1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** P²SI® 250P-B

**Manufacturer**
Performance Polymer Solutions Inc. (P²SI)
2711 Lance Dr.
Moraine, OH 45409

**Company Contact:** Jason E. Lincoln, Ph.D.
Telephone Number: 937-298-3713
FAX Number: 937-298-6615
E-Mail: jason.lincoln@p2si.com
Web Site: http://www.p2si.com

**Updated:** 1/18/2013 5:02 PM

**Product Use:** Prepreg film

2. COMPOSITION AND INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary uncured epoxy resins and curing agent*</td>
<td>30 – 40%</td>
<td>*</td>
</tr>
<tr>
<td>Carbon (graphite), synthetic fiber AND/OR</td>
<td>30 – 70%</td>
<td>7440-44-0</td>
</tr>
<tr>
<td>Para-aramid fiber AND/OR</td>
<td>30 – 70%</td>
<td>26126-61-1</td>
</tr>
<tr>
<td>Continuous glass fiber</td>
<td>30 – 70%</td>
<td>65997-17-3</td>
</tr>
</tbody>
</table>

*The chemical identities of this composition are being withheld as trade secrets in accordance with 29 CFR 1910.1200(i) and 29 CFR 1910.1200 Appendix D. The chemical identities will be disclosed to health professionals in a medical emergency in accordance with 29 CFR 1910.1200 paragraph (i). Non-emergency requests will be considered in accordance with 29 CFR 1910.1200 paragraph (i).

3. HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: White (glass) OR Black (carbon) OR Yellow (para-aramid) Film
Odor, Color, Grade: Minimal epoxy resin odor
General Physical Form: Solid
Immediate health, physical, and environmental hazards: May cause allergic skin reaction.

3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:**
Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Inhalation:**
Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Ingestion:**
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Target Organ Effects:**
Health hazard information for the specific engineered nanoparticle used in this product is not available. Any known health hazards of the chemicals that make up the engineered nanoparticle are included in this section.

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### 4. FIRST AID MEASURES

#### 4.1 FIRST AID PROCEDURES
The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

**Inhalation:** If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.

**If Swallowed:** Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

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### 5. FIRE FIGHTING MEASURES

#### 5.1 FLAMMABLE PROPERTIES

- Autoignition temperature: Not Applicable
- Flash Point: Not Applicable
- Flammable Limits (LEL): Not Applicable
- Flammable Limits (UEL): Not Applicable

#### 5.2 EXTINGUISHING MEDIA
Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam). Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

#### 5.3 PROTECTION OF FIRE FIGHTERS
Special Fire Fighting Procedures: Water may not effectively extinguish fire; however, it should be used to
keep fire-exposed containers and surfaces cool and prevent explosive rupture. Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

**Unusual Fire and Explosion Hazards:** No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal precautions, protective equipment and emergency procedures
Not applicable.

#### 6.2. Environmental precautions
Not applicable.

**Clean-up methods**
Not applicable.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

### 7. HANDLING AND STORAGE

#### 7.1 HANDLING
Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact. For industrial or professional use only.

#### 7.2 STORAGE
Keep container tightly closed. Store away from oxidizing agents.

### 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

#### 8.1 ENGINEERING CONTROLS
Use with appropriate local exhaust ventilation. Curing enclosures must be exhausted to outdoors or to a suitable emission control device.

#### 8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

##### 8.2.1 Eye/Face Protection
Avoid eye contact.
The following eye protection(s) are recommended: Indirect Vented Goggles

##### 8.2.2 Skin Protection
Avoid skin contact.
Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials. Gloves made from the following material(s) are recommended: Butyl
Rubber Neoprene

8.2.3 Respiratory Protection
Avoid breathing of dust created by sanding, grinding or machining. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges and N95 particulate prefilters. Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

