

<i>Ureglaze NR Coating System</i>		
Proper Name	Use within System	Name on General MSDS List
101 Resin (SR 101 and SH101)	Body matrix for Aggregate Build Coat(s)	SR101 and SH 101
Resin 231	Urethane Resin for Coating System	231
305	Urethane Hardener for resin 231	305

SeamTek® Ure-Glaze NR Wall & Ceiling Coating

1. Product Description

Basic use

SeamTek® Ure-Glaze is a two component 100% solids, low-odor, no VOC, LEED compliant urethane resin that chemically cures to form a highly abrasion resistant binder for high performance interior wall and ceiling finishes. It has been specifically designed to exhibit excellent flow characteristics, air release, and workable viscosity. It is recommended for use as a wall finish in Animal Holding facilities, pharmaceutical production and areas that are subject to water and chemical exposure. Recommended thickness is 12-15 mils over an epoxy primer..

Features and benefits include:

- No amine blush – no frosting
- Color Stable
- Low foaming
- Excellent adhesion properties
- UV Resistant
- 100% solids – solvent free
- No VOC
- Low odor
- Low flammability
- High Taber Resistance

The SeamTek® systems are composed of resins and aggregates which utilize the best available technology for safety and performance. All products and systems are extensively field tested prior to use on SeamTek® projects.

Composition and Materials

SeamTek® Pigmented Urethane is a chemical curing, two component, No-VOC 100 % solids Urethane coating.

Sizes

The binder resin and hardener are packaged in 5 U.S. gallon pails.

Limitations

SeamTek® Ure-Glaze must not be used to bridge moving cracks or joints. Non-moving cracks or joints that must be over coated require rigid repairs. See LSP Technical Manual System Specifications for details. Surface or air temperature must be between 65°F minimum and 80°F

maximum and relative humidity below 70%. Lower temperatures will extend cure time and higher temperatures will reduce pot and work life.

Storage and Handling

Because SeamTek® Ure-Glaze has a flash point above 200°F (93°C), transportation, storage and handling are less restricted.

Product Health and Safety Information

Refer to container labels and Material Safety Data Sheets available from LSP for health, safety and environmental information. If necessary, call LSP at (800) 638-9874

Applicable Standards

SeamTek® Ure-Glaze has been tested in accordance with American Society for Testing and Materials (ASTM) methods. Refer to Table 1 on page 1 for more information. SeamTek® Urethane can be used as a wall coating in food processing areas and other similar applications. The USDA and FDA no longer regulates coatings used on floors, walls, and ceilings in food process areas, since the surfaces are not intended for food contact.

Surface Preparatory Work

Preparatory work must be done in accordance with

Table 1 Typical Physical Properties

Property	Measuring Standards and Conditions	Results Part A/Part B
Specific Gravity	ASTM D 70, Fisher #3-247 pycnometer	1.25
Weight +/- 0.4 lbs./gal.	ASTM E 201	10.7 lbs./gal.
Non-volatile Content	ASTM D 1353, 18 hrs. at 200°F (93°C)	100%
Viscosity, cps	LV #3 Spindle, Thix 3.01, 77 degree F	8,850 cps
Flash Point, TCC minimum	Seta Flash	Greater than 200°F (93°C)
Solvent Odor	ASTM D 1296	Extremely low
Pot Life		20 minutes at 72°F (22°C) & 50% R.H.

procedures described in LSP Technical Manual.

Mixing

Caution, containers used to measure SeamTek® Ure-Glaze resin and Harder must be marked appropriately and only used to measure the indicated component. Container used to mix both resin and hardener must be cleaned or changed after mixing each batch to avoid residual material affecting viscosity and cure rates.

Measure both parts by volume 2 parts 231 resin to 1 part 305 hardener into plastic marked containers. Pour resin and hardener into a separate container and agitate using a jiffy paddle and low speed drill (400-600 rpm). Agitate for 2 minutes, then scrape sides of container and mix for an additional minute. Avoid generating air bubbles and foam. Consider mixing small batches to reduce potential waste. To avoid exothermic reaction in mixing container, do not let

mixed components sit in container. Immediately, begin to apply the mixture to the wall surface and do not mix more material than you can apply in 20 minutes. Spread or finish material according to application instructions contained in LSP Technical Manual.

3. Warranty

LSP Performance Resin Wall Systems are installed by LSP Associate Contractors and are available with the LSP Single

Product Data Sheet is for your information and is not a contract nor a product warranty. Your installation contract is provided by your LSP Associate Contractor. LSP's warranty to you is made solely in the LSP Single Source Limited Warranty for Labor and Material. Contact your Associate Contractor for the specific warranty document.

4. Maintenance

SeamTek® Systems are hard seamless surfaces that will provide years of life with little maintenance. For more detailed maintenance instructions, please request LSP Maintenance Instructions. Periodic inspections by your LSP Associate Contractor are recommended to discuss ways to extend the life of the floor care.

5. Technical Service

Call your LSP representative for assistance.

