1. Product Identification

Product name: System 51 Fast Hardener, Part B
SDS Number: 0801800
Product type: Amine curing agent.
Recommended use of the chemical and restrictions on use: Directed at, but not limited to, the laminating and coating of 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: DERMAL – Category 4
ACUTE TOXICITY: INHALATION -Category 3
SKIN CORROSION/IRRITATION – Category 1
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
SKIN SENSITIZATION – Category 1
GERM CELL MUTAGENICITY – Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [Respiratory tract irritation] – Category 2

GHS Label Elements
Hazard Pictograms

Hazard Statements/Classification of substance or mixture
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.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.

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 fumes/vapors.
P264 Wash hands and exposed skin thoroughly after handling.
P272 Contaminated clothing should not be allowed out of the workplace.
P280 Wear eye protection/face protection. Wear protective gloves.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361+ P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P310 Immediately call a POISON CENTER/doctor.

Storage

P405 Store locked up.

Disposal

P501 Disposal of contents/container to be specified in accordance with regulations.

Hazards not otherwise classified (HNOC) None known.

3. Composition/Information On Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Number</th>
<th>Content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Aliphatic Amines</td>
<td>Trade Secret</td>
<td>80 – 90%</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</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.

4. First-Aid Measures

Skin contact

Wash off immediately with plenty of water for at least 20 minutes. Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately.

Eye contact

Rinse immediately with plenty of water also under the eyelids for at least 20 minutes. Remove contact lenses.

Ingestion

If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim’s head to the side.

Inhalation

If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician Application of corticosteroid cream has been effective in treating skin irritation.

Specific treatments No specific treatment.

5. Fire-Fighting Measures
Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide (CO\textsubscript{2}), dry chemical, dry sand, limestone powder.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: May generate ammonia gas. May generate toxic nitrogen oxide gases. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes.

Hazardous decomposition products: Decomposition products may include the following materials: Carbon dioxide, carbon monoxide, nitrogen oxides.

Special protective actions for fire-fighters: 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.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information: Do not allow runoff from firefighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### 6. Accidental Release Measures

**Personal precautions:** Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

**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). Construct a dike to prevent spreading.

### 7. Handling and Storage

**Precautions for safe handling:** Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Use only in well-ventilated areas. Avoid breathing vapors and/or aerosols. Put on appropriate personal protective equipment (see Section 8). When using, do not eat, drink or smoke.

**Precautions/Recommendations for safe/proper storage:** Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place.

### 8. Exposure Controls/Personal Protection
Occupational Exposure Limits
None established.

Appropriate engineering controls
Provide readily accessible eye wash stations and safety showers. Provide natural ventilation adequate to ensure concentrations are kept below exposure limits.

Environmental exposure controls
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
Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers. Wash hands at the end of each work shift and before eating, smoking or using the toilet.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical family</td>
<td>Amine curing agent</td>
</tr>
<tr>
<td>Appearance</td>
<td>Straw-yellow liquid</td>
</tr>
<tr>
<td>Physical State</td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Straw-yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammonia-like odor</td>
</tr>
<tr>
<td>Density (Specific Gravity)</td>
<td>1.03</td>
</tr>
<tr>
<td>Viscosity</td>
<td>700 – 1000 CPS @25°C</td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>N/A</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>204°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;110°C (Pensky-Martins Closed Cup)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Slower than ether</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper/lower flammability limit (by volume)</td>
<td>N/A</td>
</tr>
<tr>
<td>Material VOC</td>
<td>None</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Heavier than air</td>
</tr>
<tr>
<td>Relative density</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Negligible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>N/A</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>N/A</td>
</tr>
</tbody>
</table>
10. Stability and Reactivity

Reactivity
Stable under normal conditions.

Chemical Stability
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 exothermic reaction may result in heat and smoke.

Incompatible materials
Strong oxidizing agents, mineral acids.

