Soy Seal® XD 6.0 pcf B – Component (White)
Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>BioBased® Soy Seal® XD 6.0 pcf B – Component (White)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms/Generic Names:</td>
<td>Polyol blend with Amine Catalyst</td>
</tr>
<tr>
<td>Product Use:</td>
<td>Polyurethane resin system</td>
</tr>
<tr>
<td>Manufacturer:</td>
<td>BioBased Technologies® LLC 1200 Stewart Place, Springdale, AR 72764. (479) 966-4600 (479) 966-4601 (fax) Website: <a href="http://www.biobased.net">www.biobased.net</a></td>
</tr>
<tr>
<td>In Case Of Emergency Call:</td>
<td>CHEMTREC (800) 424-9300 (24 Hours/Day, 7 Days/Week, US and Canada) or call (collect) at (703) 527-3887 (USA)</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** An opaque white liquid with a slight ammonia-like odor. Liquid and mists can burn the skin, the eyes and respiratory tract. Liquid and vapor is harmful via skin contact, inhalation or ingestion. Liquid or vapors may cause allergic skin or respiratory reactions to individuals sensitive to amines.

**OSHA Hazard Communication Standard:** This product is considered hazardous.

**Potential Health Hazards:**

| Skin: | Can irritate the skin. Can be absorbed through the skin and large or repeated exposures may result in toxic effects similar to ingestions. Can cause allergic skin reactions in individuals sensitized to amines. Skin exposure may trigger an allergic respiratory response. |
| Eyes: | Can cause irritation and/or burns and untreated exposures may result in blindness. |
| Inhalation: | Vapors and mists may cause irritation to respiratory tract with possible burns to throat and airways. Vapors can irritate or burn the eyes. Can cause severe allergic reactions in individuals sensitized to amines. Inhalation of large quantities may result in symptoms similar to ingestion. |
| Ingestion: | Harmful if swallowed. Can irritate or burn the digestive tract. If vomited, may enter lungs, causing lung damage. |
| Delayed Effects: | Repeated exposure in the absence of recommended protective clothing and without following recommended safe handling practices may cause individuals to become sensitized to amines. |

**Ingredients found on one of the three OSHA designated carcinogen lists are listed below.**

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>NTP Status</th>
<th>IARC Status</th>
<th>OSHA List</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ingredients listed in this section.</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS Number</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydroxylated Soybean Oil</td>
<td>693217-63-9</td>
<td>&lt; 40</td>
</tr>
<tr>
<td>Bis (2-dimethylaminoethyl)ether</td>
<td>3033-62-3</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Additive 1 (polyol compound)</td>
<td>Trade Secret</td>
<td>&lt; 40</td>
</tr>
<tr>
<td>Additive 2 (diamine compound)</td>
<td>Trade Secret</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Blowing agent (Not hazardous)</td>
<td>Trade Secret</td>
<td>&lt; 10</td>
</tr>
</tbody>
</table>

Trace impurities and additional material names not listed above may appear in Section 15 of this MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

4. FIRST AID MEASURES

| Skin:                                         | Immediately rinse under running water while removing contaminated clothing. Continue washing for up to 15 minutes. Get medical assistance for irritation. Launder contaminated clothing before reuse and discard any contaminated leather apparel (shoes, watch band, etc.) |
| Eyes:                                         | Immediately flush eyes with running water while lifting the eyelids and continue for up to 15 minutes. Lift eyelids to wash out any liquid. Get immediate medical attention. |
| Inhalation:                                   | Move the exposed person to fresh air. If person has difficulty breathing or is in distress, immediately contact a doctor, poison control center or paramedic. Provide oxygen if a trained responder is available. For irritation, burns or any systemic (internal) symptom, get immediate medical assistance. |
| Ingestion:                                    | Immediately consult a physician or poison control center. Do not induce vomiting. If conscious and not nauseous, patient may drink one or two glasses of water or milk. |
| Advice to Physician:                         | Product is corrosive to skin and eyes and contains traces of respiratory and dermal sensitizers (amines). For severe cases of respiratory sensitization, anaphylactic shock is possible. For other respiratory exposures, monitor patient for any delayed respiratory involvement (e.g., pulmonary edema). No specific antidote is recommended. Treat symptomatically. |

