

# **SYSTEMTHREE**

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## **Safety Data Sheets (SDS)**

**Updated: January 1, 2023**

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

Resin: Pages 2-9

Hardener: Pages 10-17

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**

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<b>Product name</b>	Cold Cure Resin
<b>SDS Number</b>	F1000A
<b>Product type</b>	Epoxy polymer mixture.
<b>Recommended use of the chemical and restrictions on use</b>	Directed at but not limited to, the molding and coating of wood, composite materials, and other inorganic substrates.
<b>Restrictions</b>	None known.
<b>Manufacturer/Supplier information</b>	
<b>Company name</b>	SYSTEM THREE RESINS, INC.
<b>Address</b>	8517 Commerce Place Dr NE Lacey, WA 98516 United States
<b>Telephone</b>	1-253-333-8118
<b>Website</b>	www.systemthree.com
<b>Email</b>	support@systemthree.com
<b>Emergency Contact</b>	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**

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<b>Classification of substance or mixture/Signal Word</b>	WARNING. Skin Corrosion/Irritation - Category 2 Serious Eye Damage/Eye Irritation - Category 2 Skin Sensitizer – Category 1 Reproductive Toxicity – Category 2 Specific Target Organ Toxicity (Single Exposure) [Respiratory tract irritation] – Category 3 Acute Aquatic Toxicity – Category 2 Chronic Aquatic Toxicity – Category 2
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**GHS Label Elements**  
**Hazard Pictograms**

<b>Hazard Statements/Classification of substance or mixture</b>	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H355 May cause respiratory irritation. H361 Suspected of damaging fertility or the unborn child. H401 Toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects
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**Precautionary statements**

<b><u>Precautionary Statements</u></b>	P280 Wear protective gloves. Wear eye or face protection.
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<b>Prevention</b>	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P261 Avoid breathing vapors.
<b>Response</b>	P308 + P313 If exposed or concerned: Get medical attention.
<b>Storage</b>	P401 Store above 32 °F / 0 °C
<b>Disposal</b>	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 %
Benzyl Alcohol	100-51-6	6-10 %
Para-tert-Butylphenol	98-54-4	6-10%
Diglycidyl Ether of Bisphenol F	28064-14-4	6-10%

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

<b>Skin contact</b>	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.
<b>Eye contact</b>	Flush with water for 15 minutes holding eye lids open. Seek medical attention.
<b>Ingestion</b>	Do not give liquids if victim is unconscious or very drowsy. Otherwise, give no more than 2 glasses of water and induce vomiting by giving 2 tablespoons syrup of ipecac (1 tablespoon and 1 glass of water for child). If ipecac is unavailable, give 2 glasses of water and induce vomiting by touching finger to back of throat. Keep head below hips while vomiting. Get medical attention.
<b>Inhalation</b>	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

<b>Notes to physician</b>	Burns. Irritation. Pre-existing skin conditions may be aggravated by prolonged or repeated contact. Persons with sensitive airways (e.g., asthmatics) may be sensitive to vapors.
<b>Specific treatments</b>	Treat symptoms as they appear.

### 5. Fire-Fighting Measures

<b>Suitable extinguishing media</b>	Foam, carbon dioxide, dry chemical, water fog.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Potential skin irritation.
<b>Hazardous decomposition products</b>	None known.

<b>Special protective actions for fire-fighters</b>	When fighting chemical fires, wear full protective equipment with self-contained breathing apparatus. Water spray may be used to cool fire-exposed containers. Toxic fumes may be evolved when this substance is burned.
<b>Special protective equipment for fire-fighters</b>	Full fire suit and self-contained breathing apparatus.
<b>Further information</b>	Water spray may be used to cool fire-exposed containers. Toxic fumes may be evolved when this substance is burned.  Epoxy in mass can create exotherm.

## 6. Accidental Release Measures

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

## 7. Handling and Storage

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<b>Precautions for safe handling</b>	Always wear protective, disposable gloves when handling epoxy products to prevent exposure.
<b>Precautions/Recommendations for safe/proper storage</b>	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

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<b>Occupational Exposure Limits</b>	None established.
<b>Appropriate engineering controls</b>	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
<b>Environmental exposure controls</b>	Use appropriate containment to avoid environmental contamination. Do not allow spill to enter sewers or waterways.
<b>Individual protection measures/Personal protective equipment</b>	
<b>Eye/face protection</b>	Splash proof goggles or safety glasses with side shields are recommended. Always wear eye protection when sanding cured epoxy to avoid dust in eyes.
<b>Hand protection</b>	Always wear impervious gloves, neoprene, vinyl or rubber.
<b>Skin protection</b>	Wear clean, body-covering clothing to avoid skin contact.
<b>Respiratory protection</b>	Use a NIOSH-approved respiratory device when sanding cured epoxy to prevent dust in lungs.