Table 2 – Typical Performance Properties

Property	Measuring Standards and Conditions	Binder Resin Results Only See Note 1 below
Drying time	ASTM D 1475 77°F (25°C)	To Touch: 4 to 6 hrs., max. To complete: 24 hrs. max.
Hardness (indentation)	ASTM D 2240 Rex D Model 1700	65-70 resin only 80-85 with aggregate
Elongation	ASTM D 638	Less than 15 %
Tensile Strength	ASTM D 638	4500 psi (31 MPa)
Water Absorption	ASTM D 570-95	Less than 0.2%
Indentation Resistance	Mil. Std. D-3134	Zero
Water Vapor Transmission	ASTM E 96-94	Less than 0.10 U.S. perms
Weathering Resistance	ASTM G 26 Type B, BH, 300 hrs	UV Stable
Abrasion Resistance	ASTM C 501, CS-17 Wheel, 1000 rev. with 1000 gram weight	Less than 0.1 grams weight loss
Bond Strength to Concrete	ASTM D 4541	350 psi (2.4 to 3.4 MPa) Concrete fails
Electrical Conductivity		Non conductive
Flammability	ASTM D 635	Self-Extinguishing

1. For additional performance properties for binder resin with aggregate added (ie. Tensile Strength, Flexural Strength, Flexural Modulus, Compressive Strength, Coefficient of Linear Expansion, etc.) refer to LSP technical manual for specific system(s) selected.

Source Limited Warranty for Labor and Material. This

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SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek® 231 Wall Coating	Chemtrec
GENERIC NAME: Urethane Coating	24 Hour Emergency Number 1-800-424-9300
	Information Number: 1-800-666-6216
DISTRIBUTOR: LSP Performance Resins 124 Speer Road Chestertown, MD 21620	
Comments: To the best of our knowledge, this Material Safety Data Sheet conforms to the requirements of US OSHA 29 CFR1910.1200, 91/155/ECC and Canadian Hazardous Products Act	

SECTION 2 Hazards Identification

Emergency Overview OSHA Hazardous Target Organ Effect: Skin Sensitizer, Irritant Target Organs: Respiratory, eyes, Skin Physical Appearance: Clear liquid Immediate Concerns: Skin Irritation	Potential Health Effects Skin: Will cause irritation and dermatitis, repeated overexposure will cause dermatitis and sensitization. Sensitized persons may experience rapid irritation of skin upon exposure. Inhalation and Ingestion: Irritation to system
Carcinogenicity: Not listed by NTP Not Listed by IARC Not Listed by OSHA	Reproductive Toxicity Reproductive Effects : Not Available Teratogenic Effects: Not Available
Signs and Symptoms of Overexposure: Irritation of Skin Medical Conditions Aggravated: Allergy, Skin Disorders	

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Health	Environmental	Physical
Acute Toxicity, Oral Skin Irritant Serious Eye Damage Skin Sensitization	Category 5 Category 2 Category 1 Category 1	Not Classified

Pictogram:



Signal Word **Danger**

Hazard Statements	Precautionary Statements
H303 Maybe harmful if swallowed	P280 Wear protective gloves/protective clothing/eye protection/face protection P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
H315 Causes skin irritation	
H317 May cause an allergic skin reaction	
H318 Causes serious eye damage	

SECTION 3 Composition / Information on Ingredients

Chemical Name	CAS	Wt%
Aspartic Ester	Not disclosed	Ap 40-90

SECTION 4 First Aid Measures

EYE CONTACT: Get medical attention immediately. Immediately flush eyes gently with large amounts of water, holding lids open for at least 20-30 minutes, retracting eyelids often. Check for, and remove contact lenses.

SKIN CONTACT: Get medical attention immediately. Flush contaminated skin with plenty of WATER. Do NOT wash with solvents. Wash contaminated clothing thoroughly with water before removing it or wear gloves. Continue to rinse for at least 15 minutes. May cause irritation and allergic reaction. Seek medical advice if irritation develops or persists.

INHALATION: Move exposed person to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate make of self contained breathing apparatus. Keep person warm and at rest. If not breathing or breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing air to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway

INGESTION: Get medical attention immediately. Wash out mouth with water. Give large quantities of lukewarm water (1-2 glasses). Move exposed person to fresh air. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Advice to physicians: Symptomatic and supportive therapy as needed. If exposed, treat skin and eye burns or irritation conventionally after decontamination. May aggravate skin conditions.

SECTION 5 Fire Fighting Measures

Conditions of Flammability

Not flammable or combustible

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions – Carbon Oxides

Fire Fighting Instructions

Do not enter fire area without proper protection. Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent. See Section 10 - decomposition products possible. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Use water spray/fog for cooling.

SECTION 6 Accidental Release Measures

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Notify authorities of any releases to sewers, soils, waterways or air.

Methods and Materials for Containment and Cleaning Up

Stop the leak if it can be done without risk. Move containers from the spill area. Prevent entry into sewers, water ways or soils. Contain and collect spillage with non-combustible, absorbent material such as sand, earth, vermiculite or diatomaceous earth. Place in container for disposal according to local regulations via a licensed waste disposal contractor. Contaminated absorbent materials may pose the same hazards as the spilled product. See section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7 Handling and Storage

Precautions for Safe Handling Can cause skin and eye irritation and allergic skin reaction.

Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

Conditions for Safe 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 (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.

SECTION 8 Exposure Controls / Personal Protection

EXPOSURE GUIDELINES

Hazardous Component	PEL	STEL	TLV	Other
	NE	NE	NE	NE
	NE	NE	NE	NE
	NE	NE	NE	NE
	NE	NE	NE	NE
	NE	NE	NE	NE

ENGINEERING CONTROLS Use local exhaust ventilation to maintain airborne concentrations below exposure limits. Respiratory protection may be required in addition to general room ventilation.

PERSONAL PROTECTIVE EQUIPMENT Use a properly fitted, air-purifying or air supplied 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 or the product and the safe working limits of the selected respirator.

EYE PROTECTION Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses should not be worn.

SKIN AND BODY PROTECTION When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. Gloves should be impervious neoprene or rubber. Use of barrier cream is recommended. Clean equipment thoroughly after each use. Discard contaminated leather shoes and canvas sneakers.

OTHER HYGENIC PRACTICES Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

OTHER WORK PRACTICES Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION 9 Physical and Chemical Properties

Appearance	
Form	Liquid
Color	Clear Amber
pH	Not available
Melting/Freezing Temperature	40 C/ 104 F
Boiling Point	336 C/ 637 F
Flash Point	> 95 C/ 200 F
Ignition Temperature	Not available
Autoignition Temperature	Not available
Lower explosive limit; na	Upper explosive limit: na
Vapor Pressure	1.4 x 10 ⁻⁵ mm Hg@68 F(20C)
Vapor Density (air=1)	9lbs/gal
Specific Gravity (water=1 @39.2F)	1.13 g/cm ³
Evaporation Rate (Bac=1)	None
Odor	minimal

Odor threshold	Not available
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SECTION 10 Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions

Possibility of Hazardous Reactions

No data available

Conditions to Avoid

Avoid strong acids, bases in bulk and elevated temperatures

Materials to Avoid

Reactive or incompatible with: oxidizers

Hazardous Decomposition Products

Decomposition products formed under fire conditions may include: Carbon oxides, Nitrogen oxides, Aldehydes.

SECTION 11 Toxicological Information

Acute Toxicity for similar product

Oral LD50	Rat > 2000 mg/kg.
Dermal LD50	Not available
Inhalation LC50	No data available

Skin Corrosion/Irritation

Skin	Irritant
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Serious Eye Damage/Eye Irritation

Eye	Irritant
Eyes	Rabbit
slight to moderate	

Respiratory or Skin Sensitization

May cause skin or respiratory sensitization

Mutagenicity

Ames test – No indication

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH

NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP

SECTION 12 Ecological Information

Aquatic Ecotoxicity

LC50= 66mg/l Fish toxicity; EC50=88.6 mg/l Invertebrate Toxicity

Biodegradability

13% Not readily biodegradable Degradation rate is 28 days

Mobility in soil

EC 50- 113mg/l

SECTION 13 Disposal Considerations

Waste Disposal

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residuals. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 Transport Information

DOT (US) Not Regulated in single containers less than 5,000 pounds.
IMDG Not Regulated
TDG Not Regulated

SECTION 15 Regulatory Information

TSCA INVENTORY STATUS

All components are listed

OSHA HAZARDS

Skin Sensitizer Irritant

HMIS Classification

Health Hazard;	3	NFPA Rating	3
Flammability	1		0
Physical Hazards	0		0

SARA TITLE III: Section 311/312 Hazard Class

This product does not contain a chemical which is listed in Section 311/312 at or above the de minimus concentrations

SARA TITLE III: Section 313 (40CFR370)

This product does not contain a chemical which is listed in Section 313 at or above the de minimus concentrations

CERCLA Information (40CFR302.4)

This material contains no hazardous or extremely hazardous substances at or above the de minimus concentrations as defined by CERCLA or SARA Title III, and release is therefore not reportable.

California Proposition 65 Information:

This product contains, no listed substances known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16 Other Information

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable. This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or results to be obtained from the user thereof. LSP Performance Resins assumes no responsibility for personal injury or property damage to vendees, such as vendees or users assume all risks associated with the use of the material.

LSP PERFORMANCE RESINS
800.638.9874



124 Speer Road
FAX 410.778.3625

Chestertown, MD 21620
web www.lspinc.com

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek 305	Chemtrec
GENERIC NAME: Aspartic Ester	24 Hour Emergency Number 1-800-424-9300
	Information Number 1- 920-803-1700
DISTRIBUTOR: LSP Performance Resins 124 Speer Road Chestertown, MD 21620	
Comments: To the best of our knowledge, this Material Safety Data Sheet conforms to the requirements of US OSHA 29 CFR1910.1200, 91/155/ECC and Canadian Hazardous Products Act	

SECTION 2 Hazards Identification

Emergency Overview			
OSHA Hazardous			
Skin sensitizer, Skin, Eye, Respiratory Irritant, Digestive Tract Irritant			
GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS			
Health		Environmental	
Eye Irritation	Category 2A	Not Classified	
Respiratory Sensitization	Category 1		
Skin Sensitization	Category 1		
Pictogram:  			
Hazard Statements		Precautionary Statements	
H317 May cause an allergic skin reaction H319 Causes serious eye irritation H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled		P261 Avoid breathing dust/fume/gas/mist/vapours/ spray. P264 Wash thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/eye protection/face protection. P285 In case of inadequate ventilation wear respiratory protection. 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. P333 + P313 If skin irritation or rash occurs get medical advice/ attention. P337 + P311 If eye irritation persists: Get medical advice/ attention. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician P363 Wash contaminated clothing before reuse. P501 Dispose of containers in accordance with local/regional/national/international requirements.	

