

**1. Product Identification**

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<b>Product name</b>	General Purpose Hardener #3
<b>SDS Number</b>	0103B00
<b>Product type</b>	Polyamine mixture
<b>Recommended use of the chemical and restrictions on use</b>	Directed at, but not limited to, the curing of epoxy resins.
<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 Skin Corrosion/Irritation – Category 2 Serious Eye Damage/Eye Irritation – Category 1 Respiratory Sensitization – Category 1 Skin Sensitization – Category 1 Toxic to Reproduction [Fertility, Unborn child]– Category 2 Specific Target Organ Toxicity (Single Exposure) [eyes, mucous membrane] – Category 1 Specific Target Organ Toxicity (Single Exposure) [respiratory tract irritation] – Category 3 Specific Target Organ Toxicity (Repeated Exposure) [respiratory tract, kidney, skin, lungs, liver] – Category 1 Aquatic Hazard (Acute) – Category 1 Aquatic Hazard (Long-term) – Category 1
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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. H317 May cause an allergic skin reaction. H318 Causes serious eye damage.
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- H334 May cause allergy or asthmatic symptoms or breathing difficulties if inhaled.
- H361 Suspected of damaging fertility or the unborn child.
- H370 Causes damage to organs.
- H371 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

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**Prevention**

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves. Wear eye or face protection.

**Response**

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.

**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 (%)
Aliphatic/Cycloaliphatic Amine Mixture	Trade Secret	65-75%
Nonyl Phenol	25154-52-3	25-35%

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**

Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Flush immediately with copious amounts of water. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing.

**Eye contact**

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**

Move to fresh air.

**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

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**Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>), 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

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**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

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**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

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**Occupational Exposure Limits**

None established.

**Appropriate engineering controls**

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls**

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. 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

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<b>Chemical family</b>	Amine Curing Agent
<b>Appearance</b>	Clear liquid
<b>Physical State</b>	
<b>Form</b>	Pourable liquid
<b>Color</b>	Dark Amber
<b>Odor</b>	Ammoniacal
<b>Density (Specific Gravity)</b>	0.95 – 0.97
<b>Viscosity</b>	500 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>	N/A
<b>Flash point</b>	>250 °F Pensky-Martin's Closed Cup
<b>Evaporation rate</b>	Slower than ether
<b>Flammability (solid, gas)</b>	N/A
<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>	N/A
<b>Vapor density</b>	Heavier than air
<b>Relative density</b>	N/A
<b>Solubility in water</b>	Negligible in water
<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 under normal conditions.
<b>Chemical Stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	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.
<b>Incompatible materials</b>	Strong oxidizing agents and mineral acids.
<b>Hazardous decomposition products</b>	Oxides of carbon, nitrogen

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
Aliphatic/Cycloaliphatic Amine Mixture	LD50 Oral	Rat	1,080 mg/kg	-
	LD50 Dermal	Rabbit	675 mg/kg	-
	LD50 Dermal	Rabbit	1,090 mg/kg	-
	LD50 Oral	Rat	3,250 mg/kg	-
	LD50 Dermal	Rabbit	3,000 mg/kg	-
	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	-

### Irritation/Corrosion (components)

Classifies as skin corrosion Category 2, Packing Group III per Corrositex Dermal Testing. Classifies as serious eye damage Category 1 per GHS calculations of additivity.

Component	Result	Species	Test	Exposure
Aliphatic/Cycloaliphatic Amine Mixture	Skin-Moderate irritant	Rabbit	-	-
	Skin-Erythema/E schar	Rabbit	404 Acute Dermal Irritation/Corrosion	4 h
	Eyes-Cornea opacity	Rabbit	405 Acute Eye Irritation/Corrosion	-
	Skin-Corrosive	-	-	1-4 h
	Eyes-Corrosive	Rabbit	406 OECD Test Guideline	-

### 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.

Component	Test	Species	Maternal toxicity	Fertility	Developmental effects
Aliphatic/Cycloaliphatic Amine Mixture	OECD 421 Test Guideline	Rat	-	Positive	-

### Teratogenicity

No information on product itself.

### Specific target organ toxicity (single exposure)

No information on product itself.

Component	Category	Route of exposure	Target organs
Aliphatic/Cycloaliphatic Amine Mixture	Category 1	-	Eyes, mucous membranes
	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

No information on product itself.

Component	Category	Route of exposure	Target organs
Aliphatic/Cycloaliphatic Amine Mixture	Category 1	-	Kidneys, skin, lungs
	Category 2	-	Bladder, kidneys, liver

**Aspiration hazard** No information on product itself.

**Potential acute health effects**

**Eye Contact** Causes serious eye damage.

**Inhalation** Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

**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  
Watering  
Redness

**Inhalation** Adverse symptoms may include the following:  
Wheezing and breathing difficulties  
Asthma  
Reduced fetal weight  
Increase in fetal deaths

**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** No information on 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** Causes damage to organs through prolonged or repeated exposure: 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	1808.9 mg/kg
Dermal	2054.8 mg/kg
Inhalation (vapors)	N/A

## 12. Ecological Information

### Ecotoxicity

No comprehensive data available on product itself.

Component	Test	Endpoint	Exposure	Species	Result
Nonyl Phenol	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50	3 hrs Static	Bacteria	950 mg/l
	ASTM	Acute EC50	48 hrs Static	Daphnia	0.085 mg/l
	ASTM	Acute LC50	96 hrs Static	Fish	0.05 mg/l

### Persistence and degradability

No information on product itself.

Component	Test	Period	Result
Aliphatic/Cycloaliphatic Amine Mixture	OECD Test Guideline 301B	28 days	0%
Nonyl Phenol	EPA OPPTS	63 days	100%
	OECD	56 days	50%
	OECD 301B Ready Biodegradability – CO2 Evolution Test	35 days	48.2%

### Bioaccumulative Potential

No information on product itself.

Component	LogPow	BCF	Potential
Aliphatic/Cycloaliphatic Amine Mixture	-1.3	0.65 2.80	low
	3.4	73	low
	1.34	-	-
Nonyl Phenol	5.4	740	high

### Mobility in Soil

#### Soil/water partition coefficient (KOC)

No information on product itself.

#### Other adverse effects

No known significant effects or critical hazards.

## 13. Disposal Considerations

### Waste from residues/ unused products

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	UN2735	Amines, liquid, n.o.s. (Polyoxypropylenediamine, Nonyl Phenol)	Class 8 III	Marine pollutant
IATA	UN2735	Amines, liquid, n.o.s. (Polyoxypropylenediamine, Nonyl Phenol)	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

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

#### 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	CAS
Phenol, 4-nonyl-, branched	84852-15-3
Phenol, 4,4'-(1-methylethylidene)bis-	80-05-7

#### CERCLA Hazardous substances

Component	%	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (lbs)	Product Reportable Quantity (lbs)
Phenol	1	Listed		

\*: Calculated RQ exceeds reasonably attainable upper limit.

**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**

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

**Date of Preparation**

January 24, 2020

**Date of Last Revision**

September 19, 2019

**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.