

1. Product Identification

Product name	Epoxy Patching Compound Part A
SDS Number	922300001A
Product type	Epoxy polymer mixture
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, the repair of similar and dissimilar materials.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	Modern Recreational Technologies, INC.
Address	7625 Thorndike Rd Greensboro, NC 27409 United States
Telephone	800-728-8258
Emergency Contact	Chemtrec: +1-800-424-9300 USA Chemtrec: +1 703-527-3887 ex-USA 24 hrs./day, 7 days/week

2. Hazard(s) Identification

Classification of substance or mixture/Signal Word

WARNING
 Skin Corrosion/Irritation - Category 2
 Serious Eye Damage/Eye Irritation - Category 2
 Skin Sensitization - Category 1
 Specific Target Organ Toxicity (Single Exposure) [Respiratory tract irritation] - Category 3

GHS Label Elements
Hazard Pictograms



Hazard Statements/Classification of substance or mixture

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.

Precautionary statements

Precautionary Statements
Prevention

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P264 Wash hands thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.

	P272 Contaminated work clothing should not be allowed out of the workplace.
	P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response	P304 + 340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. P308 + P313 If exposed or concerned: Get medical attention.
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 (%)
Diglycidyl Ether of Bisphenol A	25068-38-6	50 – 60%
Diglycidyl Ether of Bisphenol F	28064-14-4	5 – 10%
Alkyl Glycidyl Ether	17557-23-2	5 – 10%

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

4. First-Aid Measures

Skin contact	Remove contaminated clothing and shoes and wipe excess off skin. Flush skin with water. Follow by washing in soap and water. If irritation occurs, seek medical attention. Do not reuse clothing until cleaned. Contaminated leather articles (shoes) cannot be decontaminated and should be destroyed.
Eye contact	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. Get medical attention.
Ingestion	Do not induce vomiting unless directed to do so by medical personnel. 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. 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.
Inhalation	Remove victim to fresh air and provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

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

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.

5. Fire-Fighting Measures

Suitable extinguishing media	Alcohol-resistant foam, carbon dioxide (CO ₂), 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.
Hazardous decomposition products	Decomposition products may include the following materials: Carbon dioxide Carbon monoxide
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

Personal precautions	Wear proper personal protective equipment (PPE). Avoid direct contact with material. Proper PPE includes: disposable gloves, eye protection and skin protection.
Emergency procedures	If materials 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

7. Handling and Storage

Precautions for safe handling	Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using, do not eat, drink or smoke.
Precautions/Recommendations for safe/proper storage	Store epoxy products in temperature stable environment, out of the reach of pets or children. Securely fasten container lids and tops, and prevent products from sitting and below freezing temperatures.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits	None established.
Appropriate engineering controls	None established.
Environmental exposure 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.
Individual protection measures/Personal protective equipment	Use appropriate containment to avoid environmental contamination. Do not allow spill to enter sewers or waterways.
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

Chemical family	Epoxy Resin
Appearance	Blue paste
Physical State	Epoxy polymer mixture
Form	Paste
Color	Blue
Odor	Mild
Density (Specific Gravity)	1.1
Viscosity	60,000 – 90,000 CPS
pH	Not available
Melting point/freezing point	Not applicable
Initial boiling point and boiling range	Not applicable
Flash point	Not available
Evaporation rate	Slower than ether
Flammability (solid, gas)	Not applicable
Upper/lower flammability limit (by volume)	Not applicable
Upper flammability limit (by volume)	Not applicable
Lower flammability limit (by volume)	Not applicable
Material VOC	None

Vapor density	Heavier than air
Relative density	Not available
Solubility in water	Negligible
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available

10. Stability and Reactivity

Reactivity	No specific test data related to reactivity available for this product.
Chemical Stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Conditions to avoid	Epoxy resins and epoxy resin hardeners react with each other producing heat. They should not be mixed with each other under uncontrolled conditions or in large mass as the ensuing exotherm may result in heat and smoke, resulting in hazardous decomposition products.
Incompatible materials	Strong oxidizing and reducing agents. Lewis and mineral acids.
Hazardous decomposition products	Oxides of carbon, aldehydes, and acids.
Other hazards	None known.

11. Toxicological Information

Acute Health Hazard (components) No comprehensive data (ingestion, inhalation, dermal) on mixture (product).