Hazardous decomposition products
Irritating and/or toxic fumes and gases may be emitted upon the product’s decomposition. Decomposition of this product may emit oxides of carbon and 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>Modified Aliphatic Amines</td>
<td>Acute LD50 Oral</td>
<td>Rat</td>
<td>&gt;2,200 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Acute LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;1,000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Acute LD50 Oral</td>
<td>Rat</td>
<td>2,140 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Acute LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;660 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>Phenol</td>
<td>Acute LD50 Inhalation</td>
<td>Rat</td>
<td>&gt;900 mg/m3</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Acute LD50 Oral</td>
<td>Rat</td>
<td>340 to 540 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Acute LD50 Dermal</td>
<td>Rat</td>
<td>660 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Irritation/Corrosion (components)
No data is available for the product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Result</th>
<th>Species</th>
<th>Test</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Aliphatic Amines</td>
<td>Moderate Irritation</td>
<td>-</td>
<td>Skin</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Severe Irritation</td>
<td>-</td>
<td>Eyes</td>
<td>-</td>
</tr>
<tr>
<td>Phenol</td>
<td>Corrosive</td>
<td>Rabbit</td>
<td>Skin</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Corrosive</td>
<td>Rabbit</td>
<td>Eyes</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitization
May cause sensitization by skin contact.

Mutagenicity
No data is available on the product itself.

Carcinogenicity
No data is available on the product itself.

Reproductive Toxicity
No data is available on the product itself.

Teratogenicity
No data is available on the product itself.

Specific target organ toxicity (single exposure)
No data is available on the product itself.
Specific target organ toxicity (repeated exposure)  
Aspiration hazard  
No data is available on the product itself.

Potential acute health effects

Eye Contact  
Causes serious eye damage.

Inhalation  
May cause respiratory irritation.

Skin Contact  
Causes severe skin burns.

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

Symptoms related to the physical, chemical and toxicological characteristics

Eye Contact  
No data is available on the product itself.

Inhalation  
No data is available on the product itself.

Skin Contact  
No data is available on the product itself.

Ingestion  
No data is available on the product itself.

Delayed and immediate effects and also chronic effects from short and long term exposure

Potential chronic health effects

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

Carcinogenicity  
No significant effects or critical hazards.

Mutagenicity  
A component in this product indicate mutagenic activity.

Teratogenicity  
No significant effects or critical hazards.

Developmental effects  
No significant effects or critical hazards.

Fertility effects  
No 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>2187.7 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>906.6 mg/kg</td>
</tr>
<tr>
<td>Inhalation (vapors)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

12. Ecological Information

Ecotoxicity  
No data is available on the product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Test</th>
<th>Exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>EC50</td>
<td>48 h</td>
<td>Daphnia</td>
<td>4 – 7 mg/l</td>
</tr>
</tbody>
</table>

Persistence and degradability  
No data is available on the product itself.

Bioaccumulative Potential  
No data is available on the product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>LogPow</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>-</td>
<td>-</td>
<td>Low</td>
</tr>
</tbody>
</table>

Mobility in Soil  
No data is available on the product itself.
13. Disposal Considerations

Waste from residues/ unused products
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

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.

<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. (Ethylene amine)</td>
<td>Class 8 III</td>
<td></td>
</tr>
<tr>
<td>TDG</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (Ethylene amine)</td>
<td>Class 8 III</td>
<td></td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (Ethylene amine)</td>
<td>Class 8 III</td>
<td>Marine pollutant</td>
</tr>
<tr>
<td>IATA</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (Ethylene amine)</td>
<td>Class 8 III</td>
<td>Marine pollutant</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)

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>0 – 1</td>
</tr>
</tbody>
</table>

Pennsylvania – RTK
Phenol
This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

None known

Acute Health Hazard, Chronic Health Hazard

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>0 – 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>%</th>
<th>Section 304 CERCLA Hazardous Substance</th>
<th>CERCLA Reportable Quantity (Lbs)</th>
<th>Product Reportable Quantity (Lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>1</td>
<td>Listed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All components are listed or exempted.

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

None required.

None required.

All components are listed or exempted.

All components are listed or exempted.

All components are listed or exempted.

All components are listed or exempted.

All components are listed or exempted.

All components are listed or exempted.

All components are listed or exempted.

All components are listed or exempted.

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

**HMIS Rating**

- Health 3
- Flammability 1
- Physical Hazard 0

**Date of Preparation** January 14, 2020

**Date of Last Revision** September 12, 2019

**Revision #** 3.0

**More Information** 1-253-333-8118

**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.