Safety Data Sheets (SDS)
Updated: June 20, 2023

This file contains Safety Data Sheets for Mosaic. This is a two-component system. It is imperative that you know whether you need information on the Resin or the Hardener.

Resin: Pages 2-10
Hardener: Pages 11-20

If this is a medical emergency, call 911 or your local poison control center. Seek medical attention.

For technical assistance, call System Three Technical Support at 253-333-8118 option 2.

These SDS are provided pursuant to 29 CFR 1910.1200(g).

SAFETY DATA SHEET

1. Product Identification

Product name	Mosaic Arts and Crafts Resin (Part A)
SDS Number	0520A00
Product type	Epoxy polymer mixture.
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, an arts and crafts medium and a protective coating for arts and crafts pieces.
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 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	75 – 85 %
Diglycidyl Ether of Bisphenol F	28064-14-4	5 – 15%
Alkyl Glycidyl Ether	17557-23-2	10 – 20 %

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 Halogenated compounds
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, 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)	9.47 lb/gal (1.15)
Viscosity	700 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	300°C (572.00°F)
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	-
Diglycidyl Ether of Bisphenol F	LD50 Oral	Rat	>2,000 mg/kg	-
	LD50 Dermal	Rat	>2,000 mg/kg	-
Alkyl Glycidyl Ether	LD50 Oral	Rat	4,500 mg/kg	-
	LD50 Dermal	Rabbit	>2,000 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
Diglycidyl Ether of Bisphenol F	Mild irritant	Rabbit	Skin	-
	Mild irritant	Rabbit	Eye	-

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

Diglycidyl Ether of Bisphenol F	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

Diglycidyl Ether of Bisphenol F	Acute LC50 1.5 mg/l	Fish	96 h
	Acute LC50 1.7 mg/l	Daphnia	48 h
	Chronic NOEC 0.3 mg/l	Daphnia	21 d

Persistence and degradability No information on product itself.

Component	Test	Period	Result
Diglycidyl Ether of Bisphenol A	OECD 302B	28 d	12%
Diglycidyl Ether of Bisphenol F	OECD 301F Derived	28 d	5%

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
Diglycidyl Ether of Bisphenol F	3	-	low
Alkyl Glycidyl Ether	.23	-	low

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 can expose you to chemicals including Oxirane, 2-(chloromethyl)- that is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
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 2, 2023
Date of Last Revision	August 6, 2021
Revision #	2.0

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	Mosaic Arts and Crafts Resin, Part B
SDS Number	0520B00
Product type	Amine Curing Agent
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, an arts and crafts medium and a protective coating for arts and crafts pieces.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	8517 Commerce Place Dr NE Lacey, WA 98516 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support@systemthree.com
Emergency Contact	CHEMTEL (U.S. and CANADA) 1-800-704-9215 CHEMTEL (Outside the U.S.) – Call Collect accepted +1-360-256-7365

2. Hazard(s) Identification

Classification of substance or mixture/Signal Word

DANGER
ACUTE TOXICITY: ORAL – Category 4
SKIN CORROSION/IRRITATION – Category 1
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1
SKIN SENSITIZATION – Category 1
TOXIC TO REPRODUCTION [Fertility, Unborn child] – Category 2
AQUATIC HAZARD (ACUTE) – Category 1
AQUATIC HAZARD (CHRONIC) – Category 1

GHS Label Elements
Hazard Pictograms

Hazard Statements/Classification of substance or mixture

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H361 Suspected of damaging fertility or the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

	P260 Do not breathe fumes/vapors. P264 Wash hands and exposed skin thoroughly after handling. P272 Contaminated clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear eye protection/face protection. Wear protective gloves.
Response	P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303 + P361+ P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/attention. P310 Immediately call a POISON CENTER/doctor. P362 + P364 Take off contaminated clothing and wash it before reuse. P391 Collect spillage.
Storage	P405 Store locked up.
Disposal	P501 Disposal of contents/container to be specified in accordance with regulations.
Hazards not otherwise classified (HNOC)	None known.

3. Composition/Information On Ingredients

Chemical Name	CAS Number	Content (%)
Nonyl Phenol	84852-15-3	55-65%
Polyoxypropylenediamine	9046-10-0	25-35%
1,3-cyclohexanedimethanamine adduct	Proprietary	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	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with copious amounts of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated by a physician.
Eye contact	Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
Ingestion	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Do not induce vomiting without medical advice. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical

	attention immediately. Maintain open airway. Loosed tight clothing such as a collar, tie, belt, or waistband.
Inhalation	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

Notes to physician	Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.
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. May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions.
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	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Wear proper protective clothing, gloves and eye/face 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).

7. Handling and Storage

Precautions for safe handling	Put on appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid contact with skin and eyes. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. When using, do not eat, drink or smoke. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
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	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	Amine curing agent
Appearance	Clear liquid
Physical State	
Form	Liquid
Color	Colorless
Odor	Mild
Density (Specific Gravity)	8.10 lb/gal (.808)
Viscosity	1,900 CPS @77°F (25°C)
pH	Alkaline
Melting point/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	230°F, Pensky-Martens Closed Cup
Evaporation rate	Slower than ether
Flammability (solid, gas)	N/A
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	N/A
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	Stable under normal conditions.
Chemical Stability	Stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Epoxy resins and epoxy resin hardeners react with each other producing heat. They should not be mixed with each other under uncontrolled conditions or in a large mass as the ensuing exotherm may result in heat and smoke.
Incompatible materials	Strong oxidizing agents and mineral acids.
Hazardous decomposition products	Oxides of carbon, Aldehydes, Ketones, Nitrogen oxides.
Other hazards	None known.

