

1. Product Identification

Product Name	M-BALM Part A
SDS Number	1500A00
Product Type	Epoxy Polymer Mixture
Recommended use of the chemical and restrictions on use	Rot Repair Resin Component
Restrictions	None known.
Manufacture/Supplier Information	
Company Name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy North, Suite 105 Auburn, WA 98001-2436
Telephone	(253) 333-8118
Website	www.systemthree.com
Email	Support-08@systemthree.com
Emergency Contact	CHEMTREC (U.S. and CANADA) (800) 424-9300 CHEMTREC (Outside the U.S.) (703) 527-0585

2. Hazard(s) Identification

Classification	SKIN CORROSION/IRRITATION - Category 2, H315 SENSITIZATION, SKIN - Category 1, H317 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1, H318 ACUTE TOXICITY, INHALATION – Category 4, H332 SENSITIZATION, RESPIRATORY - Category 1, H334 GERM CELL MUTAGENICITY – Category 2, H341 REPRODUCTIVE TOXICITY – Category 2, H361 SPECIFIC TARGET ORGAN TOXICITY, SINGLE EXPOSURE – Category 1, H371 SPECIFIC TARGET ORGAN TOXICITY, REPEATED EXPOSURE – Category 2, H373 ACUTE AQUATIC TOXICITY – Category 3, H402 CHRONIC AQUATIC TOXICITY – Category 3, H412
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Label Elements

Symbol



Signal Word

WARNING

Hazard Statements

H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effect.

2. Hazard(s) Identification

Precautionary Statements

Prevention	P261: Avoid breathing fumes/vapors. P264: Wash hands and exposed skin thoroughly after handling. P272: Contaminated work clothes should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear eye protection/face protection. Wear protective gloves.
Response	P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332 + P313: If skin irritation occurs: Get medical advice/attention. P337 + P313: If eye irritation persists: Get medical attention/advice. P362: Take off contaminated clothing and wash before reuse. P391: Collect spillage.
Storage	P405: Store locked up.
Disposal	P501: Disposal of contents/container to be specified in accordance with regulations.
General	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Hazards Not Otherwise Classified (HNOC)	Severe respiratory irritant. Moderate skin irritant. Severe eye irritant. May cause sensitization by skin contact. 0% of this mixture consists of ingredients of unknown acute toxicity.
OSHA/HCS Status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

3. Composition/Information on Ingredients

Component	%	CAS Number
Diglycidyl Ether of Bisphenol A (DGEBA)	60-70*	25068-38-6
Alkylglycidyl Ether	20-30*	17557-23-2
Benzyl Alcohol	10-15*	100-51-6

*=Various

Any concentration shown as a range is due to batch variation in the petroleum source used.

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. 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.
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4. First Aid Measures

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 waistband.
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.

Most Important Symptoms/Effects, Acute and Delayed

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

Over-exposure Signs/Symptoms

Skin Contact	Adverse symptoms may include the following: Irritation Redness
Eye Contact	Adverse symptoms may include: Pain or irritation Watering Redness
Ingestion	No specific data.
Inhalation	Adverse symptoms may include the following: Respiratory tract irritation Coughing

Indication of Immediate Medical Attention and Special Treatment Needed

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.
Protection of First Responders	No action taken shall be taken involving any personal risk without suitable training. If it is suspected that gas or vapor is still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire Fighting Measures

Lower Explosive Limit (LEL)	N/A
Upper Explosive Limit (UEL)	N/A

5. Fire Fighting Measures

Specific Hazards Arising From the Chemicals	In a fire or if heated, a pressure increase will occur and the container may burst.
Suitable Extinguishing Media	Alcohol-resistant foam, dry chemical, dry sand, limestone powder or carbon dioxide (CO ₂).
Unsuitable Extinguishing Media	Use of water may produce environmentally hazardous products. Do not allow run-off from the firefighting to enter drains or water courses.
Products of Combustion	Decomposition products may include carbon monoxide, carbon dioxide, aldehydes, acids and halogenated compounds. Burning produces noxious and toxic fumes.
Protection of Firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For Emergency Responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
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).
<u>Methods For Containment</u>	
Small Spill	Stop leak if without risk. Move containers from spill area. Absorb with an inert dry absorbent material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. Wash the spill area clean with water and detergent, observing environmental requirements.
Large Spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with inert dry absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Wash the spill area clean with water and detergent, observing environmental requirements. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and Storage

