

SYSTEMTHREE

Safety Data Sheets (SDS)

Updated: June 21, 2023

This file contains Safety Data Sheets for SculpWood Putty. 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).

1. Product Identification

Product name	Sculpwood Putty Resin, Part A
SDS Number	1600A00
Product type	Epoxy Resin Mixture
Recommended use of the chemical and restrictions on use	Recommended for, but not limited to, the repair of damaged or rotted wood.
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
<u>GHS Label Elements</u> 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	
<u>Precautionary Statements</u> Prevention	P261 Avoid breathing fumes/vapors. P264 Wash hands and exposed skin thoroughly after handling. P272 Contaminated work clothes should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear eye protection/face protection. Wear protective gloves.

P281 Use personal protective equipment as required.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

Disposal

P405 Store locked up.

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 (%)
Diglycidyl Ether of Bisphenol A	25068-38-6	50 – 60%
Neopentyl Glycol Diglycidyl Ether	17557-23-2	10-15%
Diglycidyl Ether of Bisphenol F	28064-14-4	3 – 8%

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 material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items that cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Safety shower should be located in immediate work area.

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. Get medical attention. Suitable emergency eye wash facility should be available in work area.

Ingestion

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 unless directed to do so by medical personnel. 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. 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

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

Use an extinguishing agent suitable for the surrounding fire.

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.

Hazardous decomposition products

Decomposition products may include carbon monoxide, carbon dioxide, aldehydes, acids and halogenated compounds. Toxic fumes may be evolved when this product is burned.

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. Move containers from fire area if this can be done without risk.

Special protective equipment for fire-fighters

Fire fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

Further information

None.

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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. Proper PPE includes: disposable gloves, eye protection and skin protection.

Emergency procedures

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Methods and materials for containment/cleanup**Small Spill**

Stop leak if without risk. Move containers from spill area. Absorb with an inert absorbent material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Wash the spill area clean with water and detergent, observing environmental requirements.

Large Spills

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, watercourses, basements or confined areas. Contain and collect spillage with inert, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Wash the spill area clean with water and detergent, observing environmental requirements. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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 (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. 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.

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 (see Section 10) and food and drink. 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. 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

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures/Personal protective equipment

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Skin protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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

Special instructions for protection and hygiene

selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Chemical family	Epoxy resin
Appearance	White Putty
Physical State	
Form	Putty
Color	White
Odor	Characteristic odor
Density (Specific Gravity)	0.72 g/cm ³
Viscosity	450,000 - 500,000 CPS @77°F
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	N/A
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	N/A
Vapor density	Heavier than air
Relative density	Not determined
Solubility in water	Negligible
Partition coefficient: n-octanol/water	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A

10. Stability and Reactivity

Reactivity	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 exothermic reaction may produce heat, smoke and hazardous decomposition products. Caustic soda (sodium hydroxide) can induce vigorous polymerization at temperatures around 200 °C.

Incompatible materials

Strong oxidizing agents, sodium hydroxide, Lewis and mineral acids.

Hazardous decomposition products

Carbon monoxide, carbon dioxide, aldehydes and acids.

Other hazards

None.

11. Toxicological Information

Acute Health Hazard (components)

No comprehensive data on product itself.

Component	Result	Species	Dose	Exposure
Diglycidyl Ether of Bisphenol A	LD50 Oral	Rat	11,400 mg/kg	-
	LD50 Dermal	Rat	2,000 mg/m3	4 h
Neopentyl Glycol Diglycidyl Ether	LD50 Oral	Rat	4,500 mg/kg	-
	LD50 Dermal	Rat	>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
Neopentyl Glycol Diglycidyl Ether	Category 3		Respiratory tract irritation
Diglycidyl Ether of Bisphenol F	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 severe skin irritation. May cause an allergic skin reaction.

Ingestion

Irritating to the 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:
Irritation
Pain
Redness

Ingestion

No specific data

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

Not available.

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 the product itself.

Component	Test	Species	Result	Exposure
Diglycidyl Ether of Bisphenol A	LC50	Fish	1.3 mg/l	96 h
	LC50	Daphnia	2.1 mg/l	48 h
Diglycidyl Ether of Bisphenol F	LC50	Fish	1.5 mg/l	96 h
	LC50	Daphnia	1.7 mg/l	48 h
	Chronic NOEC	Daphnia	0.3 mg/l	21 d

Persistence and degradability

No information on the 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 the product itself.

Component	LogPow	BCF	Potential
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Diglycidyl Ether of Bisphenol A	2.64 – 3.78	3 – 31	Low
Diglycidyl Ether of Bisphenol F	3.232	31	Low
Neopentyl Glycol Diglycidyl Ether	0.23	-	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, watercourses 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.
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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.
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Clean Air Act – Ozone Depleting Substances (ODS)	None.
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
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	<p>Australia inventory (AICS): All components are listed or exempted.</p> <p>Canada inventory: All components are listed or exempted.</p> <p>Korea inventory: All components are listed or exempted.</p> <p>Japan inventory: All components are listed or exempted.</p> <p>China inventory (IECSC): All components are listed or exempted.</p> <p>New Zealand inventory (NZIoC): All components are listed or exempted.</p> <p>Philippines inventory (PICCS): All components are listed or exempted.</p> <p>Taiwan inventory (CSNN): All components are listed or exempted.</p>
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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	January 22, 2020
Revision #	6.0
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.