11. Toxicological Information

Acute Health Hazard (components) Data is not available on the product itself.

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
Nonyl Phenol	LD50 Dermal	Rabbit	2,000 mg/kg	-
	LD50 Oral	Rat	930 mg/kg	-
1,3-cyclohexanedimethanamine	LD50 Oral	Rat	700 mg/kg (male) 780 mg/kg (female)	-
	LD50 Dermal	Rabbit	1700 mg/kg	-

Irritation/Corrosion (components) Classifies as corrosive to skin and eyes per GHS calculations.

Component	Result	Species	Test	Exposure
Polyoxypropylenediamine	Skin-Corrosive	-	-	1-4 h
	Eyes-Corrosive	Rabbit	405 OECD Test Guideline	-
1,3-cyclohexanedimethanamine	Skin-Corrosive	Rabbit	-	3 min

Sensitization No evidence of sensitization

Mutagenicity Data is not available on the product itself.

Carcinogenicity Data is not available on the product itself.

Reproductive Toxicity A component has been shown to cause reproductive/teratogenic effects in laboratory animals (Phenol)

Teratogenicity A component has been shown to cause reproductive/teratogenic effects in laboratory animals (Phenol)

Specific target organ toxicity (single exposure) Data is not available on the product itself.

Specific target organ toxicity (repeated exposure) Data is not available on the product itself.

Aspiration hazard Data is not available on the product itself.

Potential acute health effects

Eye Contact Causes serious eye damage.

Inhalation May cause damage to organs through prolonged or repeated exposure

Skin Contact Prolonged exposure causes severe 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:
Caughing

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

Redness
Blistering may occur
Reduced fetal weight
Increase in fetal deaths

Ingestion Adverse symptoms may include the following:
Stomach pains
Reduced fetal weight
Increase in fetal deaths

Delayed and immediate effects and also chronic effects from short and long term exposure Data is not available on the product itself.

Potential chronic health effects

Component	Result	Species	Test	Endpoint
Nonyl Phenol	100 mg/kg	Rat	OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents	Sub-acute NOAEL Oral
	50 mg/kg	Rat	EPA OPPTS	Sub-chronic NOAEL Oral

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 Suspected of damaging the unborn child.

Developmental effects No known significant effects or critical hazards.

Fertility effects Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates (ATEmix)

Route	ATE value
Oral	1532.1 mg/kg
Dermal	2028.3 mg/kg
Inhalation (vapors)	N/A

12. Ecological Information

Ecotoxicity No comprehensive data available on 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
Nonyl Phenol	LC50	Fish	0.209 mg/l	96 h

	EC50	Daphnia	0.0844 mg/l	48 h
1,3-cyclohexanedimethanamine	EC50	Daphnia	33.1 mg/l	48 h
	LC50	Golden orfe	130 mg/l	96 h

Persistence and degradability Data is not available on the product itself.

Component	Test	Period	Result
Polyoxypropylenediamine	OECD 301B Ready Biodegradability – CO2 Evolution Test	28 days	0%
Nonyl Phenol	OECD 301B	35 d	48.2%
1,3-cyclohexanedimethanamine	OECD 301B	28 days	29%

Bioaccumulative Potential Data is not available on the product itself.

Component	LogPow	BCF	Potential
Polyoxypropylenediamine	1.34	-	low
Nonyl Phenol	5.4	740	high
1,3-cyclohexanedimethanamine	0.783	3.16 (calculated)	-

Mobility in Soil

Soil/water partition coefficient (KOC) Data is not available on the 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	UN2735	Amines, liquid, corrosive, n.o.s. (Nonyl phenol, Polyoxypropylenediamine, 1,3-cyclohexanedimethanamine)	Class 8 III	
TDG	UN2735	Amines, liquid, corrosive, n.o.s. (Nonyl phenol, Polyoxypropylenediamine, 1,3-cyclohexanedimethanamine)	Class 8 III	

IMO/IMDG	UN2735	Amines, liquid, corrosive, n.o.s. (Nonyl phenol, Polyoxypropylenediamine, 1,3-cyclohexanedimethanamine)	Class 8 III	Marine pollutant
IATA	UN2735	Amines, liquid, corrosive, n.o.s. (Nonyl phenol, Polyoxypropylenediamine, 1,3-cyclohexanedimethanamine)	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(e) – Substance consent order: Not listed.

Clean Air Act – Ozone Depleting Substances (ODS)

This product does not contain nor is manufactured with ozone depleting substances.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)

Product Name	Concentration %
Phenol	0 - 1

Pennsylvania – RTK

Phenol

California Prop. 65

WARNING: This product can expose you to chemicals including methyloxirane that is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

EPA SARA 302 Extremely Hazardous Substances

None known

EPA SARA 302/304/311/312 Hazardous Chemicals

Acute health hazard, Chronic health hazard

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	1000	100000

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

Date of Preparation	March 2, 2023
Date of Last Revision	August 6, 2021
Revision #	2.0
More Information	1-253-333-8118
Prepared by	System Three Resins Inc.

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