Protective Measures	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.
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7. Handling and Storage

Protective Measures (cont.)	Empty containers retain product residue and can be hazardous. Do not reuse container.
General Occupational Hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.
General Occupational Hygiene (cont.)	See Section 8 for additional information on hygiene measures.
Safe Storage Conditions	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits:

List	Components	CAS-No.	Type	Value
ACGIH	None		TLV	N/A
AIHA	Benzyl Alcohol	100-51-6	WEEL	10 ppm TWA
OSHA Z1	None		PEL	N/A

Engineering Controls	Use only with adequate ventilation. Use explosion-proof process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Provide readily accessible eye wash stations and safety showers.
Environmental Exposure Controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual Protection Measures

Hygiene Measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Discard contaminated leather items. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/Face Protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: chemical splash goggles.
<u>Skin Protection</u>	
Hand Protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

8. Exposure Controls/Personal Protection

Hand Protection (cont.)	Recommended gloves: Neoprene PVC disposable Butyl-rubber Nitrile rubber
Body Protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Long sleeve shirts and pants without cuffs are minimal recommended.
Other Skin Protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory Protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Clear
Odor	Little to no odor
pH	Not available
Melting Point	Not applicable
Boiling Point	Not applicable
Specific Gravity	1.1 – 1.3
Solubility in Water	Negligible
Evaporation Rate	Slower than ether
Vapor Pressure	Not available
Vapor Density (Air = 1)	Heavier than air
VOC Content	None
Viscosity	140 – 200 CPS

10. Stability and Reactivity

Reactivity	No specific test data related to reactivity is available for this product or its ingredients.
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Epoxy resins and epoxy resin hardeners react with each other producing heat. They should not be mixed with each other under uncontrolled conditions or in a large mass as the ensuing exothermic reaction may produce heat, smoke and hazardous decomposition products. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.
Incompatible Materials	Strong oxidizing agents. Mineral and organic acids Sodium hypochlorite Reactive metals (e.g. sodium, calcium, zinc etc.).
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Toxic fumes may be evolved when product is burned. Decomposition products may include carbon oxides (CO, CO ₂), acids and aldehydes.
Possibility of Hazardous Reactions	Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological Information

Information on Toxicological Effects

Acute Toxicity

Component	CAS No	Result	Species	Dose	Exposure
Benzyl Alcohol	100-51-6	LD50 Oral	Rat	1620 mg/kg	-
Diglycidyl Ether of Bisphenol A	25068-38-6	LD50 Oral LD50 Dermal	Rat Rat	11,400 mg/kg 2,000 mg/kg	-
Alkylglycidyl Ether	17557-23-2	LD50 Oral	Rat	4,500 mg/kg	-

Sensitization

Component	CAS No	Test	Species	Result	Exposure
Diglycidyl Ether of Bisphenol A	25068-38-6	Skin	Rabbit	Moderate to severe irritation	4 h
		Eye		Mild irritation	24 h
Benzyl Alcohol	100-51-6	Skin	Rabbit	No irritation	24h
	100-51-6	Eye	Rabbit	Irritation	24h

Carcinogenicity	No data is available for this product.
Reproductive Toxicity	In vitro tests showed mutagenic effects (Phenol).
Teratogenicity	No data is available for this product.
Specific Target Organ Toxicity (single exposure)	No data is available for this product.
Specific Target Organ Toxicity (repeated exposure)	No data is available for this product.
Aspiration Hazard	No data is available for this product.
Information on likely routes of exposure	No additional data is available for this product.
Additional Information	Benzyl Alcohol: Central nervous system depression. Liver irregularities based on human evidence.

12. Ecological Information

Ecotoxicity

Component	CAS No	Test	Species	Dose	Exposure
Benzyl Alcohol	100-51-6	LC50	Lepomis macrochirus (bluegill)	10 mg/l	96 h
	100-51-6	EC50	Daphnia magna (water flea)	55 mg/l	24 h
Diglycidyl Ether of Bisphenol A	25068-38-6	LC50	Fish	1.3 mg/l	96 h
	25068-38-6	LC50	Daphnia Magna (water flea)	2.1 mg/l	48 h

Persistence and Degradability

Biodegradability

Not data is available on the product itself.

