SAFETY DATA SHEET

1. Product Identification

Product name	Mirrorcoat® Resin Part A
SDS Number	0500A
Product type	Epoxy polymer mixture.
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, the coating of wood.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy North Suite 105 Auburn, WA 98001-2436 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support-08@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.

GHS Label Elements

Hazard Pictograms

Hazard statements

H302 Acute Toxicity
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary Statements

Prevention

P280 Wear protective gloves. Wear eye or face protection.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Response: P308 + P313 If exposed or concerned: Get medical attention.

Storage: P401 Store above 32 °F / 0 °C

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 (%)
Diglycidyl Ether of Bisphenol A	25068-38-6	70 – 80 %
Diglycidyl Ether of Bisphenol F	28064-14-4	10 – 15 %
Nonyl Phenol	25154-52-3	10 – 15 %
Alkylglycidyl Ether	17557-23-2	10 – 15 %

4. First-Aid Measures

Inhalation	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.
Skin contact	Remove contaminated clothing and shoes and wipe excess off skin. Flush skin with water. Follow by washing in soap and water. If irritation occurs, seek medical attention. Do not reuse clothing until cleaned. Contaminated leather articles (shoes) cannot be decontaminated and should be destroyed.
Eye contact	Flush with water for 15 minutes holding eye lids open. Seek medical attention.
Ingestion	Do not give liquids if victim is unconscious of very drowsy. Otherwise, give no more than 2 glasses of water and induce vomiting by giving 2 tablespoons syrup of ipecac (1 tablespoon and 1 glass of water for child). If ipecac is unavailable, give 2 glasses of water and induce vomiting by touching finger to back of throat. Keep head below hips while vomiting. Get medical attention.
Most important symptoms/effects, acute and delayed	Burns. Irritation. Pre-existing skin conditions may be aggravated by prolonged or repeated contact. Persons with sensitive airways (e.g., asthmatics) may be sensitive to vapors.
Indication of immediate medical attention and special treatment needed	Treat symptoms as they appear.

5. Fire-Fighting Measures

Suitable extinguishing media	Foam, carbon dioxide, dry chemical, water fog.
Unsuitable extinguishing media	None known
Specific hazards arising from the chemical	Potential skin irritation.
Special protective equipment and precautions for fire-fighters	When fighting chemical fires wear full protective equipment with self-contained breathing apparatus. Water spray may be used to cool fire-exposed containers. Toxic fumes may be evolved when this substance is burned.
Fire-fighting equipment/instructions	Full fire suit and self-contained breathing apparatus.
Specific methods	Water spray may be used to cool fire-exposed containers. Toxic fumes may be evolved when this substance is burned.
General fire hazards	Epoxy in mass can create exotherm.

6. Accidental Release Measures

Personal precautions	Wear proper personal protective equipment (PPE). Avoid direct contact with material.
Protective equipment	Proper PPE includes: disposable gloves, eye protection and skin protection.
Emergency procedures	If materials 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 spill at source, dike area to prevent spreading, pump liquid to salvage tank or drum. Remaining liquid may be taken up on clay, diatomaceous earth, sawdust or other absorbent, and shoveled into disposal container.
Environmental precautions	Skin sensitizer, harmful to aquatic life.

7. Handling And Storage

Precautions for safe handling	Always wear protective, disposable gloves when handling epoxy products to prevent exposure.
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.
Chemical incompatibilities	None known.

8. Exposure Controls/Personal Protection

Permissible exposure limit (OSHA)	None established
Threshold limit value (ACGIH)	None established
Biological Toxicology	Not available
Appropriate engineering controls	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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 to avoid dust in eyes.
Hand protection	Always wear impervious gloves, neoprene, vinyl or rubber.
Skin protection	Wear clean, body-covering clothing to avoid skin contact.
Respiratory protection	Use a NIOSH approved respiratory device when sanding cured epoxy to prevent dust in lungs.
General hygiene during/after use	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	Epoxy Resin
Appearance	Clear viscous liquid
Physical State	Epoxy polymer mixture
Form	Liquid
Color	Water clear
Odor	Mild
Odor threshold	Not determined
Density (Specific gravity)	9.42 lb/gal (1.1-1.3)
Viscosity	2800 cps @ 25°C

pH	Data not available
Melting point/freezing point	Data not available
Initial boiling point and boiling range	Data not available
Flash point	>300°F, Pensky-Martens Closed Cup
Evaporation rate	Slower than ether
Flammability (solid, gas)	Data not available
Upper/lower flammability or explosive limits	
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	Negligible, in water
Partition coefficient: n-octanol/water	3
Auto-ignition temperature	300°C (572.00°F)
Decomposition temperature	Not available

10.Stability And Reactivity

Reactivity	None
Chemical stability	Stable
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 large mass as the ensuing exotherm may result in heat and smoke, resulting in hazardous decomposition products.
Incompatible materials	Strong oxidizing agents, Lewis and mineral acids.
Hazardous decomposition products	Oxides of carbon, aldehydes, acids.

