

Type 4 Flooring System

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 405	Chemical Resistant Epoxy Hardener	CRH 405
Estes Quartz	Color Quartz Broadcast Aggregate	Sand

SeamTek[®] Type 4 Epoxy Flooring (Healthcare)

1. Product Description

SeamTek[®] Type 4 Flooring incorporates specifically formulated resin components as the matrix of the quartz systems. In the case of quartz flooring, resin SR-101 and hardener SH 101 are the backbone of the system.

SR 101 is a 100% solids epoxy resin with low VOC and very low odor. SR-101 has been specifically formulated with excellent air release and material flow so as to make it easy to handle. The hardener component is SH-101 which is formulated to enhance air release, provide excellent wear properties and for ease of troweling either in neat form or in combination with color quartz or graded aggregate.

SR-101 has been designed to be used with a variety of hardeners to achieve the desired effect. In the LSP Quartz Flooring systems SR-101 is combined with CRH-405 to provide a chemical resistant material seal coat superior to other epoxy mixes. CRH-405 yields a seal coat that is uncharacteristically clear for a chemical resistant seal coat hardener.

Quartz flooring has historically been utilized in all aspects of Laboratories, Kitchens, Bath and Shower Facilities and many other applications. Quartz flooring has good wear properties, and good chemical resistance.

SeamTek[®] Type 4 is installed @ 1/8" thickness in corridors, surgical suites and areas not subjected to thermal changes.

Color

Resins are amber clear. Floor color is provided from the color quartz used in the system.

Surface Preparation

Surfaces should be cleaned of oil, grease and dirt. If applied over a smooth, glossy surface, the

surface should be grit blasted or ground with a coarse diamond cup to create a surface profile for optimum adhesion. When applying new coatings over previously sealed surfaces, a spot test should be made to check for lifting or incompatibility with the old coating. It is extremely important that this surface is free of all moisture prior to coating application or blistering of flooring may occur.

Limitations:

All flooring systems should be checked for chemical resistance against the specific chemicals used in your facility to assure their resistance. Quartz floors are hard and rigid and should not be used to bridge moving cracks. The concrete substrate should also be checked for moisture vapor migration to assure the compatibility with the existing conditions. Do not install in situations where the emission rate exceeds 3 pounds per 1000 sq ft per 24 hours (ASTM F)

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) 666-6216.

Applicable Standards

LSP SeamTek clear epoxy resins have been tested in accordance with American Society for Testing and Materials (ASTM) methods.

Mixing

Caution, containers used to measure SeamTek epoxy 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 to 1 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, and 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, either pour the mixed epoxy binder resin onto the floor to be coated or thoroughly mix with aggregate and then pour onto floor. Spread or finish material according to application instructions contained in LSP Technical Manual.

3. Warranty

LSP Quartz Floor Systems are installed by LSP Associate Contractors and are available with the LSP Single Source Limited Warranty for Labor and Material. This Product Data Sheet is for your information and is neither a contract nor a product warranty.

4. Maintenance

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

Material Components/Ratios and Spread Rates

Type 4 is an epoxy flooring systems designed to be 1/8" thick. It is called a quartz/broadcast system; the resins and ratios are as follows:

- 1) Cove base mix: **SR101 and SH101 in 2:1** mix ratio as above. Mix 1 ½ quarts (three pints) of mixed liquid with 11 quarts of quartz or 50 mesh sand.
- 1st Broadcast: Mix **SR101 and SH101** at a **2:1** ratio as above. Mix the resin and apply to the floor at a spread rate of 72 sq ft per gal. Broadcast with color quartz to excess.
- 2) 2nd broadcast: neat resin **SR and SH 101 in a 2:1** ratio and spread @ 72 sq ft/gal spread rate and broadcast to excess.
- 3) Seal coat: Trowel neat **resin SR101 and hardener CRH405** in a 2:1 ratio at a spread rate of 72 sq ft/gal
- 4) Depending on the desired skid resistance there may be a second seal coat mixed as #6 above with a spread rate of 300+ sq ft/gal

