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® B1-25  
**Manufacturer:** Brewer Science, Inc.  
2401 Brewer Drive  
Rolla, MO 65401  
**Information Phone Number:** (573) 364-0300  
**Fax:** (573) 368-3318  
**Email:** msds@brewerscience.com  
**Emergency Phone Number:**  
Chemtrec Domestic North America: 800-424-9300  
Chemtrec International: 703-527-3887  
**SDS Date of Preparation:** 07/23/04  
**Product Use:** Deep Silicon Etch Protective Coating

**SECTION 2: HAZARDS IDENTIFICATION**

Clear liquid with a solvent odor.

**EMERGENCY OVERVIEW:** Flammable liquid and vapor. Causes eye, skin, and respiratory irritation. May be absorbed through the skin. May form explosive peroxides. Contains a chemical that may cause adverse reproductive and fetal effects based on studies with laboratory animals.

**EU Preparation Classification (1999/45/EC):** Flammable, Toxic (T), Harmful (Xn), R10, R19, R20, R60, R61

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS# / EINECS#</th>
<th>%</th>
<th>EU Classification (67/548/EEC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diglyme (bis(2-methoxyethyl)ether/diethylene glycol dimethyl ether)</td>
<td>111-96-6 / 203-924-4</td>
<td>35-45</td>
<td>T R10, R19, R60, R61</td>
</tr>
<tr>
<td>Methyl Isoamyl Ketone (5-Methylhexan-2-one, MIAK)</td>
<td>111-12-3 / 203-737-8</td>
<td>35-45</td>
<td>Xn R10, R20</td>
</tr>
<tr>
<td>Polymer Solids</td>
<td>Proprietary</td>
<td>10-30</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

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  
Issue/Revision Date F.7.6.2076.C / 12/24/08
Extinguishing Media: Use water fog or spray, alcohol-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: At temperatures above the flash point, explosive vapor-air mixtures may be formed. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

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 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diglyme (bis(2-methoxyethyl)ether/diethylene glycol dimethyl ether)</td>
<td>5 ppm DFG MAK skin</td>
</tr>
<tr>
<td>Methyl Isoamyl Ketone</td>
<td>50 ppm TWA ACGIH TLV</td>
</tr>
<tr>
<td></td>
<td>100 ppm TWA OSHA PEL</td>
</tr>
<tr>
<td></td>
<td>10 ppm DFG MAK</td>
</tr>
<tr>
<td></td>
<td>20 ppm EU OEL</td>
</tr>
<tr>
<td>Polymer Solids</td>
<td>None Established</td>
</tr>
</tbody>
</table>

Ventilation: Use with adequate general or local exhaust ventilation to maintain exposure levels below the recommended occupational exposure limits. Use explosion-proof equipment 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, Silver Shield 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

Prepared By: Safety & Environmental Units
Approved By: Safety & Environmental Units
Issue/Revision Date F.7.6.2076.C / 12/24/08
Appearance and Odor: Clear liquid with a solvent odor.

pH: Not available

Boiling Point: 145-162°C

Vapor Pressure: 4.5mmHg @ 20°C (MIAK)

Vapor Density: 3.9

Flash Point: 41°C (106°F)

Specific Gravity: Not available

Melting Point: Not Applicable

Water Solubility: Partially Soluble

Evaporation Rate: Not available

Flammable Limits: LEL: 1.0 vol % (MIAK)

UEL: 17.4 vol % (diglyme)

### SECTION 10: STABILITY AND REACTIVITY

**Stability:**

- **Stable:** X
- **Unstable:**

Prolonged exposure of diglyme to air and sunlight may form unstable peroxides.

**Incompatibility/Conditions to Avoid:**

Strong oxidizing agents, strong bases, and strong acids. Keep away from light, exposure to air, 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: X
- Will not Occur: X

### SECTION 11: TOXICOLOGICAL INFORMATION

**Potential Health Effects:**

- **Eye:** May cause moderate irritation with pain and redness.
- **Skin:** May cause redness and irritation. Repeated exposures may cause sensitization dermatitis. Diglyme may be absorbed through the skin causing effects similar to those described under inhalation.
- **Inhalation:** Inhalation of vapors, mists or aerosols may cause mucous membrane and respiratory irritation.
- **Ingestion:** Swallowing may cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

**Chronic Hazards:**

Diglyme has been reported to cause adverse reproductive effects in laboratory animals.

**Carcinogen Status:**

None of the components of this product are listed as carcinogens by OSHA, IARC, ACGIH, the EU Dangerous Substances Directive, or NTP.

**Medical Conditions Aggravated by Exposure:**

Pre-existing skin diseases.

**Acute Toxicity Values:**

- Diglyme: Oral rat LD50 - 5400 mg/kg
- Methyl Isoamyl Ketone: Oral rat LD50 - 3200 mg/kg; Skin rabbit LD50 – 10 mL/kg; Inhalation rat LC50 – 3813 ppm/6 hours
- Polymer Solids: Oral rat LD50 - 1800 mg/kg

### SECTION 12: ECOLOGICAL INFORMATION

No ecotoxicity data is currently available.

### SECTION 13: DISPOSAL INFORMATION

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

### SECTION 14: TRANSPORT INFORMATION

**DOT Shipping Name:** Resin Solution, Flammable

**DOT Hazard Class:** 3, PG III

**DOT Hazard Class:** ERG #127

Prepared By: Safety & Environmental Units

Approved By: Safety & Environmental Units

Issue/Revision Date: F.7.6.2076.C / 12/24/08
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: N/A

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: bis(2-methoxyethyl)ether  CAS#111-96-6  35-45% (glycol ether compound)

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 product contains the following substances known to the State of California to cause cancer and/or reproductive toxicity: None known

INTERNATIONAL REGULATIONS:

European Community Labeling:
Contains bis(2-methoxyethyl)ether and 5-methylhexan-2-one

R10 Flammable
R19 May form explosive peroxides.
R20 Harmful by inhalation.
R60 May impair fertility.
R61 May cause harm to the unborn child.
Restricted to professional users.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
S53 Avoid exposure – obtain special instructions before use.
S60 This material and its container must be disposed of as hazardous waste.

SECTION 16: OTHER INFORMATION

HMIS Ratings: Health – 2*  Flammability - 2  Reactivity - 1
NFPA Ratings: Health - 2  Flammability - 2  Reactivity - 1

Prepared By: Safety & Environmental Units
Approved By: Safety & Environmental Units
Issue/Revision Date F.7.6.2076.C / 12/24/08
**SDS Revision History:**
07/23/04: New SDS
08/03/06: Changed Emergency Telephone Numbers
12/24/08: Updated format for REACH. Removed references to NIOSH. Changed MSDS to SDS. Updated wording for carcinogen status, CERCLA, respiratory protection, and California Proposition 65.

**EU Classes and Risk Phrases for Reference (See Sections 2 and 3):**
- T  Toxic
- Xn  Harmful
- R10 Flammable
- R19 May form flammable peroxides.
- R20 Harmful by inhalation.
- R60 May impair fertility.
- R61 May cause harm to the unborn child.

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.