5. FIRE FIGHTING MEASURES

**Flammable Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point (and method)</td>
<td>&gt; 210 °F (99 °C) Pensky Martin Closed Cup</td>
</tr>
<tr>
<td>Autoignition Temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper Flame Limit (volume % in air):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Lower Flame Limit (volume % in air):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flame Propagation Rate (solids):</td>
<td>Not applicable</td>
</tr>
<tr>
<td>OSHA Flammability Class: (storage)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
6. ACCIDENTAL RELEASE MEASURES

In Case Of Spill or Other Release: (See Section 8 for recommended personal protective equipment.) Avoid contact with skin and eyes. Do not breathe product vapors. Small spills: Soak up with absorbent material such as oil-dry or vermiculite. Shovel into containers but DO NOT seal them. Arrange for disposal. Large spills: Ventilate area during cleanup. Dike spill and pump into suitable containers for disposal. Do not allow to enter natural waterways or sewers.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

Normal Handling: Avoid contact with skin, eyes and clothing. Do not breathe product vapors or mists. (See Section 8 for recommended personal protective equipment.)

Storage Recommendations: Keep containers closed during storage. Store away from moisture, isocyanates and oxidizing agents. (See Section 10 for hazards associated with contamination.) Do not contaminate with any material. Contamination with isocyanates or BioBased A - Component may cause a reaction generating pressure that could cause a closed container to explode. Product life is approximately 6 months when stored between 60 & 90 °F (16 & 32 °C). Do not allow product to become contaminated with other materials, especially with BioBased® A - Component or any isocyanate.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Provide local exhaust ventilation sufficient to keep vapors below safe exposure limits.

Personal Protective Equipment

Skin Protection: Wear impervious gloves and clothing are recommended. Suitable materials of construction for gloves include butyl rubber, nitrile rubber, polyvinyl alcohol, PE/EVAL or PV/EVCH (4HTM and Silver Shield™ brand gloves). Tychem® BR, LV or TK protective clothing may be appropriate. Butyl rubber, nitrile rubber neoprene and Saranex® coated Tyvek® may also be considered for use. Use of rubber footwear or overshoes is recommended.

Protection: Wear safety glasses with eye-shields or chemical safety goggles. Avoid the use of contact lenses for liquid transfer and handling operation.

Respiratory Protection: Not required for properly ventilated areas. For areas containing product mists, for areas where the exposure limits may be exceeded and for spill cleanup, use an
Air supplied respirator. 

**Additional Recommendations:**

A source of running water such as a safety shower and/or eyewash station is recommended in the work area.

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(2-dimethylaminoethyl) ether</td>
<td>0.05 ppm TLV (skin)</td>
<td>None established</td>
<td>None established</td>
</tr>
<tr>
<td>0.15 ppm STEL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 = Limit established by BioBased Insulation®.

2 = Workplace Environmental Exposure Level (AIHA).

3 = Biological Exposure Index (ACGIH).

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Appearance:</th>
<th>Opaque white liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State:</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight ammonia odor</td>
</tr>
<tr>
<td>Specific Gravity (water = 1.0):</td>
<td>1.12 (bulk density is 8.43 lbs/gallon)</td>
</tr>
<tr>
<td>Solubility In Water (weight %):</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Freezing Point:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor Density (air = 1.0):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not determined</td>
</tr>
<tr>
<td>% Volatiles:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash Point: (and method)</td>
<td>&gt; 210 °F (99 ºC) Pensky Martin Closed Cup</td>
</tr>
<tr>
<td>Autoignition Temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper Flame Limit (volume % in air):</td>
<td>Not determined</td>
</tr>
<tr>
<td>Lower Flame Limit (volume % in air):</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**10. STABILITY AND REACTIVITY**

<table>
<thead>
<tr>
<th>Normally Stable:</th>
<th>Stable under normal storage conditions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incompatibilities:</td>
<td>Do not contaminate with any material. Contamination with isocyanates or BioBased® A - Component may cause a reaction generating pressure that could cause a closed container to explode. Product may also react violently with oxidizing agents and acids.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products:</td>
<td>Carbon monoxide, carbon dioxide, nitrogen oxides and organic residues</td>
</tr>
<tr>
<td>Hazardous Polymerization:</td>
<td>Can occur as a result of contact with polyisocyanates. Uncontrolled mixture with BioBased® A - Component may result in a violent reaction. – Always follow product use instructions.</td>
</tr>
</tbody>
</table>
11. TOXICOLOGICAL INFORMATION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity:</td>
<td>This product has not been tested as a mixture.</td>
</tr>
<tr>
<td>Eye Irritation:</td>
<td>Considered corrosive to the eyes based on ingredient information.</td>
</tr>
<tr>
<td>Skin Irritation:</td>
<td>Considered corrosive. Skin contact can trigger respiratory sensitization responses.</td>
</tr>
<tr>
<td>Respiratory Contact</td>
<td>Considered an irritant and corrosive. May cause severe respiratory allergic reaction in individuals sensitized to amines.</td>
</tr>
<tr>
<td>Chronic data:</td>
<td>Permanent sensitization of the skin and respiratory tract can occur from repeated exposures. (Allergic reaction whenever exposure occurs.)</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

No data available on product. Avoid contact with natural waterways and soils.

