMABILITY: 3 PHYSICAL HAZARD: 0 PROTECTIVE: X  
**NFPA INFORMATION:** TOXICITY: 3 FIRE: 3 REACTIVITY: 0



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