1. Product Identification

Product name	Sculpwood Putty Hardener, Part B
SDS Number	1600B00
Product type	Polyamide Resin Mixture
Recommended use of the chemical and restrictions on use	Recommend for, but not limited to, the restoration and repair of damaged or rotted wood.
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 Acute Aquatic Toxicity – Category 1 Chronic Aquatic Toxicity – Category 1
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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. H400 Very toxic to aquatic life. H413 May cause long lasting harmful effects to aquatic life.
Precautionary statements	
<u>Precautionary Statements</u> Prevention	P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/fume/gas/mist/vapors/spray. P264 Wash hands and exposed skin thoroughly after handling. P271 Use only outdoors or in a well ventilated area. P272 Contaminated work clothes should not be allowed out of the

workplace.

P273 Avoid release to the environment.

P279 Do not eat, drink or smoke when using this product.

P280 Wear eye protection/face protection. Wear protective gloves.

P285 In case of inadequate ventilation wear respiratory protection.

Response

P314 Get medical advice/attention if you feel unwell.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 IF eye irritation persists: Get medical advice/attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal

P501 Dispose 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 (%)
Polyamide Polymer	Proprietary	15 – 20%
Benzyl Alcohol	100-51-6	15 – 20%
Nonyl Phenol	84852-15-3	5 – 10%
Triethylenetetramine	112-24-3	<2%

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 material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Safety shower should be located in immediate work area.

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. Get medical attention immediately. Suitable emergency eye wash facility should be available in work area.

Ingestion

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 unless directed to do so by medical personnel. 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. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or

waistband.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. 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

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

Use an extinguishing agent suitable for the surrounding fire.

Alcohol-resistant foam

Carbon dioxide (CO₂)

Dry chemical, dry sand, limestone powder

Unsuitable extinguishing media

Water (spray or stream).

Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst. See also "Products of Combustion" in this section and Section 10.

Hazardous decomposition products

May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from firefighting to enter drains or watercourses. Incomplete combustion may form carbon monoxide. Ammonia gas may be liberated at high temperatures. In the case of incomplete combustion, an increased formation of oxides of nitrogen (NO_x) is to be expected. Burning produces noxious and toxic fumes.

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. Move containers from fire area if this can be done without risk.

Special protective equipment for fire-fighters

Fire fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

Further information

None known.

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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Emergency procedures

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Methods and materials for containment/cleanup

Small Spill

Stop leak if without risk. Move containers from spill area. Absorb with an inert absorbent material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Wash the spill area clean with water and detergent, observing environmental requirements.

Large Spill

Stop leak if without risk. Move containers from spill area. Use spark-proof tools

and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, watercourses, basements or confined areas. Contain and collect spillage with inert, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Wash the spill area clean with water and detergent, observing environmental requirements. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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 (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. 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.

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 (see Section 10) and food and drink. 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

List	Components	CAS No.	Type	Value
OARS	Benzyl Alcohol	100-51-6	WEEL	10 ppm
	Triethylenetetramine	112-24-3	WEEL	1 ppm

Appropriate engineering controls

Use only with adequate ventilation. 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

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures/Personal protective equipment

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: chemical safety goggles.

Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Skin protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
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	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Discard contaminated leather goods. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Chemical family	Polyamide curing agent
Appearance	Epoxy putty
Physical State	
Form	Solid putty
Color	Tan
Odor	Mild ammonia odor
Density (Specific Gravity)	0.72 g/cm ³
Viscosity	500,000 – 600,000 CPS @77°F
pH	N/A
Melting point/freezing point	N/A
Initial boiling point and boiling range	N/A
Flash point	N/A
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	Not determined
Solubility in water	Negligible
Partition coefficient: n-octanol/water	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A

10. Stability and Reactivity

Reactivity	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 exothermic reaction may produce heat, smoke and hazardous decomposition products.
Incompatible materials	Organic and mineral acids. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Reactive metals (e.g. sodium, calcium, zinc, etc). Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Materials reactive with hydroxyl compounds. Oxidizing agents, amines, bases and reducing agents. Nitrous acid and other nitrosating agents. CAUTION! N-nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.
Hazardous decomposition products	Organic acid vapors, nitric acid, ammonia, nitrogen and carbon oxides, nitrosamine and aldehydes. Nitrogen oxide can react with water vapors to form corrosive nitric acid.
Other hazards	None known.

11. Toxicological Information

Acute Health Hazard (components) No comprehensive data on product itself.

