1. Product Identification

**Product name**  
SB-112 Hardener, Part B

**SDS Number**  
0400800

**Product type**  
Polyamine mixture

**Recommended use of the chemical and restrictions on use**  
Directed at, but not limited to, the laminating and coating of fiber reinforced composites and wood.

**Restrictions**  
None known.

**Manufacturer/Supplier information**

- **Company name**: SYSTEM THREE RESINS, INC.
- **Address**: 8517 Commerce Place Dr NE  
  Lacey, WA 98516  
  United States
- **Telephone**: 1-253-333-8118
- **Website**: www.systemthree.com
- **Email**: support@systemthree.com
- **Emergency Contact**: CHEMTEL (U.S. and CANADA)  
  1-800-704-9215  
  CHEMTEL (Outside the U.S.) – Call Collect accepted  
  +1-360-256-7365

2. Hazard(s) Identification

**Classification of substance or mixture/Signal Word**  
DANGER  
Acute Toxicity (oral, dermal) – Category 4  
Skin Corrosion/Irritation – Category 1  
Serious Eye Damage/Eye Irritation – Category 1  
Skin Sensitization – Category 1  
Toxic to Reproduction [Fertility, Unborn child] – Category 1

**GHS Label Elements**

**Hazard Pictograms**

- ![](image)
- ![](image)
- ![](image)

**Hazard Statements/Classification of substance or mixture**

- **H302** Harmful if swallowed.
- **H312** Harmful in contact with skin.
- **H314** Causes severe skin burns and eye damage.
- **H317** May cause an allergic skin reaction.
- **H318** Causes serious eye damage.
- **H360** May damage fertility or the unborn child.

**Precautionary statements**

**Precautionary Statements Prevention**

- **P201** Obtain special instructions before use.
- **P202** Do not handle until all safety precautions have been read and understood.
- **P260** Do not breathe dust/fume/gas/mist/vapours/spray.
- **P264** Wash hands thoroughly after handling.
- **P270** Do not eat, drink or smoke when using the product.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Wear protective gloves. Wear eye or face protection.

Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN: Wash with soap and water. Take off contaminated clothing and wash before reuse.

Remove person to fresh air and keep comfortable for breathing.

Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Get medical advice/attention.

Store locked up.

Dispose of contents and container in accordance with all local, regional, national and international regulations.

None available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycloaliphatic Amine Adduct</td>
<td>Trade Secret</td>
<td>50 – 60%</td>
</tr>
<tr>
<td>Aliphatic Amine Adduct</td>
<td>Trade Secret</td>
<td>30 – 40%</td>
</tr>
<tr>
<td>Polyoxypropylenediamine</td>
<td>9046-10-0</td>
<td>10 – 15%</td>
</tr>
</tbody>
</table>

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Flush immediately with copious amounts of water. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing.

Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting without medical advice. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain open airway. Loosed tight clothing such as a collar, tie, belt, or waistband.

Move to fresh air.
### Indication of immediate medical attention and special treatment needed, if necessary

<table>
<thead>
<tr>
<th>Notes to physician</th>
<th>Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific treatments</td>
<td>No specific treatment.</td>
</tr>
</tbody>
</table>

### 5. Fire-Fighting Measures

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical. Water Fog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>None known.</td>
</tr>
<tr>
<td>Specific hazards arising from the chemical</td>
<td>May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from firefighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Decomposition products may include the following materials: Carbon dioxide. Carbon monoxide. Nitrogen oxides.</td>
</tr>
<tr>
<td>Special protective actions for fire-fighters</td>
<td>Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.</td>
</tr>
<tr>
<td>Special protective equipment for fire-fighters</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.</td>
</tr>
<tr>
<td>Further information</td>
<td>Do not allow run-off from firefighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.</td>
</tr>
</tbody>
</table>

### 6. Accidental Release Measures

| Personal precautions | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wear proper protective clothing, gloves and eye/face protection. |
| Emergency procedures | If material is spilled, avoid contact with material. Persons not wearing appropriate protective equipment should leave the area of the spill until cleanup is complete. |
| Methods and materials for containment/cleanup | Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. |
| Environmental precautions | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

### 7. Handling and Storage
| Precautions for safe handling | Put on appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid contact with skin and eyes. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. When using, do not eat, drink or smoke. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| Precautions/Recommendations for safe/proper storage | Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. |