SECTION 3 Composition / Information on Ingredients

Chemical Name	CAS	Wt%
Hexane,1,6-diisocyanate, -Homopolymer	28182-81-2	100 %
Hexamethylene Diisocyanate (HDI)	822-06-0	< 0.5

SECTION 4 First Aid Measures

Eyes Contact: Immediately flush eyes gently with large amounts of water for at least 15 minutes. Retract eyelids often. Get prompt medical attention. Can cause pain, tearing, reddening, and swelling accompanied by a stinging sensation. Chronic exposure can cause corneal opacity.

Skin Contact: Thoroughly wash the exposed area with mild soap and water. Remove contaminated clothing and launder contaminated clothing before re-use. Seek medical attention if exposure symptoms develop.

May be harmful if absorbed through the skin. Symptoms of irritation may be reddening swelling, rash, scaling or blistering. May cause sensitization and allergic reaction.

Ingestion: If victim is conscious and alert, give 2 - 3 glasses of water to drink and induce vomiting by touching the back of the throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than the waist if vomiting occurs and the victim is conscious; give water to further dilute the chemical.

May be harmful if swallowed. Can cause irritation and possible corrosive action to the mouth, stomach tissue and digestive tract.

Inhalation: If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention immediately. May cause shortness of breath, headache, nausea, vomiting, respiratory tract irritation.

Advise to physicians: All treatment should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Exposure may aggravate asthma and other respiratory disorders (bronchitis, emphysema, and hyperactivity) skin allergies and eczema.

SECTION 5 Fire Fighting Measures

Conditions of Flammability

Product will burn under fire conditions. Under fire conditions, toxic, corrosive fumes are emitted including nitrogen and carbon oxides. Use water to cool tightly closed containers exposed to fire. Self contained breathing apparatus and full protective clothing is required when smoke or fumes are generated.

Suitable extinguishing media

Dry Chemical, CO2, Foam, **WATER IS NOT** recommended.

Hazardous Decomposition Products

Thermal decomposition may produce nitrogen oxides and carbon oxides.

Fire Fighting Instructions

Do not enter fire area without proper protection. Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent. See Section 10 - decomposition products possible. Fight fire from safe distance/protected location. Use water spray/fog for cooling tightly sealed containers. Notify authorities if liquid enters sewer/public waters.

SECTION 6 Accidental Release Measures

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Notify authorities of any releases to sewers, soils, waterways or air. Prevent runoff from entering drains, sewers, or streams. Dispose/report per regulatory requirements. See Section 1 for emergency contact information and Section 13 for waste disposal.

Methods and Materials for Containment and Cleaning Up

Cover spills and soak up small spill with inert solids (such as vermiculite, clay) and sweep/shovel into disposal container. Pump free liquid into an appropriate closed container. Clean up spill area with a decontamination solution made up of 50% isopropanol, 45% water and 5% concentration ammonia solution (% by Weight). The solution should cover the area for at least one hour. Absorb with an inert absorbent. Collect washing for disposal. Dispose/report per regulatory requirements. **Do not** flush into drains.

SECTION 7 Handling and Storage

Precautions for Safe Handling

Put on appropriate personal protective equipment (see Section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe the vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Conditions for Safe Storage

This material is stable under normal handling and storage conditions. Maximum storage temperature is < 40 C (104 F). Store in a dry, well ventilated area. Store, transfer and handle under a blanket of nitrogen. Before closing partially empty containers, blanket with dry nitrogen. Replace damaged gaskets.

Store in tightly closed containers. Store in original container. Recommended container material: aluminum, epoxy coated steel, stainless steel, plastic. Container material to avoid, copper, tin.

SECTION 8 Exposure Controls / Personal Protection

EXPOSURE GUIDELINES

Hazardous Component	PEL	STEL	TLV	Other
Hexane,1,6-diisocyanate, -Homopolymer	NE	NE	NE	
Hexamethylene Diisocyanate (HDI)	NE	NE	ACGIH 0.005 ppm	

Engineering Controls

Local exhaust ventilation may be required in addition to general room ventilation. Good industrial hygiene practice dictates that worker protection be achieved through ventilation whenever feasible.

Respiratory Protections

Where respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations. Full-face air purifying respirators are required in work environments where isocyanate airborne concentrations exceed the action level but are significantly lower than the IDLH provided that the cartridges are changed daily. Use combination HEPA Filter for the polyisocyanate aerosol and an organic vapor cartridge for the solvents used. Full face supplied air respirators (SAR) are required in work environments where isocyanate airborne concentrations have not been characterized or are expected to exhibit considerable and sudden variations such as in spray type application. Curing ovens must be ventilated to prevent emissions to the workplace.

