Ureglaze FR Coating 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 231	Urethane resin for Coating System	231
305	Urethane Hardener for resin 231	305
Fiberglass 3373	Fiberglass reinforcing mat for wall system	Fiberglass

SeamTek® *Ure-Glaze Urethane Resin-FR System*

1. Product Description

Basic use

SeamTek® Ure-Glaze (part of the N2 product line) 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 walls. It has been specifically designed to exhibit excellent flow characteristics, air release, and workable viscosity. When combined in a fiberglass mat application (FR System) it add structural integrity to dry wall and hard board installation. The FR system is installed at a final dry mil thickness of 30 – 35 mils and finishes smooth. 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 where controlled physical abuse is expected. The fiberglass reinforcement extends the life of the system well beyond normal coatings.

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 LSP 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, 100 % solids Urethane coating.

Sizes

The binder resin and hardener are packaged in 4 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. Fiberglass reinforced systems must be placed on walls that are smooth so as to avoid air pockets and hollow spots.

Storage and Handling

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

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.

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

LSP SeamTek® Ure-Glaze has been tested in accordance with American Society for Testing and Materials (ASTM) methods. Refer to Table 1on page 1 for more information. SeamTek® Urethane can be used as a floor 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 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 10 minutes. Spread or finish material according to application instructions contained in LSP Technical Manual.

3. Warranty

LSP Performance Resin 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 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 wall care.

5.Technical Service

Call your LSP representative for assistance.

Material Safety Data Sheet 231

Effective Date: 10/07/05 Previous Revision date: 00/00/0000 Date Printed: 6/5/2014

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek ® 231 Wall Coating
GENERIC NAME: Urethane Coating

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: 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	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
H315	Causes skin irritation	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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 no 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.

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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/cm3
Evaporation Rate (Bac=1)	None
Odor	minimal

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: 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

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/1 Fish toxcicity; EC50=88.6 mg/l Invertebrate Toxcicity

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		NFPA Rating
Health Hazard;	3	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).

LSP PERFORMANCE RESINS 124 Speer Road Chestertown, MD 21620
800.638.9874 FAX 410.778.3625 web www.lspinc.com

Material Safetv Data Sheet 305

Effective Date: 08/09/2005 Previous Revision date: 00/00/0000 Date Printed: 6/13/2014

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek 305
GENERIC NAME: Aspartic Ester

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

Chemtrec
24 Hour Emergency Number 1-800-424-9300
Information Number 1- 920-803-1700

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	Physical
Eye Irritation Respiratory Sensitization Skin Sensitization	Category 2A Category 1 Category 1	Not Classified	Not Classified

Pictogram:

Hazard Statements		Precautionary Statements
H317	May cause an allergic skin reaction	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.
H319	Causes serious eye irritation	
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled	

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 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 Color pH Melting/Freezing Temperature Boiling Point	 Viscous Liquid Clear to Pale yellow Not available 67 C (152 F) 255 C (491 F)
Flash Point	170 C/ 338 F
Ignition Temperature	Not available
Autoignition Temperature Lower explosive limit; na	454 C (849 F) 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

	CERCLA/SARA RQ
Hexamethylene diisocyanate	100 lbs

Sara Title III: Section 313 (40CFR370)

	CERCLA/SARA RQ
Hexamethylene diisocyanate	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).

Safety Data Sheet

Section 1: PRODUCT AND COMPANY IDENTIFICATION

SDS Identification: HexForce™ F3 and F16 Finish
SDS Number: 439-3227-4055-316G-20 **Date:** December 1, 2009 **Page:** 1 of 7
Supersedes SDS: 439-3227-3160-0000-19

Manufacturer:
Hexcel®
11711 Dublin Blvd.
Dublin, CA 94568

Emergency Telephone Number:
800-433-5072 (24-Hour) Hexcel®

Information Telephone Number:
830-379-1580 (Normal Business Hours-CT)

