1. Product Identification

Product name: MetlWeld Adhesive Hardener, Part B

SDS Number: 1200800

Product type: Amide/Butadiene mixture

Recommended use of the chemical and restrictions on use: Directed at, but not limited to, the adhesive of metal substrates.

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: WARNING
SKIN CORROSION/IRRITATION – Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
SKIN SENSITIZATION – Category 1

GHS Label Elements

Hazard Pictograms

Hazard Statements/Classification of substance or mixture:

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

Precautionary statements:

Precautionary Statements
Prevention:
P261 Avoid breathing fume/vapours.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response:
P302+352 IF ON SKIN: Wash with plenty of water.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.

Storage

Disposal

P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC) None Available.

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 Polyamide</td>
<td>Trade Secret</td>
<td>70 – 80%</td>
</tr>
<tr>
<td>2,4,6 Tris(dimethylaminomethyl)phenol</td>
<td>90-72-2</td>
<td>5 – 10%</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>100-51-6</td>
<td>5 – 10%</td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1,3, dimethylbenzene</td>
<td>26139-75-3</td>
<td>5 – 10%</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

Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Take off contaminated clothing and shoes immediately. NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

Eye contact

Immediately flush eyes with plenty of clean water for an extended time, not less than 15 minutes. Flush longer if there is any indication of residual chemical in eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. If eye irritation persists: Get medical advice/attention.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If a person vomits when lying on back, place in the recovery position. Prevent aspiration of vomit. Turn victim’s head to the side.

Inhalation

Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

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

Notes to physician Treat symptomatically.

Specific treatments No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media Alcohol-resistant foam.
Carbon dioxide (CO2).
Dry chemical
Water Fog

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical 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. Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NOx) is to be expected. 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 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.

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 specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

**Methods and materials for containment/cleanup**

Contain by diking with sand, earth or other non-combustible material. Wear proper personal protective clothing and equipment. Absorb spill with an inert material. Place into labeled, closed container; store in a safe location to await disposal. Change contaminated clothing and launder before reuse. CAUTION: Spilled liquid and dried film are slippery. Use care to avoid falls.

**Environmental precautions**

Construct a dike to prevent spreading. Do not flush liquid into public sewer, water systems or surface waters.

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 breathing vapors and/or aerosols. Avoid contact with eyes. Use only in well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.

**Precautions/Recommendations for safe/proper storage**

Store epoxy products in temperature stable environment, out of the reach of pets or children. Securely fasten container lids and tops, and prevent products from sitting and below freezing temperatures.

8. **Exposure Controls/Personal Protection**

**Permissible exposure limit (OSHA)**

None established.

**Threshold limit value (ACGIH)**

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**

Use appropriate containment to avoid environmental contamination. 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

<table>
<thead>
<tr>
<th>Chemical family</th>
<th>Polyamide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Gray colored paste</td>
</tr>
<tr>
<td>Physical State</td>
<td>Polyamide/Butadiene mixture</td>
</tr>
<tr>
<td>Form</td>
<td>Paste</td>
</tr>
<tr>
<td>Color</td>
<td>Gray</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild ammonia odor</td>
</tr>
<tr>
<td>Density (Specific Gravity)</td>
<td>11.18 lb/gal (1.34)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>100,000 – 120,000 cps at 77 °F (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>N/A</td>
</tr>
<tr>
<td>Flash point</td>
<td>N/A</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Slower than ether</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Data not available</td>
</tr>
<tr>
<td>Upper/lower flammability limit (by volume)</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper flammability limit (by volume)</td>
<td>N/A</td>
</tr>
<tr>
<td>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>Not determined</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>
</tbody>
</table>
Auto-ignition temperature  N/A
Decomposition temperature  N/A

10. Stability and Reactivity

Reactivity  No specific test data related to reactivity available for this product.
Chemical Stability  Stable under normal conditions.
Possibility of hazardous reactions  Hazardous polymerization 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 produce heat, smoke and hazardous decomposition products.
Incompatible materials  Strong oxidizing agents and acids.
Hazardous decomposition products  Organic acid vapors, nitric acid, ammonia, nitrogen and carbon oxides, nitrosamine and aldehydes. Nitrogen oxide can react with water vapors to form corrosive nitric acid.