Component	Result	Species	Dose	Exposure
Diglycidyl Ether of Bisphenol A	LD50 Oral	Rat	11,400 mg/kg	-
	LD50 Dermal	Rat	2,000 mg/kg	-
Alkyl Glycidyl Ether	LD50 Oral	Rat	4,500 mg/kg	-
	LD50 Dermal	Rabbit	>2,000 mg/kg	-

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

Component	Result	Species	Test	Exposure
Diglycidyl Ether of Bisphenol A	Moderate to severe irritation	Rabbit	Skin	4 h
	Mild irritation	Rabbit	Eye	24 h

Sensitization No information on the product itself.

Mutagenicity No information on the product itself.

Carcinogenicity No information on the product itself.

Reproductive Toxicity No information on the product itself.

Teratogenicity No information on the product itself.

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

Component	Category	Route of exposure	Target organs
Diglycidyl Ether of Bisphenol A	Category 3		Respiratory tract irritation

Alkyl Glycidyl Ether	Category 3		Respiratory tract irritation
----------------------	------------	--	------------------------------

<u>Specific target organ toxicity (repeated exposure)</u>	No information on the product itself.
<u>Aspiration hazard</u>	No information on the product itself.
<u>Potential acute health effects</u>	
Eye Contact	Causes serious eye irritation.
Inhalation	May cause respiratory irritation.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction.
Ingestion	Irritating to mouth, throat and stomach.
<u>Symptoms related to the physical, chemical and toxicological characteristics</u>	
Eye Contact	Adverse symptoms may include the following: Pain Watering Redness
Inhalation	Adverse symptoms may include the following: Respiratory tract irritation Coughing
Skin Contact	Adverse symptoms may include the following: Irritation Redness
Ingestion	No specific data.
<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u>	Not available.
<u>Potential chronic health effects</u>	
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.
<u>Numerical measures of toxicity</u>	
<u>Acute toxicity estimates (ATEmix)</u>	No specific data.

12. Ecological Information

<u>Ecotoxicity</u>	No information on the product itself.		
<u>Component</u>	<u>Result</u>	<u>Species</u>	<u>Exposure</u>
Diglycidyl Ether of Bisphenol A	Acute LC50 1.3 mg/l	Fish	96 h
	Acute LC50 2.1 mg/l	Daphnia	48 h
<u>Persistence and degradability</u>	No information on the product itself.		
<u>Bioaccumulative Potential</u>	No information on the product itself.		

Component	LogPow	BCF	Potential
Diglycidyl Ether of Bisphenol A	2.64 – 3.78	3 – 31 31.00	Low

Mobility in Soil

Soil/water partition coefficient (KOC) No information on product itself.

Other adverse effects No known significant effects or critical hazards.

13. Disposal Considerations

Waste from residues/ unused products The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Product should not be allowed to enter drains, 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	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.

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 None.

Air Pollutants (HAPs)

Pennsylvania – RTK

None.

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 302/304/311/312 Hazardous Chemicals Acute Health Hazard

SARA 313 None Required

Form R – Reporting requirements

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

CANADA

WHMIS (Canada)

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

Canadian NPRI

None Required

CEPA Toxic substances

None Required

INTERNATIONAL REGULATIONS

International Lists

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

Canada Inventory: All components are listed or exempted.

Korea Inventory: All components are listed or exempted.

Japan Inventory: All components are listed or exempted.

China Inventory (IECSC): All components are listed or exempted.

New Zealand Inventory (NZIoC): All components are listed or exempted.

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

Taiwan Inventory (CSNN): All components are listed or exempted.

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

HMIS Rating



Date of Preparation

January 24, 2020

Date of Last Revision

September 12, 2019 4.0

Revision #

1-253-333-8118

Prepared by:

Modern Recreational Technologies,
Inc.

