

USEY: SUBSTANCE MILLER

**BREWER SCIENCE INC.
SAFETY DATA SHEET**

This Material Safety Data Sheet has been prepared to comply with the EC Directive, Canadian WHMIS and the OSHA Hazard Communication Standard.

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION
AND THE COMPANY/UNDERTAKING**

Product Name: EXP03019

Manufacturer: Brewer Science, Inc.
2401 Brewer Drive
Rolla, MO 65401

Information Phone Number: (573) 364-0300

Fax: (573) 368-3318

Emergency Phone Number: (800) 255-3924

MSDS Date of Preparation: 05/01/03

Product Use: Protective Coating

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS# / EINECS#	%	EU Classification (67/548/EEC)
1-Methoxy-2-propanol (Propylene glycol monomethyl ether, PGME)	107-98-2 / 203-539-1	80-95	R10
Water	7732-18-5 / 231-791-2	5-15	Not Applicable
Polymer	Proprietary	0-2	Not Applicable

See Section 16 for further information on EU Classification.

SECTION 3: HAZARDS IDENTIFICATION

Clear liquid with a solvent odor.

EMERGENCY OVERVIEW: Flammable liquid and vapor. May cause eye, skin, and respiratory irritation. May cause headache, dizziness, nausea and other symptoms of central nervous system depression.

EU Preparation Classification (1999/45/EC): Flammable R10

SECTION 4: FIRST AID MEASURES

Eye: Rinse thoroughly with water for at least 15 minutes, holding the eye lids open to be sure the material is washed out. Get immediate medical attention.

Skin: Remove contaminated clothing. Wash contact area thoroughly with soap and water. Get medical attention if irritation or symptoms of exposure develop. Launder clothing before re-use.

Inhalation: Remove victim to fresh air. Give artificial respiration if needed. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Keep the victim calm and warm. Get immediate medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: 32°C (90°F)

Flammable Limits: LEL: 1.5 vol % UEL: 10.9 vol %

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Extinguishing Media: Use water fog or spray, alcohol foam, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: Wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

Unusual Fire Hazards: Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors may form explosive mixtures with air in confined areas.

Hazardous Decomposition Products: Oxides of carbon, sulfur and nitrogen, chlorine compounds, formaldehyde and unknown materials.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill: Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Wear appropriate protective clothing to prevent eye and skin contact including impervious gloves, safety goggles and respirator if needed. Ventilate area. Cover with and inert absorbent material and collect into an appropriate container for disposal. Report spills and releases as required to appropriate authorities.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid breathing vapors, aerosols and mists. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Always wear impervious gloves, chemical safety goggles and protective clothing when handling this material. Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.

Storage: Store in a cool, dry, well-ventilated location away from incompatible materials. Keep containers closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits
1-Methoxy-2-propanol	100 ppm TLV-TWA, 150 ppm TLV-STEL 100 ppm DFG MAK 100 ppm EU-TWA, 150 ppm EU-STEL skin
Water	None Established (PEL/TLV)
Polymer	None Established (PEL/TLV)

Ventilation: Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits. Use explosion proof electrical equipment and wiring where required.

Respiratory Protection: If needed, a NIOSH approved respirator with organic vapor cartridges may be used. For higher exposures (greater than 10 times the TLV), a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Skin Protection: Impervious gloves are recommended. Based on available test data, 4H or Silver Shield gloves are suggested.

Eye Protection: Chemical safety goggles recommended.

Other Protective Equipment: Impervious clothing is recommended to prevent skin contact and contamination of personal clothing. An eye wash facility and safety shower should be available in the work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Clear liquid with a solvent odor.

pH: Not available

Boiling Point: 120 - 150°C

Vapor Pressure: 12.5 mmHg @ 25°C (1-Methoxy-2-propanol)

Vapor Density: 3.12 (1-Methoxy-2-propanol)

Specific Gravity: Not available

Melting Point: Not Applicable

Water Solubility: Partially Soluble

Evaporation Rate: Not available

SECTION 10: STABILITY AND REACTIVITY

Stability: **Stable:** X **Unstable:**

Incompatibility/Conditions to Avoid: Strong oxidizing agents, acids, bases and reducing agents. Keep away from heat, sparks, flames and other sources of ignition.

Hazardous Decomposition Products: Oxides of carbon and nitrogen, silicon oxide, formaldehyde and unknown materials.

Hazardous Polymerization: **May Occur:** **Will not occur:** X

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause mild to moderate eye irritation. Corneal injury is unlikely.

Skin: May cause mild irritation. 1-Methoxy-2-propanol may be absorbed through the skin causing symptoms of headache, dizziness, nausea, and drowsiness.

Inhalation: Inhalation of vapors, mists, or aerosols may cause nose and throat irritation with the possibility of central nervous system depression. Symptoms of central nervous system depression include headache, dizziness, drowsiness, nausea and unconsciousness.

Ingestion: Swallowing may cause gastrointestinal irritation and central nervous system depression with symptoms similar to those described under inhalation.

Chronic Hazards: Chronic exposure may cause nervous system, kidney or liver effects based on studies with laboratory animals.

Carcinogen Status: None of the components of this product are listed as carcinogens by OSHA, IARC or NTP.

Medical Conditions Aggravated by Exposure: Pre-existing skin diseases.

Acute Toxicity Values:

1-Methoxy-2-propanol: Oral rat LD50 - 5660 mg/kg

Inhalation rat LC50 - 10,000 ppm/5 hr

Skin rabbit LD50 - 13 gm/kg

Polymer: No data is available

SECTION 12: ECOLOGICAL INFORMATION

1-Methoxy-2-propanol: LC50 for fathead minnow is 20800 mg/L and for daphnia magna is 23300 mg/L.

SECTION 13: DISPOSAL INFORMATION

Dispose in accordance with all local, state and federal regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: 1-Methoxy -2-propanol Solution
DOT Hazard Class: 3, PG III
UN Number: UN3092
DOT Labels Required (49CFR172.101): Flammable Liquid
Hazardous Substance (49CFR172.101): None
Reportable Quantity: N/A

ERG #129

IATA Shipping Name: 1-Methoxy -2-propanol Solution
IATA Hazard Class: 3, PG III
UN Number: UN3092
IATA Hazard Labels Required: Flammable Liquid

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: Not applicable

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Fire Hazard

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

STATE REGULATIONS:

California Proposition 65: This products contain the following substances known to the State of California to cause cancer, developmental toxicity and male reproductive toxicity: Benzene 0.002%.

INTERNATIONAL REGULATIONS:

European Community Labeling:

R10 Flammable
S51 Use only in well ventilated areas.

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health - 2

Flammability - 3

Reactivity - 0

NFPA Ratings: Health - 2

Flammability - 3

Reactivity - 0

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):

R10 Flammable

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Brewer Science shall not be held liable for any damage resulting from handling or from contact with the above product.