8. **Exposure Controls/Personal Protection**

| Occupational Exposure Limits | None established. |
| Appropriate engineering controls | Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. |
| Environmental exposure controls | Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Do not allow spill to enter sewers or waterways. |

**Individual protection measures/Personal protective equipment**

| Eye/face protection | Splash-proof goggles or safety spectacles with side shields are recommended. Always wear eye protection when sanding cured epoxy resins to avoid dust in eyes. |
| Hand protection | Always wear impervious gloves: butyl rubber, nitrile rubber, Neoprene, PVC disposable gloves, |
| Skin protection | Wear clean, body-covering clothing to avoid skin contact. |
| Respiratory protection | Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. |

**Special instructions for protection and hygiene**

| Wear gloves at all times when handling product, avoid direct contact with skin. When finished using product, dispose of gloves properly and wash hands with warm, soapy water. |

9. **Physical and Chemical Properties**
Chemical family: Amine Curing Agent

Appearance: Clear liquid

Physical State:
- Form: Pourable liquid
- Color: Very light yellow
- Odor: Ammoniacal

Density (Specific Gravity): 8.65 lb/gal (1.04)

Viscosity: 2200 CPS @ 77 °F (25 °C)

pH: Alkaline

Melting point/freezing point: N/A

Initial boiling point and boiling range: N/A

Flash point: N/A

Evaporation rate: Slower than ether

Flammability (solid, gas): N/A

Upper/lower flammability limit (by volume): N/A

Material VOC: N/A

Vapor density: Heavier than air

Relative density: N/A

Solubility in water: Very slight in water

Partition coefficient: n-octanol/water: N/A

Auto-ignition temperature: N/A

Decomposition temperature: N/A

10. Stability and Reactivity

Reactivity: Stable under normal conditions.

Chemical Stability: The product is stable.

Possibility of hazardous reactions:
Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid:
Epoxy resins and epoxy resin hardeners react with each other producing heat. They should not be mixed with each other under uncontrolled conditions or in a large mass as the ensuing exotherm may result in heat and smoke.

Incompatible materials:
Strong oxidizing agents and mineral acids.

Hazardous decomposition products:
Oxides of carbon, nitrogen.

Other hazards:
None known.

11. Toxicological Information

Acute Health Hazard (components): No comprehensive data (ingestion, inhalation, dermal) on mixture (product).

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxypropylenediamine</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2,885.3 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LC50 Inhalation</td>
<td>Rat</td>
<td>&gt;0.74 mg/l</td>
<td>8 h</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------</td>
<td>-----------</td>
<td>------------</td>
<td>-----</td>
</tr>
<tr>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>2,979.7 mg/kg</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**Irritation/Corrosion (components)**
- Classifies as Skin Corrosion Category 1 per positive Corrositex Dermal Testing.
- Classifies as Serious Eye Damage Category 1 per GHS calculations.

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Test</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxypropylenediamine</td>
<td>Skin-Corrosive</td>
<td>Rabbit</td>
<td>-</td>
<td>1-4 h</td>
</tr>
<tr>
<td></td>
<td>Eye-Corrosive</td>
<td>Rabbit</td>
<td>OECD Test Guideline 405</td>
<td>-</td>
</tr>
</tbody>
</table>

**Sensitization**
- No information on product itself.

**Mutagenicity**
- No information on product itself.

**Carcinogenicity**
- No information on product itself.

**Reproductive Toxicity**
- No information on product itself.

**Teratogenicity**
- No information on product itself.

**Specific target organ toxicity (single exposure)**
- No information on product itself.

**Specific target organ toxicity (repeated exposure)**
- No information on product itself.

**Aspiration hazard**
- No information on product itself.

**Potential acute health effects**

**Eye Contact**
- Causes serious eye damage.

**Inhalation**
- No data available.

**Skin Contact**
- Causes severe burns. May cause an allergic skin reaction.

**Ingestion**
- Harmful if swallowed. May cause burns to mouth, throat, and stomach.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye Contact**
- Adverse symptoms may include the following:
  - Pain
  - Watering
  - Redness

**Inhalation**
- Adverse symptoms may include the following:
  - Wheezing and breathing difficulties
  - Asthma

**Skin Contact**
- Adverse symptoms may include the following:
  - Pain or irritation
  - Redness
  - Blistering may occur

**Ingestion**
- Adverse symptoms may include the following:
  - Stomach pains

**Delayed and immediate effects and also chronic effects from short and long term exposure**
- No information on product itself.

