

**BREWER SCIENCE INC.
SAFETY DATA SHEET**

This 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: ProTEK® B2 Series
Manufacturer: Brewer Science, Inc.
2401 Brewer Drive
Rolla, MO 65401

Information Phone Number: (573) 364-0300 **Fax:** (573) 368-3318

E-Mail: msds@brewerscience.com

Emergency Phone Number:
Chemtrec Domestic North America: (800) 424-9300
Chemtrec International: (703) 527-3887

SDS Date of Preparation: 4/22/09

Product Use: Scratch Resistant Coating

SECTION 2: HAZARDS IDENTIFICATION

Liquid with a sweet, solvent odor.

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

EU Preparation Classification (1999/45/EC): Flammable, Irritant (Xi) R10, R36

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS# / EINECS#	%	EU Classification (67/548/EEC)
2-(1-Methoxy)propyl acetate (Propylene glycol monomethyl ether acetate, PGMEA)	108-65-6 / 203-603-9	50-65	R10
Ethyl Acetoacetate	141-97-9 / 205-516-1	20-30	Xi R36
Polymer Solids	Proprietary	10-25	No EU Classification or R phrase

See Section 16 for further information on EU Classification.

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

Prepared By:	Safety & Environmental Units
Approved By:	Safety & Environmental Units
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Extinguishing Media: Use water fog or spray, foam, carbon dioxide or dry chemical.

Special Fire Fighting Procedures: Wear an 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. As with any ether, 2-(1-methoxy)propyl acetate may form highly reactive peroxides upon contact with air.

Hazardous Decomposition Products: Oxides of carbon and nitrogen 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 an 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
2-(1-Methoxy)propyl acetate	50 ppm TWA AIHA WEEL 50 ppm DFG MAK 50 ppm UK-TWA, 100 ppm UK-STEL Skin 50 ppm EU-TWA, 100 ppm EU-STEL Skin
Ethyl Acetoacetate	None Established
Polymer Solids	None Established

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, an approved respirator with organic vapor cartridges may be used. For higher exposures, a supplied air respirator may be required. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations 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 as needed 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

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Appearance and Odor: Liquid with a sweet, solvent odor.

pH: Not available

Boiling Point: 146 - 181°C

Vapor Pressure: 3.7 mm Hg @ 20°C (PGMEA)

Vapor Density: 4.6 (PGMEA)

Flash Point: 46°C (114°F) (PGMEA)

Specific Gravity: Not available

Melting Point: Not Applicable

Water Solubility: Partially Soluble

Evaporation Rate: Not available

Flammable Limits: LEL: 1.4 vol % (ethyl acetoacetate)

UEL: 9.5 vol % (ethyl acetoacetate)

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: Combustion will produce oxides of carbon and nitrogen and unknown materials.

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

SECTION 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause moderate irritation. Corneal injury is unlikely.

Skin: May cause irritation with prolonged or repeated exposure. 2-(1-Methoxy)propyl acetate 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 absorption may cause kidney or liver damage based on studies with laboratory animals.

Carcinogen Status: None of the components of this product present at greater than 0.1% are listed as carcinogens by OSHA, IARC, the EU Dangerous Substances Directive, ACGIH, or NTP.

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

Acute Toxicity Values:

2-(1-Methoxy)propyl acetate: Oral rat LD50 - 8532 mg/kg; Skin rabbit LD50 - >5 gm/kg

Ethyl Acetoacetate: Oral rat LD50 - 3980 mg/kg

Polymer Solids: No toxicity data available

SECTION 12: ECOLOGICAL INFORMATION

This product has not been tested as a whole. The following ecotoxicity data is available for the components:

2-(1-Methoxy)propyl acetate: LC50 Fathead minnow - 96 hr LC50 161 mg/mL; LC50 daphnia magna - >500 mg/L -100% readily biodegradable in 6 days.

Ethyl acetoacetate: Pimephales promelas (Fathead minnow) LC50 - >100 mg/l/96 hr; Daphnia magna EC50 - 646 mg/l/48 hr;

Scenedesmus subspicatus (Algae) EC50 - >500 mg/l/72 hr

SECTION 13: DISPOSAL INFORMATION

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

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SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: Resin Solution, Flammable ERG #127
DOT Hazard Class: 3, PG III
UN Number: UN1866
DOT Labels Required (49CFR172.101): Flammable Liquid (See 173.120 for domestic shipment exemption for combustible liquids)
Hazardous Substance (49CFR172.101): None
Reportable Quantity: None

IATA Shipping Name: Resin Solution, Flammable
IATA Hazard Class: 3, PG III
UN Number: UN1866
IATA Hazard Labels Required: Flammable Liquid

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

CERCLA 103 Reportable Quantity: This product is not subject to reporting under CERCLA. Some states have more stringent reporting requirements. Report all spills in accordance with local, state, and federal regulations.

SARA TITLE III:

Hazard Category for Section 311/312: Acute Health, Chronic 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 in the TSCA inventory.

STATE REGULATIONS:

California Proposition 65: This product contains the following substances known to the State of California to cause cancer: Acrylonitrile <0.0025%.

INTERNATIONAL REGULATIONS:

European Community Labeling:

 Irritant	R10 Flammable R36 Irritating to respiratory system and skin. S25 Avoid contact with eyes. S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S51 Use only in well ventilated areas. S60 This material and its contents must be disposed of as hazardous waste.
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SECTION 16: OTHER INFORMATION

HMIS Ratings: Health – 2 Flammability - 2 Reactivity - 0
NFPA Ratings: Health - 2 Flammability - 2 Reactivity - 0

SDS Revision History:

4/22/09: New SDS.
 5/27/09: Updated EU Classification in Section 3.
 12/8/09: Updated exposure limits for PGMEA. Updated Ca. Prop. 65 statement.

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12/7/10: Updated Name And EU Classification Of PGMEA. Section 2: EU Preparation Classification, Section 3: EU Classification, Section 5: Unusual Fire Hazards, Section 11: Potential Health Effects: Eye, Skin, Inhalation, Ingestion, Section 12: Ecological Information, Section 15: European Community Labeling, Section 16: EU Classes And Risk Phrases For Reference

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

Xi Irritant
R10 Flammable
R36 Irritating to eyes.

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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, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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