**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

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<b>Chemical family</b>	Epoxy Resin
<b>Appearance</b>	Clear viscous liquid
<b>Physical State</b>	Epoxy polymer mixture
<b>Form</b>	Liquid
<b>Color</b>	Water clear
<b>Odor</b>	Phenolic odor
<b>Density (Specific Gravity)</b>	9.5 lb/gal (1.14)
<b>Viscosity</b>	2000-2200 cps @ 25°C
<b>pH</b>	N/A
<b>Melting point/freezing point</b>	Data not available
<b>Initial boiling point and boiling range</b>	Data not available
<b>Flash point</b>	>300°F, Pensky-Martens Closed Cup
<b>Evaporation rate</b>	Slower than ether
<b>Flammability (solid, gas)</b>	Data not available
<b>Upper/lower flammability limit (by volume)</b>	
<b>Upper flammability limit (by volume)</b>	N/A
<b>Lower flammability limit (by volume)</b>	N/A
<b>Material VOC</b>	None
<b>Vapor density</b>	Heavier than air
<b>Relative density</b>	Not determined
<b>Solubility in water</b>	Negligible, in water
<b>Partition coefficient: n-octanol/water</b>	Data not available
<b>Auto-ignition temperature</b>	300°C (572.00°F)
<b>Decomposition temperature</b>	Not available

## 10. Stability and Reactivity

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<b>Reactivity</b>	None
<b>Chemical Stability</b>	Stable
<b>Possibility of hazardous reactions</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid</b>	Epoxy resins and epoxy resin hardeners can 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.
<b>Incompatible materials</b>	Strong oxidizing agents, Lewis and mineral acids.
<b>Hazardous decomposition products</b>	Oxides of carbon, aldehydes, 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	-
Benzyl Alcohol	LD50 Oral	Rat	1620 mg/kg	-
	LC50 Inhalation	Rat	>4178 mg/m <sup>3</sup>	4 hrs, aerosol
Para-tert-Butylphenol	LD50 Oral	Rat	>2000 mg/kg	-
	LC50 Inhalation	Rat	5.6 mg/l	-

### Irritation/Corrosion (components)

No information on product itself.

Component	Result	Species	Test	Exposure
Diglycidyl Ether of Bisphenol A	Skin – Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	1.5 – 2	-
	Skin – Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	1.0 – 1.5	-
	Eyes – 405 Acute Eye Irritation/Corrosion	Rabbit	0	-
	Eyes – Redness of the conjunctivae	Rabbit	0.7	-
	Skin – Moderate irritant	Rabbit		24 hrs
	Eyes – Mild irritant	Rabbit		-
Benzyl Alcohol	Eyes – 405 OECD Irritant	Rabbit		-
Para-tert-Butylphenol	Skin – Moderate irritant	Rabbit		4 hrs
	Eyes – Severe eye irritant	Rabbit		24 hrs

### 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

### 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)**

Route	ATE value
Oral	8074.3 mg/kg
Dermal	2020.2 mg/kg
Inhalation (vapors)	4178 mg/l

## 12. Ecological Information

**Ecotoxicity**

Component	Result	Species	Exposure
Diglycidyl Ether of Bisphenol A	Acute LC50 1.3 mg/l – 203 Fish, Acute Toxicity Test	Fish – Fish	96 h
	Acute EC50 2.1 mg/l – 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute NOEC 0.3 mg/l – 211 Daphnia Magna Reproduction Test	Aquatic invertebrates. Water flea	21 d
	Acute LC50 > 11 mg/l	Aquatic plants – Algae	72 h
Benzyl Alcohol	Acute LC50 460 mg/l	Fish	96 h

	Acute EC50 230 mg/l	Invertebrates	48 h
	Chronic NOEC 310 mg/l	Algae	72 h
Para-tert-Butylphenol	Acute LC50 – 5.14 mg/l	Fish	96 h
	Acute EC50 – 4.8 mg/l	Daphnia	48 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
Diglycidyl Ether of Bisphenol F	3	-	low
Benzyl Alcohol	1.05	1.37 (calculated)	-

#### **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** 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		Not regulated		
TDG		Not regulated		
IMO/IMDG	UN3082	Environmentally Hazardous Substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin Resin)	Class 9 III	Marine pollutant
IATA	UN3082	Environmentally Hazardous Substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin Resin)	Class 9 III	Marine pollutant

\*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.