11. Toxicological Information

Information of likely routes of exposure

Ingestion	LD50 Oral, Rat: 11,400 mg/kg LD50 Dermal, Rat: 2,200 mg/kg
Inhalation	Not available.
Skin contact	Skin – Erythema/Eschar 404 Acute Dermal Irritation/Corrosion, Rabbit: 1.5 – 2. Skin – Edema 404 Acute Dermal Irritation/Corrosion, Rabbit: 1.0 – 1.5. Skin – Moderate irritant, Rabbit: 24 hrs. Skin – Severe irritant, Rabbit: 24 hrs.
Eye contact	Eyes – 405 Acute Eye Irritation/Corrosion, Rabbit: 0. Eyes – Redness of the conjunctive, Rabbit: 0.7. Eyes – Mild irritant: N/A.

Symptoms related to the physical, chemical, and toxicological characteristics

Ingestion	No specific data.
Inhalation	Adverse symptoms may include the following: respiratory tract infection, coughing.
Skin contact	Adverse symptoms may include the following: irritation.
Eye contact	Adverse symptoms may include the following: pain or irritation, watering, redness.
Information on toxicology	Not available.

12. Ecological Information

Ecotoxicity

Product	Result	Species	Exposure
Diglycidyl Ether of Bisphenol A Resin	Acute LC50 1.3 mg/l – 203 Fish, Acute Toxicity Test	Fish – Fish	96 h
	Acute EC50 2.1 mg/l – 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water Flea	48 h
	Acute NOEC 0.3 mg/l – 211 Daphnia Magna Reproduction Test	Aquatic invertebrates. Water Flea	21 d
	Acute LC50 > 11 mg/l	Aquatic plants – Algae	72 h

Persistence and degradability	Not available
Bioaccumulative potential	
Diglycidyl Ether of Bisphenol A Resin	**LogPow** – 3, **BCF** – NA, **Potential** – Low.
Mobility in soil	Not available
Other adverse effects	No known significant effects or critical hazards

13. Disposal Considerations

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. Stop spill at source, dike area to prevent spreading, pump liquid to salvage tank or drum. Remaining liquid may be taken up on clay, diatomaceous earth, sawdust, or other absorbent, and shoveled into disposal containers.
Waste Disposal Method	Waste is not hazardous by RCRA criteria (40 CFR 261). Place in an appropriate disposal facility in compliance with local regulations.

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	Reportable Quantity (RQ)
US DOT		Non-regulated		
TDG		Non-regulated		

IMO/IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (LIQUID EPOXY RESIN)	Class 9 III
IATA (Cargo)	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (LIQUID EPOXY RESIN)	Class 9 III

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.

California Prop. 65

This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

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.
Canada 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	2
Flammability	1
Physical Hazard	0

Date of Preparation May 6, 2016

More Information 1-253-333-8118

Prepared By W. Smoot

SAFETY DATA SHEET

1. Product Identification

Product name	Mirrorcoat Hardener Part B
SDS Number	0500B00
Product type	Epoxy Curing Agent
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy, Suite Suite 105 Auburn, WA 98991-2436 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support-08@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: DANGER

GHS Label Elements
Hazard Pictograms

Hazard Statements/Classification of substance or mixture

H302 Harmful if swallowed
H314 Corrosive to skin
H317 May cause sensitization by skin contact.
H318 Causes serious eye damage
H334 May cause allergy or asthma symptoms or breathing difficulties
H373 May cause damage to organs through repeated or prolonged exposure

Precautionary Statements

Prevention
P280 Wear protective gloves. Wear eye or face protection.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

Response
P301 + P312 If swallowed, call a poison control center; get medical attention

Storage
P405 Store locked up.

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

3. Composition/Information On Ingredients

Chemical Name	CAS Number	Content (%)
Nonyl Phenol	84852-15-3	50-60%
Aliphatic Amine Mixture	Trade Secret	40-50%

4. First-Aid Measures

Skin contact
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.

Eye contact
Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical attention. If medical care is not promptly available, continue to irrigate for one hour.

Ingestion
Get medical attention. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side

Inhalation
Get medical attention. Move to fresh air. Supplemental oxygen may be indicated.

5. Fire-Fighting Measures

Suitable extinguishing media
Alcohol-resistant foam.
Carbon dioxide (CO_2).
Dry chemical
Dry sand or limestone powder

Specific hazards arising from the chemical
May generate ammonia and nitrogen oxide gases. Use of water may form very toxic solutions. Incomplete combustion may form carbon monoxide.

Special protective equipment and precautions for fire-fighters

Fire-fighting equipment/instructions
Avoid contact with skin. A face shield should be worn. Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

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
Wear proper protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing.

Emergency procedures
Use appropriate containment to avoid environmental contamination. Do not allow spill to enter into sewers or waterways. Construct a dike to prevent spreading.

Methods and materials for containment/cleanup
Stop spill at source, dike area to prevent spreading, place in proper waste container. Contact Chemtrec for further instruction. Approach suspected leak areas with caution.