12. Ecological Information

Bioaccumulative Potential

Component	LogPow	BCF	Potential
Diglycidal Ether of Bisphenol A	2.64 – 3.78	3-31	Low

Mobility in Soil

Soil/water Partition Coefficient (Koc) Not available.

Other Adverse Effects No known significant effects or critical hazards.

13. Disposal Considerations

Other Adverse Effects

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. 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

	DOT Classification	IMDG	IATA
UN Number	Not regulated	3082	3082
UN Proper Shipping Name	-	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin Resin)	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-A Epichlorohydrin Resin)
Transport Hazard Classes	-	9	9
Packing Group	-	III	III
Environmental Hazards	-	YES	YES
Additional Information	-	EmS: F-A S-F	ERG Code: 9L

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

U.S. Federal Regulation

United States Inventory (TSCA 8b): All components are listed or exempted.

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302

None.

SARA 311/312 Hazards

None.

SARA 313

None.

Massachusetts Right To Know Components

Component	CAS-No.	Revision Date
Benzyl Alcohol	100-51-6	4/24/1993

15. Regulatory Information

New Jersey Right To Know Components

Component	CAS-No.	Revision Date
Alkylglycidyl Ether	17557-23-2	-
Benzyl Alcohol	100-51-6	4/24/1993
Diglycidyl Ether of Bisphenol A (DGEBPA)	25068-38-6	-

Pennsylvania Right To Know Components

Component	CAS-No.	Revision Date
Alkylglycidyl Ether	17557-23-2	-
Benzyl Alcohol	100-51-6	4/24/1993
Diglycidyl Ether of Bisphenol A (DGEBPA)	25068-38-6	-

California Prop 65

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

16. Other Information

HMIS Rating

Health

2

Flammability

1

Physical Hazard

0

History

Date of Printing 12/17/15

Date of Issue/Date of Revision 12/17/15

Date of Previous Issue None.

References

None.

Disclaimer

The information contained herein is based on the data available to us and is believed to be correct. However, System Three Resins, Inc. makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. System Three assumes no responsibility for injury from the use of the product described herein.

1. Product Identification

Product Name	M-Balm Part B
SDS Number	1500B00
Product Type	Amine Polymer Mixture
Recommended use of the chemical and restrictions on use	Rot Repair Hardener Component.
Restrictions	None known.
Manufacture/Supplier Information	
Company Name	SYSTEM THREE RESINS, INC.
Address	3500 W. Valley Hwy North Suite 105 Auburn, WA 98001-2436
Telephone	(253) 333-8118
Website	www.systemthree.com
Email	Support-08@systemthree.com
Emergency Contact	CHEMTREC (U.S. and CANADA) (800) 424-9300 CHEMTREC (Outside the U.S.) (703) 527-0585

2. Hazard(s) Identification

Classification	SKIN CORROSION/IRRITATION - Category 2, H315 SENSITIZATION, SKIN - Category 1, H317 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1, H318 ACUTE TOXICITY, INHALATION – Category 4, H332 SENSITIZATION, RESPIRATORY - Category 1, H334 GERM CELL MUTAGENICITY – Category 2, H341 REPRODUCTIVE TOXICITY – Category 2, H361 SPECIFIC TARGET ORGAN TOXICITY, SINGLE EXPOSURE – Category 1, H371 SPECIFIC TARGET ORGAN TOXICITY, REPEATED EXPOSURE – Category 2, H373 ACUTE AQUATIC TOXICITY – Category 3, H402 CHRONIC AQUATIC TOXICITY – Category 3, H412
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Label Elements

Symbol



Signal Word

DANGER

Hazard Statements

H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H332: Harmful if inhaled.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341: Suspected of causing genetic defects.
H361: Suspected of damaging fertility or the unborn child.
H371: May cause damage to organs (eyes, mucous membranes) if allowed to come in contact with.