**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-(phenoxyethyl)-	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.  
**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**

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**HMIS Rating**



**Date of Preparation** January 8, 2020  
**Date of Last Revision** September 16, 2019  
**Revision #** 5.0  
**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**

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<b>Product name</b>	Cold Cure Hardener, Part B
<b>SDS Number</b>	F1000B
<b>Product type</b>	Amine Curing Agent
<b>Recommended use of the chemical and restrictions on use</b>	Directed at, but not limited to, the molding and coating of wood, composite materials, and other inorganic substrates.
<b>Restrictions</b>	None known.
<b>Manufacturer/Supplier information</b>	
<b>Company name</b>	SYSTEM THREE RESINS, INC.
<b>Address</b>	8517 Commerce Place Dr NE Lacey, WA 98516 United States
<b>Telephone</b>	1-253-333-8118
<b>Website</b>	www.systemthree.com
<b>Email</b>	support@systemthree.com
<b>Emergency Contact</b>	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**

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<b>Classification of substance or mixture/Signal Word</b>	DANGER. Acute toxicity (Oral) – Category 4 Acute toxicity (Inhalation) – Category 4 Skin Corrosion/Irritation – Category 2 Serious Eye Damage – Category 1 Germ Cell Mutagenicity – Category 2 Specific target organ toxicity (repeated exposure) – Category 2
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**GHS Label Elements****Hazard Pictograms**

<b>Hazard Statements/Classification of substance or mixture</b>	H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H332 Harmful if inhaled. H341 Suspected of causing genetic defects. H373 May cause damage to organs through repeated or prolonged exposure.
<b>Precautionary statements</b>	
<b><u>Precautionary Statements</u></b>	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.
<b>Prevention</b>	

<b>Response</b>	<p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves. Wear eye or face protection.</p> <p>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.</p> <p>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308 + P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P330 Rinse mouth.</p> <p>P332 + P313 If skin irritation occurs: Get medical advice/attention.</p>
<b>Storage</b>	P362 Take off contaminated clothing and wash before reuse.
<b>Disposal</b>	P405 Store locked up.
<b>Hazards not otherwise classified (HNOC)</b>	P501 Dispose of contents and container in accordance with all local, regional, national and international regulations. None known.

### 3. Composition/Information On Ingredients

Chemical Name	CAS Number	Content (%)
Benzyl Alcohol	100-51-6	>35%
Isophoronediamine (IPDA)	2855-13-2	<35%
Cycloaliphatic Amine	Trade Secret	<20%
Phenol	108-95-2	<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

<b>Skin contact</b>	Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Flush immediately with copious amounts of water. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing.
<b>Eye contact</b>	Rinse immediately with plenty of water for at least 15 minutes.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If a person vomits when lying on his/her back, place in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side
<b>Inhalation</b>	If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

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

<b>Notes to physician</b>	Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Neurological disorders. Liver disorders. Kidney disorders. Asthma. Skin disorders and allergies. Eye disease.
<b>Specific treatments</b>	Application of corticosteroid cream has been effective in treating skin irritation.

## 5. Fire-Fighting Measures

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<b>Suitable extinguishing media</b>	Alcohol-resistant foam, Carbon dioxide, dry chemical, dry sand, limestone powder.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	May generate ammonia and nitrogen oxide gases. Use of water may form very toxic solutions. Incomplete combustion may form carbon monoxide.
<b>Hazardous decomposition products</b>	Oxides of carbon and nitrogen.
<b>Special protective actions for fire-fighters</b>	Avoid contact with skin.
<b>Special protective equipment for fire-fighters</b>	A face shield should be worn. Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.
<b>Further information</b>	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

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<b>Personal precautions</b>	Wear proper protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing.
<b>Emergency procedures</b>	Use appropriate containment to avoid environmental contamination. Do not allow spill to enter into sewers or waterways. Construct a dike to prevent spreading.
<b>Methods and materials for containment/cleanup</b>	Stop spill at source, dike area to prevent spreading, place in proper waste container. Contact Chemtrec for further instruction. Approach suspected leak areas with caution.
<b>Environmental precautions</b>	Use appropriate containment to avoid environmental contamination. Do not allow spill to enter into sewers or waterways.