11. Toxicological Information

Acute Toxicity (components)  No comprehensive data is available on the product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Test</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Polyamide</td>
<td>LD50 Oral - Estimated</td>
<td>Rat</td>
<td>&gt;500 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal – Estimated</td>
<td>Rabbit</td>
<td>&gt;2,000 mg/kg</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>LC50 Inhalation – OECD Test Guideline 403</td>
<td>Rat</td>
<td>&gt;4,178 mg/l</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>1,620 mg/kg</td>
</tr>
<tr>
<td>2,4,6 Tris(dimethylaminomethyl)phenol</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2,169 mg/kg</td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1,3, dimethylbenzene</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal</td>
<td>Rabbit</td>
<td>&gt;2,000 mg/kg</td>
</tr>
</tbody>
</table>

Irritation/Corrosion (components)  Classifies as non-corrosive to skin per negative Corrositex Dermal Testing. Classifies as Serious Eye Damage Category 1 per GHS calculations of additivity.

<table>
<thead>
<tr>
<th>Component</th>
<th>Test</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Polyamide</td>
<td>-</td>
<td>-</td>
<td>Skin – Moderate irritant</td>
</tr>
<tr>
<td>2,4,6 Tris(dimethylaminomethyl)phenol</td>
<td>-</td>
<td>Rabbit</td>
<td>Skin – Corrosive</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Rabbit</td>
<td>Eyes – Corrosive</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>OECD 405</td>
<td>Rabbit</td>
<td>Eyes – Irritant</td>
</tr>
<tr>
<td>Formaldehyde, polymer with 1,3, dimethylbenzene</td>
<td>-</td>
<td>-</td>
<td>Skin – Mild irritant</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>Eye – Mild irritant</td>
</tr>
</tbody>
</table>

Sensitization  No information on product itself.

<table>
<thead>
<tr>
<th>Component</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,6 Tris(dimethylaminomethyl)phenol</td>
<td>Guinea Pig</td>
<td>Weak Sensitizer</td>
</tr>
</tbody>
</table>
**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**
  May cause allergic skin reaction. Causes skin irritation.

- **Ingestion**
  No data available.

**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:
  - Respiratory tract irritation

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

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

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

**Potential chronic health effects**

- **General**
  Causes damage to organs through prolonged or repeated exposure: 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 (ATE_{mix})**
  Not available.

---

12. **Ecological Information**
Ecotoxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Test</th>
<th>Endpoint</th>
<th>Exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Polyamide</td>
<td>-</td>
<td>Acute LC50</td>
<td>96 hrs</td>
<td>Guppy</td>
<td>63 mg/l</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute EC50</td>
<td>48 hrs</td>
<td>Daphnia</td>
<td>15.4 mg/l</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>-</td>
<td>Acute EC50</td>
<td>48 hrs</td>
<td>Invertebrates</td>
<td>230 mg/l</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Acute LC50</td>
<td>96 hrs</td>
<td>Fish</td>
<td>460 mg/l</td>
</tr>
<tr>
<td>2,4,6-tris(dimethylaminomethyl)phenol</td>
<td>201 Alga, Growth Inhibition Test</td>
<td>Acute EC50</td>
<td>72 hr</td>
<td>Aquatic plants – Green Algae</td>
<td>84 mg/l</td>
</tr>
</tbody>
</table>

Persistence and degradability
No information on product itself.

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>Benzyl Alcohol</td>
<td>1.05</td>
<td>1.37 (calculated)</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
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. 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>Non-regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDG</td>
<td>Non-regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (2,4,6 Tris(dimethylaminomethyl)phenol)</td>
<td>Class 8 III</td>
<td></td>
</tr>
<tr>
<td>IATA</td>
<td>UN2735</td>
<td>Amines, liquid, corrosive, n.o.s. (2,4,6 Tris(dimethylaminomethyl)phenol)</td>
<td>Class 8 III</td>
<td></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 12(b) – Proposed significant new use rules: None Required.
- United States – TSCA 5(e) – Substance consent order: Not listed.

Clean Air Act – Ozone Depleting Substances (ODS)
This product does not contain nor is it manufactured with ozone depleting substances.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)
Pennsylvania – RTK
None known.

California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

EPA SARA 302/304/311/312 Substances
Acute Health Hazard

EPA SARA 313 Form R – Reporting requirements
None.

CERCLA Hazardous Substances
None.

United States inventory (TSCA 8b)
All components are listed or exempted.

CANADA

WHMIS (Canada)
Class D-2B: Material causing other toxic effects (Toxic).

Canadian NPRI
CEPA Toxic substances
None Required
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
- Health 3
- Flammability 1
- Physical Hazard 0

Date of Preparation
January 24, 2020

Date of Last Revision
September 23, 2019

Revision #
6.0
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.