2. Hazard(s) Identification

Hazard Statements (cont.)	H373: May cause damage to organs (kidneys, liver, lungs, respiratory tract, skin) through prolonged or repeated exposures. H402: Harmful to aquatic life. H412: Harmful to aquatic life with long lasting effect.
Precautionary Statements	
Prevention	P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P260: Do not breathe dusts or mists. P261: Avoid breathing fumes/vapors.
Prevention (cont.)	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 work clothes should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear eye protection/face protection. Wear protective gloves. P281: Use personal protective equipment as required. P285: In case of inadequate ventilation wear respiratory protection.
Response	P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313: IF exposed or concerned: Get medical advice/attention. P310: Immediately call a POISON CENTER or doctor/physician. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P330: Rinse mouth. P332 + P313: If skin irritation occurs: Get medical advice/attention. P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P362: Take off contaminated clothing and wash before reuse. P391: Collect spillage.
Storage	P405: Store locked up.
Disposal	P501: Disposal of contents/container to be specified in accordance with regulations.
General	Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.
Hazards Not Otherwise Classified (HNOC)	Severe respiratory irritant. Moderate skin irritant. Severe eye irritant. May cause sensitization by skin contact.
OSHA/HCS Status	45-60% of this mixture consists of ingredients of unknown acute toxicity. This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

3. Composition/Information on Ingredients

Component	%	CAS Number
Modified polyethylene polyamine adduct	25-35	Proprietary
Reaction products of TETA with phenol/formaldehyde	20-25	32610-77-8
Benzyl Alcohol	15-25	100-51-6
Triethylenetetramine (TETA)	1-10	112-24-3
Phenol	5-10	108-95-2
Tetraethylenepentamine	1-5	112-57-2
Diethylenetriamine	1-5	111-40-0

*=Various

Any concentration shown as a range is due to batch variation in the petroleum source used.

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. 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 waistband.
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.

Most Important Symptoms/Effects, Acute and Delayed

Skin Contact	Causes severe skin irritation. May cause an allergic skin reaction.
Eye Contact	Causes severe eye irritation. Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause eye disease.
Ingestion	Irritating to mouth, throat and stomach.
Inhalation	Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat Liver disorders Kidney disorders Asthma

4. First Aid Measures

Over-exposure Signs/Symptoms

Skin Contact	Adverse symptoms may include the following: Irritation Pain Redness Blistering of skin Reduced fetal weight Increase in fetal deaths Skeletal malformations
Eye Contact	Adverse symptoms may include: Blurring or loss of vision Conjunctivitis Watering
Ingestion	Adverse symptoms may include the following: Stomach pains Reduced fetal weight Increase in fetal deaths Skeletal malformations
Inhalation	Adverse symptoms may include the following: Respiratory tract irritation Coughing Tightness of chest Shortness of breath Reduced fetal weight Increase in fetal deaths Skeletal malformations

Indication of Immediate Medical Attention and Special Treatment Needed

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.
Protection of First Responders	No action taken shall be taken involving any personal risk without suitable training. If it is suspected that gas or vapor is still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

5. Fire Fighting Measures

Lower Explosive Limit (LEL)	N/A
Upper Explosive Limit (UEL)	N/A
Specific Hazards Arising From the Chemicals	May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from the fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces noxious and toxic fumes. In a fire or if heated, a pressure increase will occur and the container may burst.
Suitable Extinguishing Media	Alcohol-resistant foam, dry chemical, dry sand, limestone powder or carbon dioxide (CO ₂).
Unsuitable Extinguishing Media	Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from the fire fighting to enter drains or water courses.

5. Fire Fighting Measures

Products of Combustion	May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes.
Protection of Firefighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-Emergency Personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For Emergency Responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
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).

Methods For Containment

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

7. Handling and Storage

Protective Measures	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.
General Occupational Hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7. Handling and Storage

General Occupational Hygiene (cont.)

See Section 8 for additional information on hygiene measures.

Safe Storage Conditions

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits:

List	Components	CAS-No.	Type	Value
ACGIH				
	Diethylenetriamine	111-40-0	TLV	1.0 ppm TWA (skin)
	Phenol	108-95-2	TLV	5.0 ppm TWA – 8 h
AIHA	Tetraethylenepentamine	112-57-2	WEEL	5 mg/ m ³ TWA
	Triethylenetetramine	112-24-3	WEEL	6 mg/ m ³ TWA
NIOSH	Diethylenetriamine	111-40-0	REL	1.0 ppm TWA
	Phenol	108-95-2	REL	5.0 ppm TLV 15.6 ppm C
OSHA Z1				
	Diethylenetriamine	111-40-0	PEL	1.0 ppm TWA
	Phenol	108-95-2	PEL	5.0 ppm TWA

Engineering Controls

Use only with adequate ventilation. Use explosion-proof process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Provide readily accessible eye wash stations and safety showers.