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek® Chemical Resistant Hardener, CRH405 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 May be 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%
Modified cycloaliphatic polyamines	Trade secret	
Benzyl alcohol	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
Modified cycloaliphatic polyamines	NE	NE	NE	NE
Benzyl alcohol	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	Light 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)	>1.01
Evaporation Rate (Bac=1)	None
Odor	amine
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

<p>Acute Toxicity</p> <p>Oral LD50 Rat > 4000 mg/kg. Dermal LD50 Rabbit 20,000 mg/kg Inhalation LC50 No data available</p> <p>Skin Corrosion/Irritation</p> <p>Skin Irritant</p> <p>Serious Eye Damage/Eye Irritation</p> <p>Eye Irritant Eyes Rabbit Severe eye irritation – 24 H</p> <p>Respiratory or Skin Sensitization May cause skin or respiratory sensitization</p> <p>Mutagenicity</p> <p>Mouse Skin Carcinogenic by RTECS Criteria liver, ovarian, thyroid</p>	<p>Carcinogenicity</p> <p>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</p> <p>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</p> <p>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</p>
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SECTION 12 Ecological Information

Aquatic Ecotoxicity
 No data available

Biodegradability
 Persistent Not readily biodegradable

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		NFPA Rating
Health Hazard;	3	3
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).

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

MATERIAL SAFETY DATA SHEET

SECTION 1 IDENTIFICATION

CLIFFORD W. ESTES CO., INC
40 VREELAND AVE STE 104
TOTOWA, NJ 07512

DATE: JANUARY 2005
PHONE: 973.890.1515

PRODUCT BRAND NAME: PERMACOLOR SURFACE AGGREGATES, REGULAR AND HP

PRODUCT IDENTIFICATION : BROADCAST(MED.&FINE), TROWEL-RITE (REGULAR AND SUPER), VARIOUS COLORS

CHEMICAL NAME: SILICON DIOXIDE (SIO2)

DEPARTMENT OF TRANSPORTATION: SAND, GRAVEL, NOIBN

CHEMICAL FAMILY: SILICA SAND

COLOR: TYPICAL COLORS

SECTION II HAZARDOUS INGREDIENTS

CHEMICAL NAME	% WT	CAS#	OSHA (PEL)	ACGIH (TLV)
SILICA SAND	94	14808-60-7		.1MG/M3
RESIN	4.95	NON-HAZARDOUS PROPRIETARY	N/A	N/A
TIO2	0.99	13463-67-7		
COLORANTS ORGANIC AND INORGANIC	0.06	NON-HAZARDOUS		

* Special Statement regarding Hazardous ingredients:

Although these products are composed primarily of Silica Sand (SIO2), and such sand is potentially a source for respirable dust, the sand particles are thoroughly encapsulated in a coating which captures all dust and should, under normal circumstances, prevent any normal release of silica dust to the workplace. See page two, Section VIII for further information on handling.

SECTION III PHYSICAL DATA

BOILING POINT: NONE
VAPOR PRESSURE: NONE
VAPOR DENSITY: NONE
% VOLATILES :<1%
APPEARANCE: SAND OR AGGREGATE, TYPICAL COLORS

SPECIFIC GRAVITY: 2.65
PH: INERT
EVAPORATION RATE: N/A
SOLUBILITY IN WATER: INSOLUBLE

HIMS RATINGS

HEALTH	0*
FLAMABILITY	0
REACTIVITY	0

*REFER TO SPECIAL STATEMENT ABOVE

SECTION IV FIRE AND EXPLOSION HAZARD

FLASH POINT: NON-FLAMMABLE

FLAMMABLE LIMITS: LEL- N/A , UEL - N/A

UNUSUAL FIRE AND EXPLOSION HAZARDS: Products of combustion may include irritating gases.

SECTION V HEALTH AND SAFETY

THRESHOLD LIMIT VALUE: (SEE PAGE ONE)

EFFECTS OF OVER EXPOSURE: Prolonged inhalation of mineral dust may cause delayed lung injury.

EMERGENCY AND FIRST AID PROCEDURES: - EYES, Remove in the same manner as one would remove any foreign particle.

SECTION VI REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY: Dissolves in hydrofluoric acid

CONDITIONS TO AVOID: None Known

SECTION VII SPILL/LEAK PROCEDURES

1. Clean up using dustless procedures. Use water and/or vacuum.
2. WASTE DISPOSAL: Dispose using locally approved waste disposal sites.

