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® PSB-23
Manufacturer: Brewer Science, Inc.
2401 Brewer Drive
Rolla, MO 65401
Email: mds@brewerscience.com
Information Phone Number: (573) 364-0300
Emergency Phone Number:
Chemetec Domestic North America: 800-424-9300
Chemetec International: 703-527-3887
SDS Date of Preparation: 2/13/08
Product Use: Etch Protective Coating

SECTION 2: HAZARDS IDENTIFICATION

Liquid with a sweet 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. May be harmful if inhaled.

EU Preparation Classification (1999/45/EC): Flammable, Irritant (Xi). Dangerous for the Environment (N), R10, R36, R52/53

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>2-(1-Methoxy)propyl acetate (Propylene glycol monomethyl ether acetate, PGMEA)</td>
<td>108-65-6/203-603-9</td>
<td>50-60</td>
<td>R10</td>
</tr>
<tr>
<td>Ethyl Acetoacetate</td>
<td>141-97-9 / 205-516-1</td>
<td>15-25</td>
<td>Xi R36</td>
</tr>
<tr>
<td>Photoacid Generator</td>
<td>Proprietary</td>
<td>1-10</td>
<td>Xn, N R36, R20/22, R51/53</td>
</tr>
<tr>
<td>Sensitizer</td>
<td>Proprietary</td>
<td>&lt;1-5</td>
<td>No EU Classification or R phrase</td>
</tr>
<tr>
<td>Polymer Solids</td>
<td>Proprietary</td>
<td>5-25</td>
<td>No EU Classification or R phrase</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 AND EXPLOSION DATA

Prepared By: Safety & Environmental Units
Approved By: Safety & Environmental Units
Issue/Revision Date F.7.6.3294.D / 9/14/10

1/5
Extinguishing Media: Use water fog or spray, universal 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. As with any ether, 2-(1-Methoxy)propyl acetate (PGMEA) may form highly reactive peroxides upon contact with air.

Hazardous Decomposition Products: Oxides of carbon, inorganic fumes, 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(1-Methoxy)propyl acetate</td>
<td>50 ppm TWA AIHA WEEL</td>
</tr>
<tr>
<td></td>
<td>50 ppm TWA DFG MAK</td>
</tr>
<tr>
<td></td>
<td>50 ppm UK-TWA, 100 ppm UK-STEEL Skin</td>
</tr>
<tr>
<td>Ethyl Acetoacetate (EAA)</td>
<td>None Established</td>
</tr>
<tr>
<td>Photoacid Generator</td>
<td>None Established</td>
</tr>
<tr>
<td>Sensitizer</td>
<td>None Established</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 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, butyl or nitrile gloves are suggested. Contact your glove supplier for selection assistance.

Eye Protection: Chemical safety goggles recommended.

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

Prepared By: Safety & Environmental Units
Approved By: Safety & Environmental Units
Issue/Revision Date: F.7.6.3294.D / 9/14/10
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Liquid with a sweet odor.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>146°C</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>3.7 mmHg @ 25°C (PGMEA)</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>4.6 (PGMEA)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>46°C (115°F) PGMEA</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Partially soluble</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>LEL: 1.5 vol % (PGMEA)</td>
</tr>
<tr>
<td></td>
<td>UEL: 7.0 vol % (PGMEA)</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable: X

Incompatibility/Conditions to Avoid: Oxidizing agents, bases, nitrating agents, bleaching agents, alkaline materials, inorganic acids. Keep away from heat, sparks, flames and other sources of ignition.

Hazardous Decomposition Products: Combustion will produce oxides of carbon, inorganic fumes and unknown materials.

Sección 11: TOXICOLOGICAL INFORMATION

Potential Health Effects:

Eye: May cause mild to moderate eye 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. Repeated or prolonged contact may cause allergic skin reaction (sensitization).

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 are listed as carcinogens by OSHA, IARC, NTP, ACGIH or the EU Dangerous Substances Directive.

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 Acetocetate: Oral-rat LD50: 3980 mg/kg
Photoacid Generator: No toxicity data is available.
Sensitizer: No toxicity data is available.
Polymer Solids: No toxicity data is available.

SECTION 12: ECOLOGICAL INFORMATION

2-(1-Methoxy)propyl acetate: LC50 Fathead minnow - 161 mg/mL (static); LC50 Daphnia Magna - 408 mg/L (static)
Ethyl Acetocetate: 96 hr LC50 >100 mg/L; 48 hr. EC50 daphnia magna 646 mg/L; 72 hr EC50 Scenedesmus subspicatus >500 mg/L

SECTION 13: DISPOSAL INFORMATION

<table>
<thead>
<tr>
<th>Prepared By</th>
<th>Safety &amp; Environmental Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved By</td>
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</tr>
<tr>
<td>Issue/Revision Date</td>
<td>F.7.6.3294.D / 9/14/10</td>
</tr>
<tr>
<td>Date</td>
<td>3/5</td>
</tr>
</tbody>
</table>
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 
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: Antimony Compounds <6.0%

Section 302 Extremely Hazardous Substances (TPQ): None

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

STATE REGULATIONS:

California Proposition 65: This product contains the following substances known to the State of California to cause cancer: None

INTERNATIONAL REGULATIONS:

European Community Labeling Classification:

<table>
<thead>
<tr>
<th>R10 Flammable</th>
</tr>
</thead>
<tbody>
<tr>
<td>R36 Irritating to eyes.</td>
</tr>
<tr>
<td>R52/53 Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.</td>
</tr>
<tr>
<td>S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td>
</tr>
<tr>
<td>S39 Wear eye/face protection.</td>
</tr>
<tr>
<td>S51 Use only in well ventilated areas.</td>
</tr>
<tr>
<td>S60 This material and its container must be disposed of as hazardous waste.</td>
</tr>
</tbody>
</table>

SECTION 16: OTHER INFORMATION

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

Prepared By: Safety & Environmental Units 
Approved By: Safety & Environmental Units 
Issue/Revision Date: F.7.6.3294.D / 9/14/10
NFPA Ratings: Health - 2  Flammability - 2  Reactivity - 0

SDS Revision History:
7/15/08: Removed M from MSDS.
11/18/08: Added ACGIH to Carcinogen Status. Updated EU classification. Updated EU classification of Photoacid Generator in formulation.
9/14/10: Complete review of SDS. Converted SDS to a Universal GHS format.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):
N Dangerous for the Environment
Xi Irritant
Xn Harmful
R10 Flammable
R20/22 Harmful by inhalation and if swallowed.
R36 Irritating to eyes.
R51/53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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.