Eye Protection

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses should not be worn.

Skin and Body Protection

When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. Gloves should be impervious neoprene, rubber or latex. Clean equipment thoroughly after each use.

Other hygienic practices

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

OTHER WORK PRACTICES

Precautions must be taken so that persons handling this product do not allow contact with eyes or skin. In spray operations protection must be afforded against exposure to both vapor and spray mists.

Use good personal hygiene practices. Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is being used. Wash hands before eating, drinking, smoking or using toilet facilities. Wash exposed skin promptly to remove accidental splashes or contact with these materials. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION 9 Physical and Chemical Properties

Appearance	
Form	Viscous Liquid
Color	Clear to Pale yellow
pH	Not available
Melting/Freezing Temperature	67 C (152 F)
Boiling Point	255 C (491 F)
Flash Point	170 C/ 338 F
Ignition Temperature	Not available
Autoignition Temperature	454 C (849 F)
Lower explosive limit; na	Upper explosive limit: na
Vapor Pressure	0.001 mm Hg at 20 C
Vapor Density (air=1)	5.8 Air = 1
Specific Gravity (water=1 @39.2F)	1.13 at 20 C/68F
Evaporation Rate (Bac=1)	Not available
Odor	Odorless
Odor threshold	Not available

SECTION 10 Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Stable under normal processing conditions.

Conditions to Avoid

Reacts violently with common materials including water, alcohols, bases and amines.

Materials to Avoid

Store away from water, alcohols, bases, and amines.

Hazardous Decomposition Products

Thermal decomposition may produce nitrogen oxides and carbon oxides

SECTION 11 Toxicological Information			
Acute Toxicity hexamethylene diisocyanate			
Oral LD50 – lethal concentration 50% of test species	Rat		> 5,000 mg/kg
Dermal LD50 – lethal concentration 50% of test species	Rabbit		> 2,000 mg/kg
Inhalation LD50 – lethal concentration 50% of test species	Rat		2.18 mg/l – 4 hr
Skin Corrosion/Irritation			
Skin	Rabbit		Slightly Irritating
Serious Eye Damage/Eye Irritation			
Eye	Rabbit		Mildly Irritating
Respiratory or Skin Sensitization			
Skin	Guinea Pig		Sensitizing
Mutagenicity			
No data available			
Carcinogenicity			
IARC: During normal processing, no component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.			
ACGIH: During normal processing, no component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.			
NTP: During normal processing, no component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.			

SECTION 12 Ecological Information		
Aquatic Ecotoxicity	Bioaccumulative potential	No data available
No data available		
Biodegradability		
No data available		
Mobility in soil		
No data available		

SECTION 13 Disposal Considerations
Waste Disposal
When a decision is made to discard this material as supplied, it does not meet RCRA's characteristics definition of ignitability, corrosiveness, or reactivity and is not listed in 40CFR261.33. The toxicity characteristic (TC), has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).

SECTION 14 Transport Information
DOT (US)
Not regulated by DOT
IMDG
Not regulated by IMDG
IATA
Not regulated by IATA

SECTION 15 Regulatory Information

TSCA INVENTORY STATUS

All components are listed or exempt

OSHA HAZARDS

Skin Irritant, Skin Sensitizer, Eye Irritant, Respiratory Irritant, Digestive Tract Irritant

	HMIS Classification	NFPA Rating
Health Hazard;	2	2
Flammability	1	1
Physical Hazards	1	1

SARA TITLE III: Section 311/312 Hazard Class

Hexamethylene diisocyanate CERCLA/SARA RQ
100 lbs

SARA TITLE III: Section 313 (40CFR370)

Hexamethylene diisocyanate CERCLA/SARA RQ
100 lbs

CERCLA Information (40CFR302.4)

This material contains Hexamethylene diisocyanate and releases in excess of CERCLA thresholds are reportable.

California Proposition 65 Information:

This product does not contain, or may contain substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16 Other Information

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or results to be obtained from the user thereof. LSP Performance Resins assumes no responsibility for personal injury or property damage to vendees, such vendees or users assume all risks associated with the use of the material.

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek® Standard Hardener, SH101 Chemtrec
GENERIC NAME: Epoxy Hardener 24 Hour Emergency Number 1-800-424-9300
 Information Number: 1-800-666-6216

DISTRIBUTOR: LSP Performance Resins
 124 Speer Road
 Chestertown, MD 21620

Comments: To the best of our knowledge, this Material Safety Data Sheet conforms to the requirements of US OSHA 29 CFR1910.1200, 91/155/ECC and Canadian Hazardous Products Act

SECTION 2 Hazards Identification

Emergency Overview OSHA Hazardous Target Organ Effect: Skin Sensitizer, Irritant Target Organs: Respiratory, eyes, Skin Physical Appearance: Viscous liquid Immediate Concerns: Skin Irritation		Potential Health Effects Skin: Will cause irritation and dermatitis, repeated overexposure will cause dermatitis and sensitization. Sensitized persons may experience rapid irritation of skin upon exposure. Inhalation and Ingestion: Irritation to system
Carcinogenicity: Not listed by NTP Not Listed by IARC Not Listed by OSHA	Reproductive Toxicity Reproductive Effects : Not Available Teratogenic Effects: Not Available	Signs and Symptoms of Overexposure: Irritation of Skin Medical Conditions Aggravated: Allergy, Skin Disorders

