

## 1. Product Identification

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Product name	QuikFair Hardener Part B
SDS Number	1400B00
Product type	Amine/Pigment Mixture
Recommended use of the chemical and restrictions on use	Putty Hardener Component.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy, Suite Suite 105 Auburn, WA 98991-2436 United States
Telephone	1-253-333-8118
Website	www.systemthree.com
Email	support-08@systemthree.com
Emergency Contact	CHEMTREC (U.S. and CANADA) 1-800-424-9300 CHEMTREC (Outside the U.S.) 1-703-527-0585

## 2. Hazard(s) Identification

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Classification of substance or mixture/Signal Word	DANGER ACUTE TOXICITY: ORAL – Category 4 SKIN CORROSION/IRRITATION – Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION – Category 1 SKIN SENSITIZER – Category 1 REPRODUCTIVE TOXICITY [Fertility] – Category 2 REPRODUCTIVE TOXICITY [Unborn Child] – Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) – Category 3 AQUATIC HAZARD (ACUTE) – Category 1 AQUATIC HAZARD (CHRONIC) – Category 1
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GHS Label Elements  
Hazard Pictograms



Hazard Statements/Classification of substance or mixture	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H361 Suspected of damaging fertility or the unborn child. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.
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## Precautionary statements

### Precautionary Statements

#### Prevention

- P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing fumes/vapors.  
P264 Wash hands and exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated clothing should not be allowed out of the workplace.  
P272 Avoid release to the environment.  
P280 Wear eye protection/face protection. Wear protective gloves.

#### Response

- P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P330 Rinse mouth.  
P362+P364 Take off contaminated clothing and wash it before reuse.

#### Storage

- P391 Collect spillage.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

#### Disposal

- P501 Disposal of contents/container to be specified in accordance with regulations.

#### Hazards not otherwise classified (HNOC)

None known.

## 3. Composition/Information On Ingredients

Chemical Name	CAS Number	Content (%)
Modified Aliphatic Amines	Trade Secret	50 – 60%
Nonyl Phenol	84852-15-3	20 – 30%
Para-tertiary-butylphenol	98-54-4	20 – 30%

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

## 4. First-Aid Measures

#### Skin contact

Get medical attention immediately. 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 or if open sores or blisters develop. 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

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

#### Ingestion

Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position

comfortable for breathing. 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. 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 waist band.

#### **Inhalation**

Get medical attention immediately. 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. 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 or if extended exposure to eye and skin tissues have occurred.

##### **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. Fire may produce irritating, corrosive and/or toxic gases.

#### **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 (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 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>	Epoxy paste
<b>Physical State</b>	
<b>Form</b>	Solid paste
<b>Color</b>	Off-white
<b>Odor</b>	Ammonia-like odor
<b>Density (Specific Gravity)</b>	0.7 – 0.8
<b>Viscosity</b>	60,000 CPS @77°F
<b>pH</b>	N/A
<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-Martins Closed Cup)
<b>Evaporation rate</b>	Slower than ether
<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>	Heavier than air
<b>Relative density</b>	N/A
<b>Solubility in water</b>	Negligible
<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>	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 exothermic reaction may result in heat and smoke.
<b>Incompatible materials</b>	Strong oxidizing agents, strong acids and reducing agents, and mineral acids.

**Hazardous decomposition products**

Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Decomposition of this product may emit oxides of carbon and 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
Modified Aliphatic Amines	LD50 Dermal	Rabbit	2,000 mg/kg	-
	LD50 Oral	Rat	930 mg/kg	-
	LD50 Dermal	Rabbit	1,870 mg/kg	-
	LD50 Oral	Rat	1,170 mg/kg	-
	LC50 Inhalation	Rat	4.9 mg/l	1 h
Nonyl Phenol	LD50 Dermal	Rabbit	2,031 mg/kg	-
	LD50 Oral	Rat	1,412 mg/kg	-
Para-tertiary-butylphenol	LD50 Dermal	Rabbit	2,520 mg/kg	-
	LD50 Oral	Rat	5,660 mg/kg	-

**Irritation/Corrosion (components)**

Classifies as non-corrosive per negative Corrositex Dermal Testing. Classifies as Serious eye damage Category 1 per GHS calculations of additivity.