Environmental Exposure Controls

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

Individual Protection Measures

Hygiene Measures

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

Eye/Face Protection

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

Skin Protection

Hand Protection

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

8. Exposure Controls/Personal Protection

Hand Protection (cont.)	Recommended gloves: Neoprene PVC disposable Butyl-rubber Nitrile rubber
Body Protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Long sleeve shirts and pants without cuffs are minimal recommended.
Other Skin Protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory Protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Dark
Odor	Characteristic amine odor
pH	Not available
Melting Point	Not applicable
Boiling Point	Not applicable
Specific Gravity	0.97
Solubility in Water	Negligible
Evaporation Rate	Slower than ether
Vapor Pressure	Not available
Vapor Density (Air = 1)	Heavier than air
VOC Content	None
Viscosity	300 – 400 CPS

10. Stability and Reactivity

Reactivity	No specific test data related to reactivity is available for this product or its ingredients.
Chemical Stability	Stable under normal conditions.
Conditions to Avoid	Epoxy resins and epoxy resin hardeners react with each other producing heat. They should not be mixed with each other under uncontrolled conditions or in a large mass as the ensuing exothermic reaction may produce heat, smoke and hazardous decomposition products. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.
Incompatible Materials	Strong oxidizing agents. Mineral acids Organic acids Sodium hypochlorite Reactive metals (e.g. sodium, calcium, zinc etc.).

10. Stability and Reactivity

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Toxic fumes may be evolved when product is burned.

Decomposition products may include:

Nitric acid

Ammonia

Nitrogen oxides (NO_x)

Carbon monoxide

Carbon dioxide (CO₂)

Aldehydes

Flammable hydrocarbon fragments

Note: Nitrogen oxide can react with water vapors to form corrosive nitric acid. N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes into contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations.

Possibility of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological Information

Information on Toxicological

Effects_Acute Toxicity

Component	CAS No	Result	Species	Dose	Exposure
Benzyl Alcohol	100-51-6	LD50 Oral	Rat	1620 mg/kg	-
Diethylenetriamine	111-40-0	LD50 Oral LD50 Dermal	Rat Rabbit	1,080 mg/kg 675 mg/kg	- -
Phenol	108-95-2	LD50 Oral	Rat	300 mg/kg	-
	108-95-2	LD50 Dermal	Rabbit	630 mg/kg	-
	108-95-2	LC50 Inhalation	Rat	900 mg/kg	8h
Tetraethylenepentamine	112-57-2	LD50 Oral	Rat	3,990 mg/kg	-
Triethylenetetramine	112-24-3	LD50 Oral LD50 Dermal	Rat Rabbit	2,500 mg/kg 550 mg/kg	- -

Sensitization

Component	CAS No	Test	Species	Result	Exposure
Benzyl Alcohol	100-51-6	Skin	Rabbit	No irritation	24h
	100-51-6	Eye	Rabbit	Irritation	24h
Diethylenetriamine	111-40-0	Skin	Rabbit	Moderate irritant	-
Phenol	108-95-2	Skin	Rabbit	Severe skin irritation	24h
	108-95-2	Eye	Rabbit	Corrosive	-

11. Toxicological Information

Carcinogenicity	No data is available for this product.
Reproductive Toxicity	In vitro tests showed mutagenic effects (Phenol).
Teratogenicity	No data is available for this product.