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Health		Environmental	Physical
Acute Toxicity, Oral	Category 5	Not Classified	Not Classified
Skin Irritant	Category 2		
Serious Eye Damage	Category 1		
Skin Sensitization	Category 1		

Pictogram:



Signal Word Danger

Hazard Statements		Precautionary Statements
H303	Maybe harmful if swallowed	P280 Wear protective gloves/protective clothing/eye protection/face protection P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
H315	Causes skin irritation	
H317	May cause an allergic skin reaction	
H318	Causes serious eye damage	

SECTION 3 Composition / Information on Ingredients

Chemical Name	CAS	Wt%
polyoxalkyleneamine	9046100	
Triethylene glycol diamine	929599	
Epoxy curing agent	mixture	
Alkyl phenol	84852153	
Alpha hydroxyl toluene	100-51-6	

SECTION 4 First Aid Measures

EYE CONTACT: Get medical attention immediately. Immediately flush eyes gently with large amounts of water, holding lids open for at least 20-30 minutes, retracting eyelids often. Check for, and remove contact lenses.

SKIN CONTACT: Get medical attention immediately. Flush contaminated skin with plenty of WATER. Do NOT wash with solvents. Wash contaminated clothing thoroughly with water before removing it or wear gloves. Continue to rinse for at least 10 minutes. May cause irritation and allergic reaction. Seek medical advice if irritation develops or persists.

INHALATION: Move exposed person to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate make of self contained breathing apparatus. Keep person warm and at rest. If not breathing or breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing air to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway

INGESTION: Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Advice to physicians: Symptomatic and supportive therapy as needed. May aggravate skin conditions.

SECTION 5 Fire Fighting Measures

Conditions of Flammability

Not flammable or combustible

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions – Carbon Oxides

Fire Fighting Instructions

Do not enter fire area without proper protection. Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent. See Section 10 - decomposition products possible. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Use water spray/fog for cooling.

SECTION 6 Accidental Release Measures

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Notify authorities of any releases to sewers, soils, waterways or air.

Methods and Materials for Containment and Cleaning Up

Stop the leak if it can be done without risk. Move containers from the spill area. Prevent entry into sewers, water ways or soils. Contain and collect spillage with non-combustible, absorbent material such as sand, earth, vermiculite or diatomaceous earth. Place in container for disposal according to local regulations via a licensed waste disposal contractor. Contaminated absorbent materials may pose the same hazards as the spilled product. See section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7 Handling and Storage

Precautions for Safe Handling Can cause skin and eye irritation and allergic skin reaction.

Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

Conditions for Safe 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 (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.

SECTION 8 Exposure Controls / Personal Protection

EXPOSURE GUIDELINES

Hazardous Component	PEL	STEL	TLV	Other
polyoxalkyleneamine	NE	NE	NE	NE
Triethylene glycol diamine	NE	NE	NE	NE
Epoxy curing agent	NE	NE	NE	NE
Alkyl phenol	NE	NE	NE	NE
Alpha hydroxyl toluene	NE	NE	NE	NE

ENGINEERING CONTROLS Use local exhaust ventilation to maintain airborne concentrations below exposure limits. Respiratory protection may be required in addition to general room ventilation.

PERSONAL PROTECTIVE EQUIPMENT Use a properly fitted, air-purifying or air supplied 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.

EYE PROTECTION Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses should not be worn.

SKIN AND BODY PROTECTION When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. Gloves should be impervious neoprene or rubber. Use of barrier cream is recommended. Clean equipment thoroughly after each use. Discard contaminated leather shoes and canvas sneakers.

OTHER HYGENIC PRACTICES Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

OTHER WORK PRACTICES Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION 9 Physical and Chemical Properties

Appearance	
Form	Liquid
Color	Colorless to Amber
pH	Not available
Melting/Freezing Temperature	40 C/ 104 F
Boiling Point	336 C/ 637 F
Flash Point	> 95 C/ 200 F
Ignition Temperature	Not available
Autoignition Temperature	Not available
Lower explosive limit; na	Upper explosive limit: na
Vapor Pressure	<0.1 mm Hg
Vapor Density (air=1)	Not available
Specific Gravity (water=1 @39.2F)	1.14 at 25 C/77F
Evaporation Rate (Bac=1)	None
Odor	Light possible phenol
Odor threshold	Not available

SECTION 10 Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions

Possibility of Hazardous Reactions

No data available

Conditions to Avoid

Avoid strong acids, bases in bulk and elevated temperatures

Materials to Avoid

Reactive or incompatible with: acids, oxidizers, amines

Hazardous Decomposition Products

Decomposition products formed under fire conditions may include: Carbon oxides, Nitrogen oxides, Aldehydes.