Product Identification: HexForce™ F3 and F16 Finish: Fiberglass

Chemical Family: Woven Fiberglass Fabric using E-Glass or S2 Glass Fibers with a Chromium (Cr^{3+}) Methacrylate Finish applied.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS® Number	% by Weight	OSHA (PEL)	ACGIH® (TLV®)
Fiberglass fiber, synthetic, vitreous, continuous filament	65997-17-3	98.8-99.9	15 mg/m^3 (Total) 5 mg/m^3 (Respirable)	5 mg/m^3 (Inhalable) 1 f/cc (Respirable)

This product is not classified as a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

Where specific exposure limits for component dusts are not established, the levels provided for (Total/Inhalable) dust and (Respirable) fraction reflect the classification of Particulate Not Otherwise Regulated (PNOR) by OSHA or Classified (PNOC) by ACGIH®.

Section 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Appearance and Odor:
White fibers, with a greenish tint, woven into fabrics of varying weight, width and thickness, depending on the style, with a finish applied, with no distinctive odor. There may be a sealant applied to the edges of slit fabrics (less-than-full-width) to prevent fibers unwinding during use.

Statement of Hazard:
Warning! May cause temporary mechanical irritation of the eyes, skin or upper respiratory tract.

Dust or particulate from machining, grinding or sawing the cured product may cause skin, eye and upper respiratory irritation and possible dermatitis.

Section 3: HAZARDS IDENTIFICATION (Continued)

Primary Routes of Exposure:

Eyes--Yes Skin--Yes Inhalation--Yes Ingestion--No

HMIS® Rating:

Health--1 Flammability--0 Reactivity--0 Special--None

Potential Health Effects:

Eye: Contact may cause mechanical irritation to the eyes. Dust or particulate from machining, grinding or sawing the cured product may cause mechanical irritation.

Skin: Contact may cause mechanical irritation to the skin and possible dermatitis at clothing contact pressure points such as cuffs or collars. Dust or particulate from machining, grinding or sawing the cured product may cause mechanical irritation and possible dermatitis.

Inhalation: May cause mechanical irritation to the upper respiratory tract. Dust or particulate from machining, grinding or sawing the cured product may cause mechanical irritation to the upper respiratory tract.

Ingestion: Very unlikely. If a large amount of the product or the dust or particulate from the machining, grinding or sawing the cured is swallowed, seek medical attention immediately.

Medical Conditions Aggravated By Exposure: Preexisting conditions such as respiratory or skin disorders may be aggravated by exposure to the product or to the dust or particulate from machining, grinding or sawing the cured product.

Carcinogenic Information: None of the finish components present in this material at concentrations equal to or greater than 0.1 % are listed or regulated by NTP, OSHA or ACGIH® as a carcinogen. Glass filament is listed by IARC as Group 3 (not classifiable as to a human carcinogen).

Other:	**OSHA (PEL)**	**ACGIH® (TLV®)**
Exposure limits for cured product dust as [Particulate Not Otherwise Regulated (PNOR) by OSHA or Classified (PNOC) by ACGIH®]:	15 mg/m^3 (Total) 5 mg/m^3 (Respirable)	10 mg/m^3 (Inhalable) 3 mg/m^3 (Respirable)

Section 4: FIRST AID MEASURES

Eye: In case of contact with the product or the cured product dust or particulate, immediately flush eyes with large amounts of water for at least 15 minutes, keeping the eyelids open. Get medical attention immediately.

Skin: In case of contact with the product or the cured product dust or particulate, immediately wash skin with mild soap and room temperature to cool running water. Use a washcloth to help remove the fibers. To avoid further irritation, do not rub or scratch irritated areas. Rubbing or scratching may force fibers into the skin. Get medical attention immediately if the irritation persists.

Section 4: FIRST AID MEASURES (Continued)

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, qualified personnel may administer oxygen. Get medical attention immediately.

Ingestion: Ingestion of the product or the dust or particulate from it is unlikely. If swallowed, get medical attention immediately.

Section 5: FIRE FIGHTING MEASURES

Flash Point Method of Determination: Not determined

Means of Extinction: Use water spray, dry chemical or CO_2 to extinguish fires.

Special Fire Hazards: Avoid exposure through use of a self-contained, positive-pressure breathing apparatus.

