SAFETY DATA SHEET

1. Product Identification

Product name	RiverCast Resin, Part A
SDS Number	0570A00
Product type	Epoxy polymer mixture.
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, large castings.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy N 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
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 2
Skin Sensitization - Category 1
Specific Target Organ Toxicity (Single Exposure) [Respiratory tract irritation] – Category 3

GHS Label Elements
Hazard Pictograms

Hazard Statements/Classification of substance or mixture

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements

Precautionary Statements
Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.

	P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response	P304 + 340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P313 Call a POISON CENTER or doctor/physician if you feel unwell. 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. P308 + P313 If exposed or concerned: Get medical attention.
Storage	P401 Store at room temperature in a well-ventilated area.
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	80 – 90 %
Alkyl glycidyl ether	68609-97-2	10 – 15%

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	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	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. Get medical attention.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. 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. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
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. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
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	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous decomposition products	Decomposition products may include the following materials: Carbon dioxide Carbon monoxide
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	Wear proper personal protective equipment (PPE). Avoid direct contact with material. Proper PPE includes: disposable gloves, eye protection and skin 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

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	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

Occupational Exposure Limits	Not 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	Epoxy Resin
Appearance	Clear liquid
Physical State	Epoxy polymer mixture
Form	Liquid
Color	Water clear
Odor	Mild
Density (Specific Gravity)	9.29 lb/gal (1.11)
Viscosity	1200 cps @ 25°C
pH	Not available
Melting point/freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	>300°F, Pensky-Martens Closed Cup
Evaporation rate	Slower than ether
Flammability (solid, gas)	Not available
Upper/lower flammability limit (by volume)	Not available
Material VOC	None
Vapor density	Heavier than air
Relative density	Not determined
Solubility in water	Negligible, in water
Partition coefficient: n-octanol/water	3
Auto-ignition temperature	Not available
Decomposition temperature	Not available

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

11. Toxicological Information

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

Component	Result	Species	Dose	Exposure
Diglycidyl Ether of Bisphenol A	LD50 Oral	Rat	11,400 mg/kg	-
	LD50 Dermal	Rat	2,000 mg/kg	-
Alkyl Glycidyl Ether	LD50 Oral	Rat	17,100 mg/kg	-

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

Component	Result	Species	Test	Exposure
Diglycidyl Ether of Bisphenol A	Moderate to severe irritation	Rabbit	Skin	4 h
	Mild irritation	Rabbit	Eye	24 h
Alkyl Glycidyl Ether	Moderate irritant	Rabbit	Skin	24 h
	Cornea opacity	Rabbit	Eye	1 – 24 h

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.

Component	Category	Route of exposure	Target organs
Diglycidyl Ether of Bisphenol A	Category 3	-	Respiratory tract irritation
Alkyl Glycidyl Ether	Category 3	-	Respiratory tract irritation

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 May cause respiratory irritation.

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

Ingestion Irritating 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:
Respiratory tract irritation
Coughing

Skin Contact Adverse symptoms may include the following:
Irritation
Redness

Ingestion No specific data.

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 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) Not available

12. Ecological Information

Ecotoxicity No information on product itself.

Component	Result	Species	Exposure
Diglycidyl Ether of Bisphenol A	Acute LC50 1.3 mg/l	Fish	96 h
	Acute LC50 2.1 mg/l	Daphnia	48 h
Alkyl Glycidyl Ether	Acute LC50 >1.8 g/l	Fish – Rainbow trout	96 h
	Acute LC50 >5.0 g/l	Fish - Bluegill	96 h
	Acute EC50 7.2 mg/l	Daphnia	48 h
	Acute EC50 844 mg/l	Aquatic plants – algae	72 h

Persistence and degradability No information on product itself.

Bioaccumulative Potential No information on product itself.

Component	LogPow	BCF	Potential

Diglycidyl Ether of Bisphenol A	2.64 – 3.78	3 – 31 31.00	low
Alkyl Glycidyl Ether	3	-	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 substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin Resin)	Class 9 III	
IATA	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin Resin)	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 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 it manufactured with ozone depleting substances.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) None

California Prop. 65 WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer. WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient Name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Oxirane, 2-(phenoxymethyl)-	Yes	No	5 µg/day	No
Oxirane, 2-(chloromethyl)-	Yes	Yes	9 µg/day	No

EPA SARA 302 Extremely Hazardous Substances None required

EPA SARA 302/304/311/312 Hazardous Chemicals Acute Health Hazard

SARA 313 None required

Form R – Reporting requirements

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.
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 2
Flammability 1
Physical Hazard 0

Date of Preparation March 22, 2019

Date of Last Revision

Revision # 1.0

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.

SAFETY DATA SHEET

1. Product Identification

Product name	RiverCast Hardener, Part B
SDS Number	0507B00
Product type	Epoxy curing agent.
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, large castings.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy N 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

DANGER
Skin Corrosion/Irritation – Category 1
Serious Eye Damage/Eye Irritation – Category 1
Skin Sensitization – Category 1
Specific Target Organ Toxicity (Single Exposure) [Respiratory tract irritation] – Category 3
Acute Aquatic Toxicity – Category 3
Chronic Aquatic Toxicity – Category 3

GHS Label Elements
Hazard Pictograms

Hazard Statements/Classification of substance or mixture

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.
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Precautionary Statements
Prevention

P260	Do not breathe dusts/mists/vapors/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.