**Potential chronic health effects**

**General**
- Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity**
- No known significant effects or critical hazards.

**Mutagenicity**
- No known significant effects or critical hazards.
Teratogenicity  
No known significant effects or critical hazards.

Developmental effects  
No known significant effects or critical hazards.

Fertility effects  
No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates (ATEmix)

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>1336.8 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>1634.4 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>-</td>
</tr>
</tbody>
</table>

12. Ecological Information

Ecotoxicity  
No comprehensive data available on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Test Endpoint</th>
<th>Species</th>
<th>Results</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxypropylenediamine</td>
<td>Acute EC50: OECD 203 Fish, Acute Toxicity Test</td>
<td>Fish</td>
<td>&gt;15 mg/l</td>
<td>96 h Semi-static</td>
</tr>
<tr>
<td></td>
<td>Acute EC50: OECD 203 Fish, Acute Toxicity Test</td>
<td>Fish</td>
<td>772.14 mg/l</td>
<td>96 h Static</td>
</tr>
<tr>
<td></td>
<td>Chronic NOEC: OECD 201 Alga, Growth Inhibition Test</td>
<td>Algae</td>
<td>0.32 mg/l</td>
<td>72 h Static</td>
</tr>
</tbody>
</table>

Persistence and degradability  
No information on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Test Endpoint</th>
<th>Period</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxypropylenediamine</td>
<td>OECD 301B Ready Biodegradability – CO2 Evolution Test</td>
<td>28 days</td>
<td>0%</td>
</tr>
</tbody>
</table>

Bioaccumulative Potential  
No information on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxypropylenediamine</td>
<td>1.34</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Mobility in Soil

Soil/water partition coefficient (KOC)  
No information on product itself.

Other adverse effects  
No known significant effects or critical hazards.

13. Disposal Considerations

Waste from residues/ unused products  
Product should not be allowed to enter drains, water courses or the soil; dispose of this material and its containers in a safe way. Contact supplier if guidance is required.

Contaminated packaging  
Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information
The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

**International Transport Regulations**

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN/NA number</th>
<th>Proper Shipping Name</th>
<th>Classes/*PG</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (polyoxypropylenediamine)</td>
<td>Class 8PG</td>
<td>Class III</td>
</tr>
<tr>
<td>TDG</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (polyoxypropylenediamine)</td>
<td>Class 8PG</td>
<td>Class III</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (polyoxypropylenediamine)</td>
<td>Class 8PG</td>
<td>Class III</td>
</tr>
<tr>
<td>IATA</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (polyoxypropylenediamine)</td>
<td>Class 8PG</td>
<td>Class III</td>
</tr>
</tbody>
</table>

*PG: Packing group

**Special precautions for user:** Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### 15. Regulatory Information

**UNITED STATES**

**U.S. Federal Regulations**

- **United States – TSCA 12(b) – Chemical export notification:** None Required.
- **United States – TSCA 5(a)2 – Final significant new use rules:** Not Listed.
- **United States – TSCA 5(a)2 – Proposed significant new use rules:** Not Listed.
- **United States – TSCA 5(e) – Substance consent order:** Not listed.

**Clean Air Act – Ozone Depleting Substances (ODS)**

This product does not contain nor is manufactured with ozone depleting substances.

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)**

- **Pennsylvania – RTK**
  - None known.

**California Prop. 65**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**EPA SARA 302 Extremely Hazardous Substances**

- None known.

**EPA SARA 302/304/311/312 Hazardous Chemicals**

- Acute health hazard
- Chronic health hazard

**SARA 313**

- Form R – Reporting requirements
  - None.

**CERCLA Hazardous substances**

- None required.

**United States inventory (TSCA 8b)**

All components are listed or exempted.

**CANADA**

**WHMIS (Canada)**

- Class D-2B: Material causing other toxic effects (Toxic).
- Class E: Corrosive material.

**Canadian NPRI**

- None required.

**CEPA Toxic substances**

- None required.

**INTERNATIONAL REGULATIONS**

**International Lists**

- **Australia inventory (AICS):** All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Japan inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
New Zealand inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

16. Other Information, Including Date of Preparation or Last Revision

HMIS Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Date of Preparation: January 22, 2020
Date of Last Revision: September 26, 2019
Revision #: 5.0
Prepared by: System Three Resins Inc.

The information contained herein is based on the data available to us and is believed to be correct. However, System Three Resins, Inc. makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. System Three assumes no responsibility for injury from the use of the product described herein.