## 7. Handling and Storage

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<b>Precautions for safe handling</b>	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.
<b>Precautions/Recommendations for safe/proper storage</b>	Do not store near acids. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep from freezing. Do not store in reactive metal containers.

## 8. Exposure Controls/Personal Protection

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<b>Occupational Exposure Limits</b>	Not established.
<b>Appropriate engineering controls</b>	Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.
<b>Environmental exposure controls</b>	Construct a dike to prevent spreading.
<b>Individual protection measures/Personal protective equipment</b>	Discard contaminated leather articles. Provide readily accessible eye wash stations and safety showers. Wash hands at the end of each work shift and before eating, smoking or using the toilet.
<b>Eye/face protection</b>	Chemical resistant goggles must be worn.

<b>Hand protection</b>	Neoprene gloves, PVC disposable gloves, butyl-rubber, nitrile rubber, impervious gloves, chemical-resistant impervious gloves complying with an approved standard.
<b>Skin protection</b>	Long sleeve shirts and trousers without cuffs.
<b>Respiratory protection</b>	Wear appropriate respirator when ventilation is inadequate.
<b>Special instructions for protection and hygiene</b>	Discard leather articles. Provide readily accessible eye wash stations and safety showers. Wash hands at the end of each work shift and before eating, smoking or using the toilet.

## 9. Physical and Chemical Properties

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<b>Chemical family</b>	Amine curing agent
<b>Appearance</b>	Light yellow liquid
<b>Physical State</b>	Amine mixture
<b>Form</b>	Liquid
<b>Color</b>	Light yellow
<b>Odor</b>	Ammoniacal/Phenolic
<b>Density (Specific Gravity)</b>	1.02 g/cm <sup>3</sup>
<b>Viscosity</b>	110 - 120 CPS @77°F (25°C)
<b>pH</b>	Alkaline
<b>Melting point/freezing point</b>	N/A
<b>Initial boiling point and boiling range</b>	399°F (204°C)
<b>Flash point</b>	230°F (110°C)
<b>Evaporation rate</b>	N/A
<b>Flammability (solid, gas)</b>	N/A
<b>Upper/lower flammability limit (by volume)</b>	N/A
<b>Upper flammability limit (by volume)</b>	N/A
<b>Lower flammability limit (by volume)</b>	N/A
<b>Material VOC</b>	None
<b>Vapor density</b>	N/A
<b>Relative density</b>	1.02 (water = 1)
<b>Solubility in water</b>	<0.1 g/l
<b>Partition coefficient: n-octanol/water</b>	N/A
<b>Auto-ignition temperature</b>	N/A
<b>Decomposition temperature</b>	N/A

## 10. Stability and Reactivity

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<b>Reactivity</b>	Stable.
<b>Chemical Stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No data available.

<b>Conditions to avoid</b>	No data available.
<b>Incompatible materials</b>	Organic acids (i.e. acetic acid, citric acid, etc.), mineral acids, sodium hypochlorite, oxidizing agents
<b>Hazardous decomposition products</b>	Nitric acid, ammonia, nitrogen oxides (NOx). Nitrogen oxide can react with water vapors to form corrosive nitric acid. Carbon monoxide, carbon dioxide, aldehydes. Flammable hydrocarbon fragments.
<b>Other hazards</b>	None known.