13. DISPOSAL CONSIDERATIONS

**RCRA**

| Is the unused product a RCRA hazardous waste if discarded? | No |
| If yes, the RCRA ID number is:                           | ------- |

The information offered in Section 13 is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

| Other Disposal Considerations: | Liquid product should be incinerated in a licensed facility in accordance with local, state and federal regulations. Do not discharge to waterways or sewer systems or dispose of on the ground. **Under no circumstances should a torch, welder, plasma cutter or similar tool capable of producing an arc be used on an empty container regardless of whether the container has been rinsed or cleaned.** Containers should be punctured with a non-sparking tool and disposed of in a licensed facility or landfill. |

14. TRANSPORT INFORMATION

| Shipping Name:              | Resin Compound |
| UN ID Number”               | Not applicable |
| Packing Group               | Not applicable |
| US DOT Hazard Class:        | Not regulated  |
| Canadian TDG Hazard Class:  | Not regulated  |
| IMDG Hazard Class (sea):    | Not regulated  |
| IATA Hazard Class (air):    | Not regulated  |
15. REGULATORY INFORMATION

**Toxic Substances Control Act (TSCA)**

<table>
<thead>
<tr>
<th>TSCA Inventory Status:</th>
<th>Listed on TSCA Chemical Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other TSCA Issues:</td>
<td>None</td>
</tr>
</tbody>
</table>

**SARA Title III/CERCLA**

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>SARA/CERCLA RQ (lb)</th>
<th>SARA EHS TPQ (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ingredients listed in this section.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

**SARA 311 Hazard Class:** Immediate, Delayed

**SARA 313 Toxic Chemicals:**

The following ingredients are SARA 313 "Toxic Chemicals" and may be subject to annual reporting requirements. CAS numbers and weight percents are found in Section 2.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ingredients listed in this section.</td>
<td></td>
</tr>
</tbody>
</table>

**State Right-To-Know**

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Weight %</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde (trace impurity)</td>
<td>&lt; 30 ppm</td>
<td>California Proposition 65 Carcinogen</td>
</tr>
</tbody>
</table>

**Additional Regulatory Information:** None

**Non–US Regulatory Information.**

**WHMIS Classification: (Canada)**

D2A This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Other Chemical Inventory Status:** Some ingredients not confirmed on Canadian DSL.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Current Issue Date:</th>
<th>January 28, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous Issue Date:</td>
<td>August 30, 2010</td>
</tr>
<tr>
<td>Changes from previous Issue Date:</td>
<td>Address change</td>
</tr>
<tr>
<td>Other Product Information:</td>
<td>None</td>
</tr>
</tbody>
</table>
Hazard Ratings

<table>
<thead>
<tr>
<th>HMIS (III)</th>
<th>NFPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health – 3</td>
<td>Health – 3</td>
</tr>
<tr>
<td>Flammability – 1</td>
<td>Flammability – 1</td>
</tr>
<tr>
<td>Physical Hazard – 1</td>
<td>Instability – 1</td>
</tr>
</tbody>
</table>

The technical data contained herein is true and accurate to the best of BioBased Technologies® LLC knowledge on the date of publication. The technical data is subject to change, however, and the user should contact BioBased Technologies® LLC to verify that the technical data is current. In addition, the technical data is provided for your guidance only. Because many factors can affect the processing or application of the product and/or its use, it is the user’s responsibility to test the product to determine its suitability for the user’s intended use. The sale and use of this product is subject to all of the terms and conditions set forth in the BioBased Technologies® LLC sales order, including the LIMITED WARRANTY, DISCLAIMER OF WARRANTY AND RELEASE, and EXCLUSION OF CONSEQUENTIAL AND OTHER DAMAGES. This technical data does not create an express warranty of any kind. The only warranty applicable to this product is the written, limited express warranty contained in the BioBased Technologies® LLC sales order, which is extended to the purchaser only.