SECTION 11 Toxicological Information

Acute Toxicity

Oral LD50	Rat > 4000 mg/kg.
Dermal LD50	Rabbit 20,000 mg/kg
Inhalation LC50	No data available

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

Skin Corrosion/Irritation

Skin	Irritant
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ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH

Serious Eye Damage/Eye Irritation

Eye	Irritant
Eyes	Rabbit
Severe eye irritation – 24 H	

NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP

Respiratory or Skin Sensitization

May cause skin or respiratory sensitization

Mutagenicity

Mouse	Skin
Carcinogenic by RTECS Criteria	
liver, ovarian, thyroid	

SECTION 12 Ecological Information

Aquatic Ecotoxicity

No data available

Biodegradability

Persistent	Not readily biodegradable
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Mobility in soil

No data available

SECTION 13 Disposal Considerations

Waste Disposal

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residuals. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 Transport Information

DOT (US)

Not Regulated

IMDG

Not Regulated

TDG

Not Regulated

SECTION 15 Regulatory Information

TSCA INVENTORY STATUS

All components are listed or exempt

OSHA HAZARDS

Skin Sensitizer Irritant
Corrosive Material

HMIS Classification

Health Hazard;	3
Flammability	1
Physical Hazards	0

NFPA Rating

3
0
0

SARA TITLE III: Section 311/312 Hazard Class

Acute Health Hazard, Chronic Health Hazard

SARA TITLE III: Section 313 (40CFR370)

This product does not contain a chemical which is listed in Section 313 at or above the de minimus concentrations

CERCLA Information (40CFR302.4)

This material contains no hazardous or extremely hazardous substances at or above the de minimus concentrations as defined by CERCLA or SARA Title III, and release is therefore not reportable.

California Proposition 65 Information:

This product contains, no listed substances known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16 Other Information

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable. This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or results to be obtained from the user thereof. LSP Performance Resins assumes no responsibility for personal injury or property damage to vendees, such as vendees or users assume all risks associated with the use of the material.

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek® Standard Resin, SR101 Chemtrec
GENERIC NAME: Epoxy Resin 24 Hour Emergency Number 1-800-424-9300
Information Number: 1-800-666-6216
DISTRIBUTOR: LSP Performance Resins
 124 Speer Road
 Chestertown, MD 21620
 Comments: To the best of our knowledge, this Material Safety Data Sheet conforms to the requirements of US OSHA 29 CFR1910.1200, 91/155/ECC and Canadian Hazardous Products Act

SECTION 2 Hazards Identification

Emergency Overview OSHA Hazardous Target Organ Effect: Skin Sensitizer, Irritant Target Organs: Respiratory, eyes, Skin Physical Appearance: Viscous liquid Immediate Concerns: Skin Irritation		Potential Health Effects Skin: Will cause irritation and dermatitis, repeated overexposure will cause dermatitis and sensitization. Sensitized persons may experience rapid irritation of skin upon exposure. Inhalation and Ingestion: Irritation to system
Carcinogenicity: Not listed by NTP Not Listed by IARC Not Listed by OSHA	Reproductive Toxicity Reproductive Effects : Not Available Teratogenic Effects: Not Available	Signs and Symptoms of Overexposure: Irritation of Skin Medical Conditions Aggravated: Allergy, Skin Disorders

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

Health		Environmental	Physical
Acute Toxicity, Oral	Category 5	Not Classified	Not Classified
Skin Irritant	Category 2		
Serious Eye Damage	Category 1		
Skin Sensitization	Category 1		

Pictogram:



Signal Word Danger

Hazard Statements		Precautionary Statements
H303	Maybe harmful if swallowed	P280 Wear protective gloves/protective clothing/eye protection/face protection P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
H315	Causes skin irritation	
H317	May cause an allergic skin reaction	
H318	Causes serious eye damage	

SECTION 3 Composition / Information on Ingredients

Chemical Name	CAS	Wt%
diglycidyl ether bisphenol A epoxy resin	25085-99-8	
Aliphatic epoxide	68609-97-2	
Alkylated phenol	AN123581	
2-methyl-2,4-pentenediol	107-41-5	
Alkyl phenol	84852153	

SECTION 4 First Aid Measures

EYE CONTACT: Get medical attention immediately. Immediately flush eyes gently with large amounts of water, holding lids open for at least 20-30 minutes, retracting eyelids often. Check for, and remove contact lenses.

SKIN CONTACT: Get medical attention immediately. Flush contaminated skin with plenty of WATER. Do NOT wash with solvents. Wash contaminated clothing thoroughly with water before removing it or wear gloves. Continue to rinse for at least 10 minutes. May cause irritation and allergic reaction. Seek medical advice if irritation develops or persists.

INHALATION: Move exposed person to fresh air. Get medical attention immediately. If it is suspected that fumes are still present, the rescuer should wear an appropriate make of self contained breathing apparatus. Keep person warm and at rest. If not breathing or breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing air to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway

INGESTION: Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Advise to physicians: Symptomatic and supportive therapy as needed. May aggravate skin conditions.