Component	Result	Species	Test	Exposure
Modified Aliphatic Amines	Corrosive	-	Skin	-
	Severe eye irritation	-	Eye	-
Para-tertiary-butylphenol	Irritation	-	Skin	-
	Serious eye irritation	-	Eye	-

**Sensitization**

No data is available for this product.

Component	Test	Species	Result	Exposure
Modified Aliphatic Amines	Buehler skin sensitization (guinea pig)	Guinea Pig	No evidence of sensitization	-
	Magnusson & Kilgman maximization study	Guinea Pig	Evidence of sensitization in 7 of 10 animals (intradermal induction – 0.1%; topical induction - 10%; challenge – 2% & 1%).	-

**Mutagenicity**

No data is available for this product.

**Carcinogenicity**

No data is available for this product.

**Reproductive Toxicity**

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

**Teratogenicity**

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

**Specific target organ toxicity (single exposure)**

No data is available for this product.

Component	Category	Route of exposure	Target organs
Modified Aliphatic Amines	Category 3		Respiratory tract irritation

**Specific target organ toxicity (repeated exposure)**

No data is available for this product.

**Aspiration hazard**

No data is available for this product.

**Potential acute health effects**

**Eye Contact**

Causes serious eye damage.

**Inhalation**

May cause respiratory irritation.

**Skin Contact**

Causes severe skin irritation. May cause a severe allergic 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:

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 data is available for this product.

**Potential chronic health effects**

**General**

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Carcinogenicity**

No significant effects or critical hazards.

**Mutagenicity**

No significant effects or critical hazards.

**Teratogenicity**

Suspected of damaging the unborn child.

**Developmental effects**

No significant effects or critical hazards.

**Fertility effects**

Suspected of damaging fertility.

**Numerical measures of toxicity**

**Acute toxicity estimates (ATEmix)**

<b>Route</b>	<b>ATE value</b>
Oral	1861.4 mg/kg
Dermal	2690.3 mg/kg
Inhalation (vapors)	30.26 mg/l

## 12. Ecological Information

### Ecotoxicity

No data is available on the product itself.

Component	Test	Exposure	Species	Result
Modified Aliphatic Amines	LC50 OECD 203	96 h	Fish	87.6 mg/l
	EC50 OECD 202	48 h	Daphnia magna	15.2 mg/l
	NOEC OECD 211	21 d	Daphnia magna	4.7 mg/l
	EC50	72 h	Algae	>100 mg/l
	EC50	48 h	Daphnia magna	19.8 mg/l
			Fish	1825 mg/l
Nonyl Phenol	LC50	96 h	Fish	0.209 mg/l
	EC50	48 h	Daphnia magna	0.0844 mg/l
Para-tertiary-butylphenol	LC50	96 h	Fish	5.14 mg/l
	EC50	48 h	Daphnia magna	4.8 mg/l

### Persistence and degradability

No data is available on the product itself.

Component	Test	Period	Result
Modified Aliphatic Amines	OECD 301B	28 d	49%
Nonyl Phenol	OECD 301B	35 d	48.2%

### Bioaccumulative Potential

No data is available on the product itself.

Component	LogPow	BCF	Potential
Modified Aliphatic Amines	-	3.16 l/kg (calculated)	-
Nonyl Phenol	5.4	740	high
Para-tertiary-butylphenol	3.31	-	-

### Mobility in Soil

No data is available on the product itself.

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

No data is available on the product itself.

#### Other adverse effects

No known significant effects or critical hazards.