8.2.4 Prevention of Swallowing
Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Authority</th>
<th>Type</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Fiber</td>
<td>CMRG</td>
<td>TWA</td>
<td>3 fiber/cc</td>
</tr>
<tr>
<td>Graphite</td>
<td>ACGIH</td>
<td>TWA</td>
<td>2 mg/m3</td>
</tr>
<tr>
<td>Graphite</td>
<td>OSHA</td>
<td>TWA</td>
<td>15 million particles/cu. ft.</td>
</tr>
<tr>
<td>GRAPHITE SYNTHETIC</td>
<td>OSHA</td>
<td>TWA</td>
<td>5 mg/m3</td>
</tr>
<tr>
<td>GRAPHITE SYNTHETIC</td>
<td>OSHA</td>
<td>TWA</td>
<td>15 mg/m3</td>
</tr>
<tr>
<td>Para-aramid</td>
<td>DUPONT</td>
<td>TWA</td>
<td>2 fibers/cm3</td>
</tr>
<tr>
<td>Para-aramid</td>
<td>DUPONT</td>
<td>TWA</td>
<td>5 mg/m3</td>
</tr>
<tr>
<td>Continuous filiament glass fiber</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>5 mg/m3</td>
</tr>
<tr>
<td>Continuous filiament glass fiber</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>15 mg/m3</td>
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<tr>
<td>Continuous filiament glass fiber</td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>10 mg/m3</td>
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<tr>
<td>Continuous filiament glass fiber</td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>3 mg/m3</td>
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</tbody>
</table>

SOURCE OF EXPOSURE LIMIT DATA:
CMRG: Chemical Manufacturer Recommended Guideline
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration

9. PHYSICAL AND CHEMICAL PROPERTIES
Specific Physical Form: Film
Odor, Color, Grade: Minimal epoxy resin odor
General Physical Form: Solid
Autoignition temperature: Not Applicable
Flash Point: Not Applicable
Flammable Limits(LEL): Not Applicable
Flammable Limits(UEL): Not Applicable
Boiling Point: Not Applicable
Density: Not Applicable
Vapor: Density Not Applicable
Vapor Pressure: Not Applicable
Specific Gravity: Not Applicable
pH: Not Applicable
Melting point: Not Applicable
Solubility in Water: Not soluble
Evaporation rate: Not Applicable
Hazardous Air Pollutants: 0 % weight [Test Method: Calculated]
Kow - Oct/Water partition coef: No Data Available
Percent volatile: 0%
Viscosity: Not Applicable

10. STABILITY AND REACTIVITY

**Stability:** Stable.

**Materials and Conditions to Avoid:**

**10.1 Conditions to avoid**
None known

**10.2 Materials to avoid**
Strong oxidizing agents

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**Hazardous Decomposition or By-Products**
Carbon monoxide: During Combustion
Carbon dioxide: During Combustion
Irritant Vapors or Gases: During Combustion

11. TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL INFORMATION

**Waste Disposal Method:** Dispose of completely cured (or polymerized) wastes in a sanitary landfill. As a disposal alternative, incinerate in an industrial or commercial facility.

**EPA Hazardous Waste Number (RCRA):** Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

14. TRANSPORTATION INFORMATION
Not regulated.

<table>
<thead>
<tr>
<th>15. REGULATORY INFORMATION</th>
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<tbody>
<tr>
<td>TSCA Section 8(b)</td>
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<tr>
<td>Not all components may be listed on the TISCA Inventory</td>
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<tr>
<th>16. OTHER INFORMATION</th>
</tr>
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<tbody>
<tr>
<td>NFPA Hazard Classification</td>
</tr>
<tr>
<td>Health: 2  Flammability: 1  Reactivity: 1  Special Hazards: None</td>
</tr>
<tr>
<td>National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.</td>
</tr>
</tbody>
</table>

**Revision/Preparer Information**
**MSDS Preparer:** Performance Polymer Solutions Inc.
2711 Lance Dr.
Moraine, OH 45409

**Reference Documentation**
The information presented herein was obtained from sources believed to be reliable and accurate. Performance Polymer Solutions, however, makes no warranties about the information presented.

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<th>17. DISCLAIMER</th>
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<td>The information in this MSDS is provided in good faith and based on sources believed to be accurate. Performance Polymer Solutions, Inc., however, makes no representation or warranty as to the comprehensiveness or accuracy of the information. Final determination of suitability of this material and its safe use is the sole responsibility of the user. Accordingly, Performance Polymer Solutions, Inc. will not be responsible for damages of any kind resulting from the use of or reliance upon the provided information. The information provided relates to this specific material, and may not be valid for this material if used in combination with any other materials or in any process.</td>
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