	P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves. Wear eye or face protection.
Response	P301+330+331 IF SWALLOWED: Rinse mouth. Do not induce vomiting. P303+361+353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER/doctor. 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+313 If skin irritation or rash occurs: Get medical advice/attention. P362+364 Take off contaminated clothing and wash it before reuse. P391 Collect spillage.
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 (%)
Polyoxypropylenediamine	9046-10-0	90 – 95%
Isophoronediamine	2855-13-2	5 – 10%

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 affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Suitable emergency eye wash facility should be available in work area. Get medical attention immediately if irritation persists.

Ingestion Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention.

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Assist in breathing if necessary. Immediate attention required.

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

Notes to physician Symptomatic and supportive therapy as needed. Medical monitoring for at least 24 hours.

Specific treatments No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media Alcohol-resistant foam, dry chemical, water fog or carbon dioxide (CO2).

Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated must be contained and prevented from being discharged to any waterway, sewer or drain.
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	Avoid inhalation. Avoid contact with the skin, eyes, and clothing.
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	Ensure adequate ventilation. Avoid exposure – obtain instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Protection against fire and explosion: Prevent electrostatic charge – sources of ignition should be kept well clear – fire extinguishers should be kept handy.
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	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	Wear a NIOSH-certified (or equivalent) organic vapor respirator.
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	Clear liquid
Physical State	
Form	Liquid
Color	Clear
Odor	Amine-like
Density (Specific Gravity)	8.01 lb/gal (0.96)
Viscosity	<20 CPS @ 25°C
pH	Alkaline
Melting point/freezing point	Data not available
Initial boiling point and boiling range	Data not available
Flash point	Data not available
Evaporation rate	Slower than ether
Flammability (solid, gas)	Data not available
Upper/lower flammability limit (by volume)	Data not available
Material VOC	None
Vapor density	Heavier than air
Relative density	Not determined
Solubility in water	Data not available
Partition coefficient: n-octanol/water	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data 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 and strong acids.
Hazardous decomposition products	Nitrogen oxides, carbon oxides.
Other hazards	None known.

11. Toxicological Information

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

Component	Result	Species	Dose	Exposure
Polyoxypropylenediamine	LD50 Oral	Rat	2,885 mg/kg	-
	LD50 Dermal	Rabbit	2,979 mg/kg	-
	LC50 Inhalation	Rat	>0.74 mg/l	8 h
Isophoronediamine	LD50 Oral	Rat	1,030 mg/kg	-

Irritation/Corrosion (components) Classifies as Skin corrosion Category 1 per GHS calculations of additivity. Classifies as Serious eye damage Category 1 per GHS calculations of additivity.

Component	Result	Species	Test	Exposure
Polyoxypropylenediamine	Skin-Corrosive	-	-	1-4 h
	Eyes-Corrosive	Rabbit	405 OECD Test Guideline	-

Sensitization No data is available for this product.

Mutagenicity No data is available for this product.

Carcinogenicity No data is available for this product.

Reproductive Toxicity No data is available for this product.

Teratogenicity No data is available for this product.

Specific target organ toxicity (single exposure) No data is available for this product.

Component	Category	Route of exposure	Target organs
Isophoronediamine	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure) No data is available for this product.

Aspiration hazard No data is available for this product.

Potential acute health effects

Eye Contact Causes serious eye damage.

Inhalation No data available.

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 Adverse symptoms may include the following:
Pain or irritation
Watering
Redness

Inhalation Adverse symptoms may include the following:
Respiratory tract irritation
coughing

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 data is available for this product.

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)

Route	ATE value
Oral	2547.2 mg/kg
Dermal	2876.4 mg/kg
Inhalation (vapors)	67.98 mg/l

12. Ecological Information

Ecotoxicity No information on the product itself.

Component	Test	Species	Result	Exposure
Polyoxypropylenediamine	Acute EC50: OECD 203 Fish, Acute Toxicity Test	Fish	>15 mg/l	96 h Semi-static
	Acute EC50: OECD 203 Fish, Acute Toxicity Test	Fish	772.14 mg/l	96 h Static
	Chronic NOEC: OECD 201 Alga, Growth Inhibition Test	Algae	0.32 mg/l	72 h Static

Persistence and degradability No information on the product itself.

Component	Test	Period	Result
Polyoxypropylenediamine	OECD 301B Ready Biodegradability – CO2 Evolution Test	28 days	0%

Bioaccumulative Potential No information on the product itself.

Component	LogPow	BCF	Potential
Polyoxypropylenediamine	1.34	-	low

Mobility in Soil

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

Other adverse effects No know 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	UN2735	Amines, liquid, corrosive, n.o.s. (Polyetheramine)	Class 8 III	
TDG	UN2735	Amines, liquid, corrosive, n.o.s. (Polyetheramine)	Class 8 III	
IMO/IMDG	UN2735	Amines, liquid, corrosive, n.o.s. (Polyetheramine)	Class 8 III	
IATA	UN2735	Amines, liquid, corrosive, n.o.s. (Polyetheramine)	Class 8 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 5(a)2 – Proposed significant new use rules: Not Listed.

	United States – TSCA 5€ – 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)	None known
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 Extremely Hazardous Substances	None required.
EPA SARA 302/304/311/312 Hazardous Chemicals	Acute Health Hazard
SARA 313	None.
Form R – Reporting requirements	
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). 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

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

Date of Preparation	March 25, 2019
Date of Last Revision	
Revision #	1.0
More Information	1-253-333-8118
Prepared by	System Three Resins Inc.

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