Environmental precautions
Use appropriate containment to avoid environmental contamination. Do not allow spill to enter into sewers or waterways.

Small Spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large Spill	Stop leak if without risk. Move containers from spill area. 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.

7. Handling And Storage

Precautions for safe handling	Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using, do not eat, drink or smoke.
Precautions/Recommendations for safe/proper storage	Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep from freezing.

8. Exposure Controls/Personal Protection

Engineering controls	Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.
Individual protection measures/Personal protective equipment	
Eye/face protection	Chemical-resistant goggles must be worn.
Hand protection	Butyl-rubber, Nitrile rubber, Neoprene Gloves, PVC disposable gloves, Impervious gloves.
Skin protection	Long sleeve shirts and trousers without cuffs
Environmental exposure controls	Use appropriate containment to avoid environmental contamination. Do not allow spill to enter sewers or waterways.
Special instructions for protection and hygiene	Discard contaminated leather articles. Remove contaminated clothing. Wash at the end of each work shift and before eating smoking or using the toilet. Provide readily accessible eye wash stations and safety showers.

9. Physical And Chemical Properties

Chemical family	Amine Curing Agent
Appearance	Liquid
Physical State	
Form	Liquid
Color	Slightly Yellow
Odor	Ammoniacal
Relative density	0.94
Viscosity	240-260 cps at 77 °F (25 °C)
pH	Alkaline

Initial boiling point and boiling range	399°F(204°C)
Flash point	230°F(110°C)
Vapor pressure	< 1 mm Hg @ 70°F (21°C)
Solubility in Water	< 0.1 g/l

10.Stability And Reactivity

Chemical Stability	Stable under normal conditions.
Incompatible materials	Organic acids (i.e. acetic acid, citric acid, etc.). Mineral acids. Sodium hypochlorite. Oxidizing agents.
Hazardous decomposition products	Nitric acid Ammonia Aldehydes Nitrogen oxides (NO_x) Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide. Carbon dioxide (CO_2).

11. Toxicological Information

Information on toxicological effects

Acute Toxicity

	LD50 Oral: >1000 mg/kg	Rat
	LD50: 866 mg/kg	Rabbit

Components

Inhalation (Aliphatic Amine)	LC50: 4.9 mg/l	Rat

Chronic toxicity

Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas; neurological disorders, liver disorders, kidney disorders, asthma, skin disorders, allergies, and eye disease.

There is no comprehensive data showing potential carcinogenicity by OSHA, NTP, or IARC.

12. Ecological Information

Ecotoxicity	**Test**	**Endpoint**	**Exposure**	**Species**	**Result**
Aquatic toxicity	No data on the product itself				
Component (Nonyl Phenol)	ASTM	Acute EC50	96hr Static	Fish	0.05 Mg/L
Component (Aliphatic Amine)	No data on the mixture itself				
Persistence and degradability	No data on product itself.				

Bioaccumulative Potential

Component (Nonyl Phenol)	High
Component (Aliphatic Amime)	No data on the mixture itself
Mobility in Soil	No data on the product itself

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

DOT

UN/ID No.	UN2735
Proper shipping name	Amines, liquid, corrosive, n.o.s. (n-aminoethylpiperazine)
Class or Division	8
Packing group	II
Label(s)	8
Marine Pollutant	Yes

IATA

UN/ID No.	UN2735
Proper shipping name	Amines, liquid, corrosive, n.o.s. (n-aminoethylpiperazine)
Class or Division	8
Packing group	II
Label(s)	8
Marine Pollutant	Yes

IMDG

UN/ID No.	UN2735
Proper shipping name	Amines, liquid, corrosive, n.o.s. (n-aminoethylpiperazine)
Class or Division	8
Packing group	II
Label(s)	8
Marine Pollutant	No

TDG

UN/ID No.	UN2735
Proper shipping name	Amines, liquid, corrosive, n.o.s. (n-aminoethylpiperazine)
Class or Division	8
Packing group	II
Label(s)	8
Marine Pollutant	No

Further Information	The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact System Three technical support.

15. Regulatory Information

UNITED STATES

Toxic Substance Control Act (TSCA) 12(b) – Components: None.

OSHA Hazard Communication Standard (29 CFR 1910.1 200) Hazard Classes: Corrosive. Sensitizer.

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

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification: Acute Health Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level: Phenol 1-5% CAS 108-95-2

WHMIS Hazard Classification: Class E Corrosive Material.

INTERNATIONAL REGULATIONS

International Lists

USA inventory (TSCA 8b): Included on inventory
EU (EINECS): Included on EINECS inventory or polymer substance, monomers
Australia inventory (AICS): Included on inventory
Canada inventory (DSL): Included on inventory
Japan inventory (ENCS): Included on inventory
China inventory (IECSC): Included on inventory
South Korea inventory (ECL): Included on inventory

16.Other Information, Including Date Of Preparation Or Last Revision

HMIS Rating

Health	**3**
Flammability	**1**
Physical Hazard	**0**

Date of Preparation	May 5, 2016
More Information	1-253-333-8118
Prepared By	J. Bartlett