Section 6: ACCIDENTAL RELEASE MEASURES

Procedures in case of Accidental Release or Leakage: Avoid contact with skin, eyes or clothing (See Section 8). Clean up material, put into a suitable container and dispose of properly (See Section 13).

Section 7: HANDLING AND STORAGE

Precautions to be taken in Handling and Storage: Store in a cool, dry place. Maintain sealed against contamination from dirt and moisture.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/Face Protection: Avoid eye contact. Wear coverall goggles, as necessary, to prevent irritation, if airborne dust, fibers or particulate are present. Wear safety glasses with side shields, as necessary, if airborne dust, fibers or particulate are present when machining, grinding or sawing the cured product.

Skin Protection: Wear protective clothing such as a loose fitting, long sleeved shirt that covers to the base of the neck, long pants and gloves, as necessary, to prevent irritation. Skin irritation is known to occur primarily at pressure points such as around the neck, wrist, waist and between the fingers.

Respiratory Protection: Not ordinarily required. If sufficient dust, fibers or particulate are generated during use of the product or when machining, grinding or sawing the cured product, use a NIOSH approved dust respirator.

Ventilation: Use local exhaust sufficient to control dust, fibers or particulate generated. If an exhaust ventilation is not available or is inadequate, use a NIOSH approved dust respirator.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (Continued)

General Hygiene Recommendations: Before eating, drinking, smoking or using toilet facilities, wash face and hands thoroughly with soap and water. Remove any contaminated clothing and launder before reuse. Use vacuum equipment to remove fibers, dust or particulate from clothing and work areas. Compressed air is not recommended.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor... White fibers, with a greenish tint, woven into fabrics of varying weight, width and thickness, depending on the style, with a finish applied, with no distinctive odor. There may be a sealant applied to the edges of slit (less-than-full-width) fabrics to prevent fibers unwinding during use.

Melting Point (^{o}F/^{o}C)..... >1292^{o}F/>700^{o}C
Specific Gravity (Water=1)..... 2.60
pH of Undiluted Product.....Not determined
Volatile [Percent (%) by Weight]..... 0
Percent (%) VOC.....Same as the % Volatile Content
Solubility in Water..... Insoluble

Section 10: STABILITY AND REACTIVITY

Stability: Stable under proper handling and storage conditions

Incompatible Materials: None

Products evolved from Heat of Combustion or Decomposition: The products of combustion and decomposition depend on other materials present in the fire and the actual conditions of the fire. Burning will decompose the finish and release carbon, nitrogen and silicon oxides, water, ammonia, hydrogen chloride, traces of incompletely burned carbon products and other unidentified gases and vapors that may be toxic. Avoid inhalation.

Hazardous Polymerization: Will not occur under proper conditions of use. Rapid heating of the product in bulk may produce an uncontrolled exothermic reaction that may char and decompose the finish, generating unidentified gases and vapors that may be toxic. Avoid inhalation.

Section 11: TOXICOLOGICAL INFORMATION

Component Toxicity Data:
Median Lethal Dose (Species):
Oral (LD_{50})...Not determined
Inhalation (LC_{50})...Not determined
Dermal (LD_{50})...Not determined

Irritation Index, Estimation of Irritation (Species):
Skin...Not determined
Eye...Not determined
Inhalation...Not determined

Section 12: ECOLOGICAL INFORMATION

No ecological data has been determined.

Section 13: DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Material for disposal should be placed in appropriate sealed containers to avoid potential human and environmental exposure. It is the responsibility of the generator to comply with all federal, state, provincial and local laws and regulations. We recommend that you contact an appropriate waste disposal contractor and environmental agency for relevant laws and regulations. Under the U.S., Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets relevant waste classification.

Section 14: TRANSPORT INFORMATION

DOT:
Proper Shipping Name..... Not regulated
Hazard Class..... Not regulated
Identification Number.....Not regulated
Packing Group.....Not regulated
Label Required..... None

Section 15: REGULATORY INFORMATION

SARA Title III:
Section 302/304 Extremely Hazardous Substance:
None

Section 311 Hazardous Categorization:
None

Section 313 Toxic Chemicals:
None

CERCLA Section 102(A) and Hazardous Substance:
None

RCRA Information: Currently, this product is not listed in federal hazardous waste regulations 40 CFR, Part 261.33, paragraphs (e) or (f), i.e. chemical products that are considered hazardous if they become wastes. State or local hazardous waste regulations may also apply if they are different from the federal regulation. It is the responsibility of the user of the product to determine at the time of disposal, whether the product meets relevant waste classification and to assure proper disposal.