## 13. Disposal Considerations

### Waste from residues/ unused products

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. 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	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Nonyl Phenol)	Class 9 III	Marine pollutant
IATA (Cargo)	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, 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

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

#### EPA SARA 302 Extremely Hazardous Substances

None

#### EPA SARA 302/304/311/312 Hazardous Chemicals

Acute Health Hazard, Chronic Health Hazard

#### SARA 313

#### Form R – Reporting requirements

Product Name	Concentration %
Phenol	0 – 1

#### CERCLA Hazardous substances

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

**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**

February 13, 2017

**Date of Last Revision**

December 29, 2015

**Revision #**

2.0

**More Information**

1-253-333-8118

**Prepared by**

N. Kim, 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>	QuikFair Resin Part A
<b>SDS Number</b>	1400A00
<b>Product type</b>	Epoxy Resin Mixture
<b>Recommended use of the chemical and restrictions on use</b>	Putty resin component.
<b>Restrictions</b>	None known.
<b>Manufacturer/Supplier information</b>	
<b>Company name</b>	SYSTEM THREE RESINS, INC.
<b>Address</b>	3500 W. Valley Hwy, Suite Suite 105 Auburn, WA 98991-2436 United States
<b>Telephone</b>	1-253-333-8118
<b>Website</b>	www.systemthree.com
<b>Email</b>	support-08@systemthree.com
<b>Emergency Contact</b>	CHEMTREC (U.S. and CANADA)   1-800-424-9300 CHEMTREC (Outside the U.S.)   1-703-527-0585

**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 Sensitization – Category 1 Specific Target Organ Toxicity (Single Exposure) [Respiratory tract irritation] – Category 3
<b><u>GHS Label Elements</u></b> <b>Hazard Pictograms</b>	
<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. H335 May cause respiratory irritation.
<b>Precautionary statements</b>	
<b><u>Precautionary Statements</u></b> <b>Prevention</b>	P280 Wear protective gloves. Wear eye or face protection. P201 Obtain special instructions before use. P271 Use only outdoors or in a well-ventilated area. P261 Avoid breathing vapor. P264 Wash hands thoroughly after handling.

<b>Response</b>	<p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P304 + 340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P313 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P302+352+363 IF ON SKIN: Wash with soap and water. Take off contaminated clothing and wash before reuse.</p> <p>P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.</p>
<b>Storage</b>	P401 Store at room temperature in a well-ventilated area.
<b>Disposal</b>	P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazards not otherwise classified (HNOC)</b>	None Available.

### 3. Composition/Information on Ingredients

Chemical Name	CAS Number	Content (%)
Diglycidyl Ether of Bisphenol A	25068-38-6	50-60%
Alkyl Glycidyl Ether	17557-23-2	15-20%
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

<b>Skin contact</b>	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 watch bands.
<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Suitable emergency eye wash facility should be available in work area. Get medical attention immediately if irritation persists.
<b>Ingestion</b>	Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. 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.
<b>Inhalation</b>	Get medical attention immediately. 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. 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**

<b>Notes to physician</b>	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
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Specific treatments

No specific treatment.

## 5. Fire-Fighting Measures

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<b>Suitable extinguishing media</b>	Alcohol-resistant foam, dry chemical, water fog or carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	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.
<b>Hazardous decomposition products</b>	Decomposition products may include the following materials: Carbon dioxide Carbon monoxide
<b>Special protective actions for fire-fighters</b>	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.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
<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>	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.
<b>Emergency procedures</b>	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
<b>Methods and materials for containment/cleanup</b>	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.
<b>Environmental precautions</b>	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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<b>Precautions for safe handling</b>	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.
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<b>Precautions/Recommendations for safe/proper storage</b>	<p>Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p> <p>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.</p>
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## 8. Exposure Controls/Personal Protection

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<b>Occupational Exposure Limits</b>	None established.
<b>Appropriate engineering controls</b>	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.
<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 spectacles with side shields are recommended. Always wear eye protection when sanding cured epoxy resins to avoid dust in eyes.
<b>Hand protection</b>	Always wear impervious gloves: butyl rubber, nitrile rubber, Neoprene, PVC disposable gloves,
<b>Skin protection</b>	Wear clean, body-covering clothing to avoid skin contact.
<b>Respiratory protection</b>	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.
<b>Special instructions for protection and hygiene</b>	Discard contaminated leather articles. Remove contaminated clothing. Wash at the end of each work shift and before eating smoking or using the toilet. Provide readily accessible eye wash stations and safety showers.