Component	Result	Species	Dose	Exposure
Nonyl Phenol	LD50 Dermal	Rabbit	2,031 mg/kg	-
	LD50 Oral	Rat	1,412 mg/kg	-
Benzyl Alcohol	LD50 Oral	Rat	1,620 mg/kg	-
Triethylenetetramine	LD50 Oral	Rat	300 – 2,000 mg/kg	-
	LD50 Dermal	Rabbit	1,000 – 2,000 mg/kg	-

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

Component	Test	Result	Species
Benzyl Alcohol	OECD 405	Eyes - Irritant	Rabbit
Triethylenetetramine		Severe eye irritation	Rabbit

		Severe skin irritation	Rabbit – 24 h
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Sensitization No information on the product itself.

Component	CAS No	Test	Species	Result	Exposure
Triethylenetetramine	112-24-3	Skin	Guinea Pig	Causes burns May cause sensitization by skin contact.	-

Mutagenicity No information on the product itself.

Carcinogenicity No information on the product itself.

Reproductive Toxicity No information on the product itself.

Teratogenicity No information on the product itself.

Specific target organ toxicity (single exposure) No information on the product itself.

Specific target organ toxicity (repeated exposure) No information on the product itself.

Aspiration hazard No information on the product itself.

Potential acute health effects

Eye Contact	Causes serious eye irritation.
Inhalation	May cause respiratory irritation.
Skin Contact	Causes severe skin irritation. May cause a severe allergic reaction.
Ingestion	Irritating to mouth, throat, and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye Contact	Causes serious eye irritation. Extended exposure may result in irreversible damage to eye tissues. Adverse symptoms may include the following: Pain, irritation, watering, redness or combination of noted symptoms.
Inhalation	May cause respiratory irritation. Adverse symptoms may include the following: Respiratory tract irritation, coughing. Severe or extended exposure may induce central nervous system (CNS) effects: headache, nausea, dizziness, confusion, breathing difficulties.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction. This material may be a strong skin sensitizer in certain susceptible persons. Once sensitized, most persons are unable to work around amine cured epoxy resins without an allergic reaction. Sensitized persons are not known to have other health problems as a result of sensitization. Adverse symptoms may include the following: Irritation and/or redness. Severe or extended exposure may result in absorption through skin which may induce central nervous system (CNS) effects: headache, nausea, dizziness, confusion, breathing difficulties.
Ingestion	Irritating to mouth, throat, and stomach. Adverse symptoms may include the following: Irritation/damage of mucous membranes. May cause central nervous system (CNS) effects: headache, nausea, dizziness, confusion, breathing difficulties.

Delayed and immediate effects and also chronic effects from short and long term exposure No information on the product itself.

Potential chronic health effects

General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
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Carcinogenicity	No significant effects or critical hazards.
Mutagenicity	No significant effects or critical hazards.
Teratogenicity	No significant effects or critical hazards.
Developmental effects	No significant effects or critical hazards.
Fertility effects	No significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates (ATEmix)

Route	ATE value
Oral	4539.5 mg/kg
Dermal	10,692.3 mg/kg
Inhalation (vapors)	45.58 mg/l

12. Ecological Information

Ecotoxicity

No information on the product itself.

Component	Test	Species	Result	Exposure
Nonyl Phenol	LC50	Fathead minnow	0.128 mg/l	96 h
	EC50	Water Flea	0.0848 – 0.19 mg/l	48 h
Benzyl Alcohol	LC50	Fathead minnow	460 mg/l	96 h
Triethylenetetramine	LC50	Fathead minnow	>100 mg/l	96 h

Persistence and degradability

No information on the product itself.

Component	Test	Period	Result
Nonyl Phenol	EPA OPPTS	63 days	100%
	OECD	56 days	50%
	OECD 301B Ready Biodegradability – CO2 Evolution Test	35 days	48.2%
Benzyl Alcohol	Readily biodegradable		

Bioaccumulative Potential

No information on the product itself.

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

Mobility in Soil

No information on the product itself.

Soil/water partition coefficient (KOC)

Data not available.

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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Contaminated packaging

Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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. (Nonyl Phenol)	Class 9 III	Marine pollutant
IATA	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Nonyl Phenol)	Class 9 III	

*PG: Packing group

Special precautions for user:

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. Regulatory Information

UNITED STATES

U.S. Federal Regulations

United States – TSCA 12(b) – Chemical export notification: None Required.
United States – TSCA 5(a)2 – Final significant new use rules: Not Listed.
United States – TSCA 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)

Product Name	Concentration %
Phenol	0 - 1

Pennsylvania – RTK

Phenol

California Prop. 65

None required.

EPA SARA 302 Extremely Hazardous Substances

None.

EPA SARA 302/304/311/312 Hazardous Chemicals

Acute Health Hazard

SARA 313

Form R – Reporting requirements

Product Name	Concentration %
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CERCLA Hazardous substances

Phenol		0 - 1		
Component	%	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
Phenol	1	Listed		

United States inventory (TSCA 8b)

All components are listed or exempted.

CANADA**WHMIS (Canada)**

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

Canadian NPRI

None required.

CEPA Toxic substances

None required.

INTERNATIONAL REGULATIONS**International Lists**

Australia inventory (AICS): All components are listed or exempted.

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

January 22, 2020

Revision #

6.0

More Information

1-253-333-8118

Prepared by

System Three Resins Inc.

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