SECTION VIII SPECIAL PROTECTION

Use of this product under normal and recommended conditions and specifications will pose no known hazards. However, if surfaces using this product are subjected to sanding or grinding as might occur for maintenance purposes, and such treatment produces respirable dust, then proper ventilation and breathing apparatus should be used. Under such conditions, NIOSH-BOM approved respirators should be worn.

GLOVES: Optional

EYE PROTECTION: Full eye zone goggles should be worn.

SECTION IX SPECIAL PRECAUTIONS

1. USE DUSTLESS PROCEDURES DURING HANDLING, STORAGE, AND CLEAN-UP
2. PRACTICE GOOD HOUSEKEEPING. MAINTAIN VENTILATION. POST WARNING TO EMPLOYEES WHERE PRODUCT IS USED, STORED, AND HANDLED.

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek® Standard Hardener, SH101
GENERIC NAME: Epoxy Hardener

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

Chemtrec
 24 Hour Emergency Number 1-800-424-9300
 Information Number: 1-800-666-6216

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

<p>Acute Toxicity</p> <p>Oral LD50 Rat > 4000 mg/kg. Dermal LD50 Rabbit 20,000 mg/kg Inhalation LC50 No data available</p> <p>Skin Corrosion/Irritation</p> <p>Skin Irritant</p> <p>Serious Eye Damage/Eye Irritation</p> <p>Eye Irritant Eyes Rabbit Severe eye irritation – 24 H</p> <p>Respiratory or Skin Sensitization May cause skin or respiratory sensitization</p> <p>Mutagenicity</p> <p>Mouse Skin Carcinogenic by RTECS Criteria liver, ovarian, thyroid</p>	<p>Carcinogenicity</p> <p>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</p> <p>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</p> <p>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</p>
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SECTION 12 Ecological Information

Aquatic Ecotoxicity
 No data available

Biodegradability
 Persistent Not readily biodegradable

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	NFPA Rating	3
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).

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

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

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 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%
diglycidyl ether bisphenol A epoxy resin	25085-99-8	
Aliphatic epoxide	68609-97-2	
Alkylated phenol	AN123581	
2-methyl-2,4-pentanediol	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 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

<p>Acute Toxicity</p> <table border="0"> <tr> <td>Oral LD50</td> <td>Rat > 4000 mg/kg.</td> </tr> <tr> <td>Dermal LD50</td> <td>Rabbit 20,000 mg/kg</td> </tr> <tr> <td>Inhalation LC50</td> <td>No data available</td> </tr> </table> <p>Skin Corrosion/Irritation</p> <table border="0"> <tr> <td>Skin</td> <td>Irritant</td> </tr> </table> <p>Serious Eye Damage/Eye Irritation</p> <table border="0"> <tr> <td>Eye</td> <td>Irritant</td> </tr> <tr> <td>Eyes</td> <td>Rabbit</td> </tr> <tr> <td colspan="2">Severe eye irritation – 24 H</td> </tr> </table> <p>Respiratory or Skin Sensitization May cause skin or respiratory sensitization</p> <p>Mutagenicity</p> <table border="0"> <tr> <td>Mouse</td> <td>Skin</td> </tr> <tr> <td colspan="2">Carcinogenic by RTECS Criteria</td> </tr> <tr> <td colspan="2">liver, ovarian, thyroid</td> </tr> </table>	Oral LD50	Rat > 4000 mg/kg.	Dermal LD50	Rabbit 20,000 mg/kg	Inhalation LC50	No data available	Skin	Irritant	Eye	Irritant	Eyes	Rabbit	Severe eye irritation – 24 H		Mouse	Skin	Carcinogenic by RTECS Criteria		liver, ovarian, thyroid		<p>Carcinogenicity</p> <p>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</p> <p>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</p> <p>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</p>
Oral LD50	Rat > 4000 mg/kg.																				
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SECTION 12 Ecological Information

Aquatic Ecotoxicity
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Biodegradability
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SECTION 13 Disposal Considerations

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IMDG

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Not Regulated

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TSCA INVENTORY STATUS

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Corrosive Material

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Physical Hazards	0		0

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