## 9. Physical and Chemical Properties

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<b>Chemical family</b>	Epoxy Resin
<b>Appearance</b>	Colored paste
<b>Physical State</b>	Epoxy polymer mixture
<b>Form</b>	Paste
<b>Color</b>	Tan
<b>Odor</b>	Characteristic odor
<b>Density (Specific Gravity)</b>	0.8 – 0.9
<b>Viscosity</b>	130,000 CPS @ 25C
<b>pH</b>	N/A
<b>Melting point/freezing point</b>	N/A

<b>Initial boiling point and boiling range</b>	N/A
<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>	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>	Heavier than air
<b>Relative density</b>	Not determined
<b>Solubility in water</b>	Negligible
<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

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical Stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	Reactive or incompatible with the following materials: Strong oxidizing agents Strong acids Aliphatic amines
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Other hazards</b>	Reacts with considerable heat release with some curing agents.

## 11. Toxicological Information

**Acute Health Hazard (components)** No comprehensive data is available on the 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/kg	-
Alkyl Glycidyl Ether	LD50 Oral	Rat	4,500 mg/kg	-
Diglycidyl Ether of Bisphenol F	LD50 Oral	Rat	>2,000 mg/kg	-
	LD50 Dermal	Rat	>2,000 mg/kg	-

**Irritation/Corrosion (components)** No data is available for this product.

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 data is available for this product.

**Mutagenicity** No data is available for this product.

**Carcinogenicity** No data is available for this product.

**Reproductive Toxicity** No data is available for this product.

**Teratogenicity** No data is available for this product.

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

Component	Category	Route of exposure	Target organs
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 data is available for this product.

**Aspiration hazard** No data is available for this product.

**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 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
Diglycidyl Ether of Bisphenol A	2.64 – 3.78	3 – 31	Low
Diglycidyl Ether of Bisphenol F	3.242	31	Low
Alkyl glycidyl Ether	0.23	-	Low

**Mobility in Soil****Soil/water partition coefficient (KOC)**

No information on the product itself.

**Other adverse effects**

No know significant effects or critical hazards.

**13. Disposal Considerations****Waste from residues/ unused products**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Product should not be allowed to enter drains, water courses or the soil; dispose of this material and its containers in a safe way. Contact supplier if guidance is required.

**Contaminated packaging**

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

**14. Transport Information**

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

**International Transport Regulations**

Regulatory information	UN/NA number	Proper Shipping Name	Classes/*PG	Additional Information
DOT		Non-regulated		
TDG		Non-regulated		
IMO/IMDG	UN3082	Environmentally Hazardous Substance, Liquid, N.O.S. (Bisphenol-A Epichlorohydrin Resin)	Class 9 III	
IATA (Cargo)	UN3082	Environmentally Hazardous Substance, Liquid, N.O.S. (Bisphenol-A Epichlorohydrin Resin)	Class 9 III	

\*PG: Packing group

**Special precautions for user:**

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

## 15. Regulatory Information

### UNITED STATES

**U.S. Federal Regulations**

**United States – TSCA 12(b) – Chemical export notification:** None Required.  
**United States – TSCA 5(a)2 – Final significant new use rules:** Not Listed.  
**United States – TSCA 5(a)2 – Proposed significant new use rules:** Not Listed.  
**United States – TSCA 5(e) – Substance consent order:** Not listed.

**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

Health	2
Flammability	1
Physical Hazard	0

<b>Date of Preparation</b>	February 3, 2017
<b>Date of Last Revision</b>	December 24, 2015
<b>Revision #</b>	2.0
<b>More Information</b>	1-253-333-8118
<b>Prepared by</b>	N. Kim

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