The information contained herein is based on the data available to us and is believed to be correct. However, Modern Recreational Technologies, 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	Epoxy Patching Compound Part B
SDS Number	922300001B
Product type	Amine Polymer Mixture
Recommended use of the chemical and restrictions on use	Directed at, but not limited to, the repair of similar and dissimilar materials.
Restrictions	None known.
Manufacturer/Supplier information	
Company name	Modern Recreational Technologies, INC.
Address	7625 Thorndike Rd Greensboro, NC 27409 United States
Telephone	800-728-8258
Emergency Contact	Chemtrec: +1-800-424-9300 USA Chemtrec: +1 703-527-3887 ex-USA 24 hrs./day, 7 days/week

2. Hazard(s) Identification

Classification of substance or mixture/Signal Word

DANGER
 Acute Toxicity (Dermal) – Category 4
 Skin Corrosion/Irritation – Category 1
 Serious Eye Damage/Eye Irritation – Category 1
 Skin Sensitization – Category 1
 Toxic to Reproduction [Fertility, Unborn child] – Category 2
 Acute Aquatic Toxicity – Category 3
 Chronic Aquatic Toxicity – Category 3

**GHS Label Elements
 Hazard Pictograms**



Hazard Statements/Classification of substance or mixture

H312 Harmful in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H361 Suspected of damaging fertility or the unborn child.
 H402 Harmful to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

**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 vapors.
	P261 Avoid breathing vapors.
	P264 Wash hands and exposed skin thoroughly after handling.
	P272 Contaminated clothing should not be allowed out of the workplace.
	P273 Avoid release to the environment.
	P280 Wear protective gloves/protective clothing.
Response	P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
	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.
	P310 Immediately call a POISON CENTER/doctor.
Storage	P362+P364 Take off contaminated clothing and wash it before reuse.
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
Disposal	P405 Store locked up.
	P501 Disposal of contents/container to be specified in accordance with regulations.
Hazards not otherwise classified (HNOC)	None known.

3. Composition/Information On Ingredients

Chemical Name	CAS Number	Content (%)
Aliphatic Amines	Trade Secret	70 – 75%
Alkyl Phenols	Trade Secret	15 – 20%

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.

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

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 environmentally hazardous products. Do not allow run-off from the firefighting to enter drains or watercourses.
Specific hazards arising from the chemical	May generate ammonia gas. May generate toxic nitrogen oxide gases. 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.
Hazardous decomposition products	May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes.
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.
Further information	None known.

6. Accidental Release Measures

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

Environmental precautions	<p>water and detergent, observing environmental requirements. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.</p> <p>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).</p>
----------------------------------	---

7. Handling and Storage

Precautions for safe handling	<p>Put on appropriate personal protective equipment (see Section 8). Avoid exposure and 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.</p>
Precautions/Recommendations for safe/proper storage	<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 (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.</p>

8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Not established.
Appropriate engineering controls	Use only with adequate ventilation. 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/Personal protective equipment	
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: chemical splash goggles.
Hand protection	<p>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.</p> <p>Recommended gloves:</p> <ul style="list-style-type: none"> Neoprene PVC disposable Butyl-rubber

Skin protection	Nitrile rubber 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.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Special instructions for protection and hygiene	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Discard contaminated leather items. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Chemical family	Amine Mixture
Appearance	Clear Paste
Physical State	
Form	Paste
Color	Clear
Odor	Ammonia-like odor
Density (Specific Gravity)	1.05
Viscosity	70,000 – 100,000 CPS
pH	Not available
Melting point/freezing point	Not applicable
Initial boiling point and boiling range	Not applicable
Flash point	Not available
Evaporation rate	Slower than ether
Flammability (solid, gas)	Not available
Upper/lower flammability limit (by volume)	Not available
Material VOC	None
Vapor density	Heavier than air
Relative density	Not available
Solubility in water	Negligible
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available

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.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	Epoxy resins and epoxy resin hardeners react with each other producing heat. They should not be mixed with each other under uncontrolled conditions or in a large mass as the ensuing exothermic reaction may produce heat, smoke and hazardous decomposition products. 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: Nitric acid Ammonia Nitrogen oxides (NOx) 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.
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
N-aminoethylpiperazine	LD50 Oral	Rat	2,097 mg/kg	-
	LD50 Dermal	Rabbit	866 mg/kg	-
Polyoxypropylenediamine	LD50 Oral	Rat	2,885.3 mg/kg	-
	LD50 Dermal	Rabbit	2,979.7 mg/kg	-
Nonyl Phenol	LD50 Oral	Rat	1,412 mg/kg	-
	LD50 Dermal	Rabbit	2,031 mg/kg	-

Irritation/Corrosion (components) Classifies as Skin Corrosion Category per positive results in Corrositex testing.