SECTION 5 Fire Fighting Measures

Conditions of Flammability

Not flammable or combustible

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions – Carbon Oxides

Fire Fighting Instructions

Do not enter fire area without proper protection. Wear self contained breathing apparatus (pressure-demand MSHA/NIOSH) approved or equivalent. See Section 10 - decomposition products possible. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Use water spray/fog for cooling.

SECTION 6 Accidental Release Measures

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Notify authorities of any releases to sewers, soils, waterways or air.

Methods and Materials for Containment and Cleaning Up

Stop the leak if it can be done without risk. Move containers from the spill area. Prevent entry into sewers, water ways or soils. Contain and collect spillage with non-combustible, absorbent material such as sand, earth, vermiculite or diatomaceous earth. Place in container for disposal according to local regulations via a licensed waste disposal contractor. Contaminated absorbent materials may pose the same hazards as the spilled product. See section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7 Handling and Storage

Precautions for Safe Handling

Can cause skin and eye irritation and allergic skin reaction.

Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

Conditions for Safe 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 (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.

SECTION 8 Exposure Controls / Personal Protection

EXPOSURE GUIDELINES

Hazardous Component	PEL	STEL	TLV	Other
diglycidyl ether bisphenol A epoxy resin	NE	NE	NE	NE
Aliphatic epoxide	NE	NE	NE	NE
Alkylated phenol	NE	NE	NE	NE
2-methyl-2,4-pentenediol	25 ppm	NE	25 ppm	NE
Alkyl phenol	NE	NE	NE	NE

ENGINEERING CONTROLS Use local exhaust ventilation to maintain airborne concentrations below exposure limits. Respiratory protection may be required in addition to general room ventilation.

PERSONAL PROTECTIVE EQUIPMENT Use a properly fitted, air-purifying or air supplied 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 or the product and the safe working limits of the selected respirator.

EYE PROTECTION Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses should not be worn.

SKIN AND BODY PROTECTION When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. Gloves should be impervious neoprene or rubber. Use of barrier cream is recommended. Clean equipment thoroughly after each use. Discard contaminated leather shoes and canvas sneakers.

OTHER HYGENIC PRACTICES Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

OTHER WORK PRACTICES Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Promptly remove soiled clothing and wash thoroughly before reuse. Shower after work using plenty of soap and water.

SECTION 9 Physical and Chemical Properties

Appearance	
Form	Liquid
Color	Colorless to Amber
pH	Not available
Melting/Freezing Temperature	40 C/ 104 F
Boiling Point	336 C/ 637 F
Flash Point	> 95 C/ 200 F
Ignition Temperature	Not available
Autoignition Temperature	Not available
Lower explosive limit; na	Upper explosive limit: na
Vapor Pressure	<0.1 mm Hg
Vapor Density (air=1)	Not available
Specific Gravity (water=1 @39.2F)	1.14 at 25 C/77F
Evaporation Rate (Bac=1)	None
Odor	Light possible phenol
Odor threshold	Not available

SECTION 10 Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions

Possibility of Hazardous Reactions

No data available

Conditions to Avoid

Avoid strong acids, bases in bulk and elevated temperatures

Materials to Avoid

Reactive or incompatible with: acids, oxidizers, amines

Hazardous Decomposition Products

Decomposition products formed under fire conditions may include: Carbon oxides, Nitrogen oxides, Aldehydes.

SECTION 11 Toxicological Information

Acute Toxicity

Oral LD50	Rat > 4000 mg/kg.
Dermal LD50	Rabbit 20,000 mg/kg
Inhalation LC50	No data available

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC

Skin Corrosion/Irritation

Skin	Irritant
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ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as carcinogen or potential carcinogen by ACGIH

Serious Eye Damage/Eye Irritation

Eye	Irritant
Eyes	Rabbit
Severe eye irritation – 24 H	

NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP

Respiratory or Skin Sensitization

May cause skin or respiratory sensitization

Mutagenicity

Mouse	Skin
Carcinogenic by RTECS Criteria	
liver, ovarian, thyroid	

SECTION 12 Ecological Information

Aquatic Ecotoxicity

No data available

Biodegradability

Persistent	Not readily biodegradable
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Mobility in soil

No data available

SECTION 13 Disposal Considerations

Waste Disposal

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residuals. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 Transport Information

DOT (US)

Not Regulated

IMDG

Not Regulated

TDG

Not Regulated

SECTION 15 Regulatory Information

TSCA INVENTORY STATUS

All components are listed or exempt

OSHA HAZARDS

Skin Sensitizer Irritant
Corrosive Material

HMIS Classification

Health Hazard;	2	NFPA Rating	2
Flammability	1		0
Physical Hazards	0		0

SARA TITLE III: Section 311/312 Hazard Class

Acute Health Hazard, Chronic Health Hazard

SARA TITLE III: Section 313 (40CFR370)

This product does not contain a chemical which is listed in Section 313 at or above the de minimus concentrations

CERCLA Information (40CFR302.4)

This material contains no hazardous or extremely hazardous substances at or above the de minimus concentrations as defined by CERCLA or SARA Title III, and release is therefore not reportable.

California Proposition 65 Information:

This product contains, no listed substances known to the state of California to cause cancer and/or reproductive toxicity.

SECTION 16 Other Information

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources, which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable. This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).