Specific Target Organ Toxicity (single exposure)

Component	Category	Route of Exposure	Target Organs
Modified polyethylene polyamine adduct	3	-	Respiratory tract irritation
Diethylenetriamine	2	-	Eyes CNS
Tetraethylenepentamine	1	-	Eyes Mucous membranes

Specific Target Organ Toxicity (repeated exposure)

Component	Category	Route of Exposure	Target Organs
Modified polyethylene polyamine adduct	1	-	Skin
Diethylenetriamine	1	-	Kidneys Liver Lungs Skin
Tetraethylenepentamine	1 2	-	Skin Respiratory tract Kidneys Liver

Aspiration Hazard	No data is available for this product.
Information on likely routes of exposure	Absorption of phenolic solutions through the skin may be very rapid and can cause damage to the kidneys, liver, pancreas and spleen, and edema of the lungs. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma, eczemas. Contact with eye tissues may result in eye disease.
Additional Information	<p>Benzyl Alcohol: Central nervous system depression. Liver irregularities based on human evidence.</p> <p>Phenol: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Circulatory collapse, tachypnea, paralysis, Convulsions, Coma., necrosis of mouth and G.I. Tract, Jaundice, respiratory failure, cardiac arrest. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.</p> <p>Stomach - Irregularities - Based on Human Evidence.</p>

12. Ecological Information

Ecotoxicity

Component	CAS No	Test	Species	Dose	Exposure
Benzyl Alcohol	100-51-6	LC50	Lepomis macrochirus (bluegill)	10 mg/l	96 h
	100-51-6	EC50	Daphnia magna (water flea)	55 mg/l	24 h
	80-05-7	EC50	Daphnia Magna (water flea)	10.2 mg/l	48 h
Phenol	108-95-2	LC50	Leuciscus idus (Golden orfe)	14.0 – 25.0 mg/l	48 h
	108-95-2	EC50	Daphnia magna (water flea)	56 mg/l	48 h
Triethylenetetramine	112-24-3	EC50	Freshwater Algae	2.5 mg/l	72 h
	112-24-3	EC50	Water Flea	31.1 mg/l	48 h

Persistence and Degradability

Biodegradability

No data is available on the product itself.

Bioaccumulative Potential

Component	LogPow	BCF	Potential
Diethylenetriamine	-1.3	2.8	Low
Phenol	-	17.5	Low
Triethylenetetramine	-1.4	-	Low

Mobility in Soil

Soil/water Partition Coefficient (K_{oc}) Not available.

Other Adverse Effects

No known significant effects or critical hazards.

13. Disposal Considerations

Other Adverse Effects

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.

13. Disposal Considerations

Other Adverse Effects (cont.)

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

	DOT Classification	IMDG	IATA
UN Number	2735	2735	2735
UN Proper Shipping Name	Liquid polyamines, corrosives, n.o.s. (polyalkylamines, triethylenetetramine)	Liquid polyamines, corrosives, n.o.s. (polyalkylamines, triethylenetetramine)	Liquid polyamines, corrosives, n.o.s. (polyalkylamines, triethylenetetramine)
Transport Hazard Classes	8	8	8
Packing Group	III	III	III
Environmental Hazards	YES	YES	YES
Additional Information	-	EMS: F-A, S-B	-

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

U.S. Federal Regulation

United States Inventory (TSCA 8b): All components are listed or exempted.

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302.

Component	CAS-No.	Revision Date
Phenol	108-95-2	7/1/2007

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard.

SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313.

Component	CAS-No.	Revision Date
Phenol	108-95-2	7/1/2007

Massachusetts Right To Know Components

Component	CAS-No.	Revision Date
Benzyl Alcohol	100-51-6	4/24/1993
Diethylenetriamine	111-40-0	4/1/1994
Phenol	108-95-2	7/1/2007
Tetraethylenepentamine	112-57-2	4/24/1993
Triethylenetetramine	112-24-3	4/24/1993

15. Regulatory Information

New Jersey Right To Know Components

Component	CAS-No.	Revision Date
Benzyl Alcohol	100-51-6	4/24/1993
Diethylenetriamine	111-40-0	4/1/1994
Phenol	108-95-2	7/1/2007
Tetraethylenepentamine	112-57-2	4/24/1993
Triethylenetetramine	112-24-3	4/24/1993

Pennsylvania Right To Know Components

Component	CAS-No.	Revision Date
Benzyl Alcohol	100-51-6	4/24/1993
Diethylenetriamine	111-40-0	4/1/1994
Phenol	108-95-2	7/1/2007
Tetraethylenepentamine	112-57-2	4/24/1993
Triethylenetetramine	112-24-3	4/24/1993

California Prop 65

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

16. Other Information

HMIS Rating

Health
Flammability
Physical Hazard

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History

Date of Printing 12/7/15
Date of Issue/Date of Revision 12/7/15
Date of Previous Issue None.

References None.

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