Component	Result	Species	Test	Exposure
N-aminoethylpiperazine	Corrosive	Rabbit	Skin	4h
	Severe Irritant	Rabbit	Eye	24h
Polyoxypropylenediamine	Corrosive	Rabbit	Skin	4h
	Corrosive	Rabbit	Eye	24h

Sensitization No data is available for this product.

Component	Result	Species	Test	Exposure
-----------	--------	---------	------	----------

N-aminoethylpiperazine	Sensitizing	Guinea Pig	Skin	
------------------------	-------------	------------	------	--

<u>Mutagenicity</u>	No data is available for this product.
<u>Carcinogenicity</u>	No data is available for this product.
<u>Reproductive Toxicity</u>	No data is available for this product.
<u>Teratogenicity</u>	No data is available for this product.
<u>Specific target organ toxicity (single exposure)</u>	No data is available for this product.
<u>Specific target organ toxicity (repeated exposure)</u>	No data is available for this product.
<u>Aspiration hazard</u>	No data is available for this product.
<u>Potential acute health effects</u>	
Eye Contact	Causes serious eye damage.
Inhalation	May give off vapor that is irritating to the respiratory system.
Skin Contact	Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.
Ingestion	May cause burns to mouth, throat and stomach.
<u>Symptoms related to the physical, chemical and toxicological characteristics</u>	
Eye Contact	Adverse symptoms may include the following: Pain Watering Redness
Inhalation	Adverse symptoms may include the following: Coughing Reduced fetal weight Increase in fetal deaths Skeletal malformations
Skin Contact	Adverse symptoms may include the following: Irritation Pain Redness Blistering of skin Reduced fetal weight Increase in fetal deaths Skeletal malformations
Ingestion	Adverse symptoms may include the following: Stomach pains Reduced fetal weight Increase in fetal deaths Skeletal malformations
<u>Delayed and immediate effects and also chronic effects from short and long term exposure</u>	
<u>Potential chronic health effects</u>	
General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	No significant effects or critical hazards.
Mutagenicity	A component in this product indicate mutagenic activity.
Teratogenicity	No significant effects or critical hazards.

Developmental effects No significant effects or critical hazards.

Fertility effects No significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates (ATEmix)

Route	ATE value
Oral	2,456.8 mg/kg
Dermal	1,785.8 mg/kg
Inhalation (vapors)	N/A

12. Ecological Information

Ecotoxicity

No data is available on the product itself.

Component	Results	Species	Test	Exposure
N-aminoethylpiperazine	2,190 mg/l	Fish	LC50	96h
	58 mg/l	Daphnia magna (water flea)	EC50	48h
Polyoxypropylenediamine	>15 mg/l	Fish	LC50	96h
	80 mg/l	Daphnia magna (water flea)	EC50	48h

Persistence and degradability

No data is available on the product itself. N-aminoethylpiperazine and polyoxypropylenediamine are not readily biodegradable.

Bioaccumulative Potential

No data is available on the product itself.

Component	LogPow	BCF	Potential
N-aminoethylpiperazine	-1.48	-	Low
Polyoxypropylenediamine	1.34	-	Low

Mobility in Soil

Soil/water partition coefficient (KOC) Not available.

Other adverse effects No known significant effects or critical hazards.

13. Disposal Considerations

Waste from residues/ unused products

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging

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

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

*PG: Packing group

Special precautions for user:

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

15. Regulatory Information

UNITED STATES

U.S. Federal Regulations

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

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 a statute.

EPA SARA 302 Extremely Hazardous Substances

No chemicals in this material are subject to reporting levels established by SARA Title III, Section 302.

EPA SARA 302/304/311/312 Hazardous Chemicals SARA 313

Acute Health Hazard, Chronic Health Hazard

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		
Propylene oxide			100	

United States Inventory (TSCA 8b)

All components are listed or exempted.

CANADA

WHMIS (Canada)

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

**Canadian NPRI
CEPA Toxic substances**

None known.
None known.

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.

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

HMIS Rating



Date of Preparation

January 24, 2020

Date of Last Revision

September 12, 2019

Revision #

4.0

Prepared by

Modern Recreational Technologies, Inc.

The information contained herein is based on the data available to us and is believed to be correct. However, Modern Recreational Technologies, 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.