## 11. Toxicological Information

**Acute Health Hazard (components)** No data is available on the product itself.

Component	Result	Species	Dose	Exposure
Benzyl Alcohol	Inhalation LC50	Rat	>4178 mg/m <sup>3</sup>	4 h, aerosol
	Oral LD50	Rat	1620 mg/kg	

**Irritation/Corrosion (components)** Severe skin irritation. Corrosive to the skin of a rabbit. Severe eye irritation.

Component	Result	Species	Test	Exposure
Benzyl Alcohol	Non-irritant	Rabbit	OECD 404 – Skin	-
	Irritant	Rabbit	OECD 405 – Eye	-

**Sensitization** Did not cause sensitization on laboratory animals.

**Mutagenicity** No data is available on the product itself.

**Carcinogenicity** No data is available on the product itself.

**Reproductive Toxicity** No data is available on the product itself.

**Teratogenicity** No data is available on the product itself.

**Specific target organ toxicity (single exposure)** No data is available on the product itself.

**Specific target organ toxicity (repeated exposure)** No data is available on the product itself.

**Aspiration hazard** No data is available on the product itself.

### **Potential acute health effects**

**Eye Contact** Causes serious eye damage.

**Inhalation** Harmful if inhaled.

**Skin Contact** Causes skin irritation.

**Ingestion** Harmful if swallowed.

### **Symptoms related to the physical, chemical and toxicological characteristics**

**Eye Contact** Corneal edema may give rise to a perception of “blue haze” or “fog” around lights. Exposed individuals may see rings around bright lights. This effect is temporary and has no known residual effect. Product vapor can cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere.

**Inhalation** Toxic by inhalation. Harmful if inhaled and may cause delayed lung injury. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure. May cause nose, throat, and lung irritation. Inhalation of

vapors and/or aerosols in high concentration may cause irritation of respiratory system.

**Skin Contact**

If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.

**Ingestion**

Harmful if swallowed. May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

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

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

Rats exposed to 800 mg/kg benzyl alcohol for thirteen weeks exhibited CNS depression and histopathological changes in the brain, thymus, and skeletal muscles.

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

**Potential chronic health effects**

**General**

No data is available on the product itself.

**Carcinogenicity**

No data is available on the product itself.

**Mutagenicity**

No data is available on the product itself.

**Teratogenicity**

No data is available.

**Developmental effects**

No data is available.

**Fertility effects**

No data is available.

**Numerical measures of toxicity**

**Acute toxicity estimates (ATEmix)**

No data is available.

## 12. Ecological Information

**Ecotoxicity**

No data is available on the product itself.

Component	Test	Endpoint	Exposure	Species	Result
Benzyl Alcohol	-	Acute LC50	96 h	Bluegill sunfish	10 mg/l
	-	Acute LC50	96 h	Fathead minnow	460 mg/l
	-	Acute IC50	72 h	Algae	700 mg/l
Phenol	-	Acute EC50	48 h	Daphnia	4 - 7 mg/l

**Persistence and degradability**

No data is available on the product itself.

Component	Test	Period	Result
Benzyl Alcohol			Readily Biodegradable

**Bioaccumulative Potential**

No data is available on the product itself.

Component	LogPow	BCF	Potential
Benzyl Alcohol	1.05	1.37 (calculated)	Low
Phenol	1.47	-	Low

**Mobility in Soil**

No data is available.

Soil/water partition coefficient (KOC) No data is available.  
 Other adverse effects No data is available.

### 13. Disposal Considerations

**Waste from residues/ unused products** Product should not be allowed to enter drains, water courses or the soil; dispose of this material and its containers in a safe way. Contact supplier if guidance is required.

**Contaminated packaging** Dispose of container and unused contents in accordance with federal, state, and local requirements.

### 14. Transport Information

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. (Isophoronediamine)	Class 8 III	
TDG	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S. (Isophoronediamine)	Class 8 III	
IMO/IMDG	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S. (Isophoronediamine)	Class 8 III	
IATA	UN2735	AMINES, LIQUID, CORROSIVE, N.O.S. (Isophoronediamine)	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 it manufactured with ozone depleting substances.

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

Product Name	Concentration %
Phenol	0 - 1

**Pennsylvania – RTK**

Phenol

**California Prop. 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.



EPA SARA 302 Extremely Hazardous Substances None known.  
 EPA SARA 302/304/311/312 Hazardous Chemicals Acute Health Hazard  
 SARA 313  
 Form R – Reporting requirements

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

CERCLA Hazardous substances

United States inventory (TSCA 8b)

All components are listed or exempted.

**CANADA**

WHMIS (Canada) 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.

**EU (EINECS):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.

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

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HMIS Rating

Health 3
Flammability 1
Physical Hazard 0

Date of Preparation January 8, 2020

Date of Last Revision September 16, 2019

Revision # 4.0

More Information 1-253-333-8118

Prepared by System Three Resins Inc.

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