SAFETY DATA SHEET

1. Product Identification

Product name	Metlweld Adhesive Hardener, Part B
SDS Number	1200B00
Product type	Amide/Butadiene mixture
Manufacturer/Supplier information	Directed at, but not limited to, the adhesive of metal substrates.
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy, Suite Suite 105 Auburn, WA 98001-2436 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support@systemthree.com
Emergency Contact	CHEMTREC (U.S. and CANADA) 1-800-424-9300 CHEMTREC (Outside the U.S.) 1-703-527-0585

2. Hazard(s) Identification

Classification of substance or mixture/Signal Word

WARNING
ACUTE TOXICITY, ORAL – Category 4
SKIN 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

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H370 Causes damage to organs: (eyes, mucous membranes).
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.

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 vapor.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

	P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required.
Response	P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. P308+P313 If exposed or concerned: Get medical attention. P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P302+352+363 IF ON SKIN: Wash with soap and water. Take off contaminated clothing and wash before reuse. P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
Storage	P405 Store locked up.
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

Chemical Name	CAS Number	Content (%)
Modified Polyamide	Trade Secret	60-70%
ATBN Polymer	68683-29-4	15-25%
Benzyl Alcohol	100-51-6	5-10%
Nonyl Phenol	25154-52-3	0-5%
Triethylenetetramine	112-24-3	0-5%

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 PHYSICIAINS: 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 (CO_2). 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

Chemical family	Polyamide
Appearance	Gray colored paste
Physical State	Polyamide/Butadiene mixture
Form	Paste
Color	Gray
Odor	Mild ammonia odor
Density (Specific Gravity)	10.20 lb/gal (1.22)
Viscosity	140,000 – 160,000 cps at 77 °F (25 °C)
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	>250°F, Pensky-Martens Closed Cup
Evaporation rate	Slower than ether
Flammability (solid, gas)	Data not available
Upper/lower flammability limit (by volume)	N/A
Upper flammability limit (by volume)	N/A

Lower flammability limit (by volume)	N/A
Material VOC	None
Vapor density	Heavier than air
Relative density	Not determined
Solubility in water	Negligible
Partition coefficient: n-octanol/water	N/A
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	Organic and mineral acids. Reactive metals (e.g. sodium, calcium, zinc, etc). Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Materials reactive with hydroxyl compounds. Oxidizing agents, amines, bases and reducing agents. Nitrous acid and other nitrosating agents. CAUTION! N-nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.
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.

Component	Test	Species	Result
Modified Polyamide	LD50 Oral - Estimated	Rat	>500 mg/kg
	LD50 Dermal – Estimated	Rabbit	>2,000 mg/kg
Benzyl Alcohol	LC50 Inhalation – OECD Test Guideline 403	Rat	>4,178 mg/l
	LD50 Oral	Rat	1,620 mg/kg
Nonyl Phenol	LD50 Oral	Rat	1,412 mg/kg
	LD50 Dermal	Rabbit	2,031 mg/kg
Triethylenetetramine	LD50 Oral	Rat	1,716 mg/kg
	LD50 Dermal	Rabbit	1,465 mg/kg

Irritation/Corrosion (components) No information on product itself.

Component	Test	Species	Result

Modified Polyamide	-	-	Skin – Moderate irritant
ATBN Polymer	-	Rabbit	Skin – Moderate irritant
	-	Rabbit	Eyes – Slight irritant
Benzyl Alcohol	OECD 405	Rabbit	Eyes – Irritant
Triethylenetetramine	-	-	Skin – Severe irritant
	-	-	Eye – Severe irritant

Sensitization No information on product itself.

Component	Species	Result
ATBN Polymer	Guinea Pig	Strong Sensitizer
Triethylenetetramine	Guinea Pig	Causes burns. May cause sensitization by skin contact.

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 irritation.

Inhalation Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Skin Contact May cause allergic skin reaction. Causes skin irritation.

Ingestion Harmful if swallowed. Ingestion may cause irritation.

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
Coughing
Wheezing and breathing difficulties
Asthma

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 Not available.

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 The product or a component may be mutagenic, the data is inconclusive. Results from a battery of short term genotoxicity tests on this material or its components indicate mutagenic activity. In vitro tests have shown mutagenic effects on bacterial cultures.

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 No information on product itself.

Component	Test	Endpoint	Exposure	Species	Result
Modified Polyamide	-	Acute LC50	96 hrs	Guppy	63 mg/l
	-	Acute EC50	48 hrs	Daphnia	15.4 mg/l
ATBN Polymer	OECD 202 Invertebrates	Acute EC50	48 hrs	Invertebrates	>1000 mg/l
	OECD 201 Algae, Growth Inhibition Test	Acute EC50	72 hrs	Algae	>1000 mg/l
Benzyl Alcohol	-	Acute EC50	48 hrs	Invertebrates	230 mg/l
	-	Acute LC50	96 hrs	Fish	460 mg/l
	-	Acute EC50	72 hrs	Algae	770 mg/l
Nonyl Phenol	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50	3 hrs Static	Bacteria	950 mg/l
	ASTM	Acute EC50	48 hrs Static	Daphnia	0.085 mg/l
	ASTM	Acute LC50	96 hrs Static	Fish	0.05 mg/l

Persistence and degradability No information on product itself.

Component	Test	Period	Result
Nonyl phenol	OECD 301B Ready Biodegradability – CO2 Evolution Test	35 days	48.2%

Bioaccumulative Potential No information on product itself.

Component	LogPow	BCF	Potential
Benzyl Alcohol	1.05	1.37 (calculated)	Low
Nonyl Phenol	5.4	740	High

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

Regulatory information	**UN/NA number**	**Proper Shipping Name**	**Classes/*PG**	**Additional Information**
DOT		Non-regulated		
TDG		Non-regulated		
IMO/IMDG	UN3082	Environmentally hazardous substances, liquid, n.o.s. (Nonyl Phenol)	Class 9 III	Marine pollutant
IATA	UN3082	Environmentally hazardous substances, liquid, n.o.s. (Nonyl Phenol)	Class 9 III	

*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)

Product Name	**Concentration %**
Phenol	0 – 1%

Pennsylvania – RTK

Phenol.

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, Chronic Health Hazard

EPA SARA 313 Form R – Reporting requirements

Product Name	Concentration %
Phenol	0 – 1%

CERCLA Hazardous Substances

Component	%	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
Phenol	1	Listed		

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

None Required

CEPA Toxic substances

None Required

INTERNATIONAL REGULATIONS

International Lists

Australia inventory (AICS): 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.

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

HMIS Rating

Health 3
Flammability 1
Physical Hazard 0

Date of Preparation

October 24, 2018

Date of Last Revision

August 11,2017

Revision #

3.0

More Information

1-253-333-8118

Prepared by

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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.