WHMIS (Canada):
Classification:
None

Section 15: REGULATORY INFORMATION (Continued)

WHMIS (Canada) (continued):
"This product has been classified in accordance with hazard criteria of the "Controlled Products Regulations" and this SDS contains all the information required by the "Controlled Products Regulations."

Ingredient Disclosure List:
None

U.S., EPA and TSCA Information: This product is an article as defined by TSCA and is not required to be listed in the TSCA Inventory.

Ozone Depletion Information: This product does not contain or is not manufactured with ozone depleting substances as identified in Title VI, Clean Air Act "Stratospheric Ozone

Section 16: OTHER INFORMATION

Special Precautions: None

Explanation and Disclaimer: Wherever such words or phrases as "hazardous," "toxic," "carcinogen," etc. appear herein, they are used as defined or described under state employee right-to-know laws, Federal OSHA laws or the direct sources for these laws such as the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), etc. The use of such words or phrases should not be taken to mean that we deem or imply any substance or exposure to be toxic, hazardous or otherwise harmful. **Any exposure can only be understood within the entire context of its occurrence, which includes such factors as the substance's characteristics as defined in the SDS, amount and duration of exposures, other chemicals present and preexisting individual differences in response to the exposure.**

The data provided in this SDS is based on the information received from our raw material suppliers and other sources believed to be reliable. We are supplying you this data solely in compliance with the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200 and other Federal and state laws as described in Section 15: Regulatory Information.

The information contained in this SDS is proprietary and confidential to Hexcel Corporation. This SDS and the information in it are not to be used for purposes other than compliance with the Federal OSHA Hazard Communication Standard. If you have received this SDS from any other source than Hexcel Corporation or its authorized agent, the information contained in it may have been modified from the original document and it may not be the most current revision.

Liability, if any, for use of this product is limited to the terms contained in our sale terms and conditions. We do not in any way warrant (expressed or implied, including any implied warranty for merchantability or fitness for a particular purpose) the data contained or the product described in this SDS. Additionally, we do not warrant that the product will not infringe any patent or other proprietary or property rights of others.

Section 16: OTHER INFORMATION (Continued)

Prepared by: Darryl Ong,
Hexcel Corporate Safety and Health,
Senior Product Safety Information Specialist

Revision History:
12/18/09 update description
01/28/09 deleted “CS” nomenclature
10/01/07 changed information telephone number and updated contacts
03/19/07 deleted Prop 65, product is not manufactured in Calif.

Material Safetv Data Sheet SH101

Effective Date: 10/29/2012 Previous Revision date: 00/00/0000 Date Printed: 6/5/2014

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
H315	Causes skin irritation	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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 no 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 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.

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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 Color pH Melting/Freezing Temperature Boiling Point	 Liquid Colorless to Amber Not available 40 C/ 104 F 336 C/ 637 F
Flash Point	> 95 C/ 200 F
Ignition Temperature	Not available
Autoignition Temperature Lower explosive limit; na	Not available 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

Skin Corrosion/Irritation

Skin — Irritant

Serious Eye Damage/Eye Irritation

Eye — Irritant
Eyes — Rabbit
Severe eye irritation – 24 H

Respiratory or Skin Sensitization

May cause skin or respiratory sensitization

Mutagenicity

Mouse — Skin
Carcinogenic by RTECS Criteria
liver, ovarian, thyroid

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

No data available

Biodegradability

Persistant — 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).

LSP PERFORMANCE RESINS 124 Speer Road Chestertown, MD 21620
800.638.9874 FAX 410.778.3625 web www.lspinc.com

Material Safetv Data Sheet SR101

Effective Date: 10/29/2012 Previous Revision date: 00/00/0000 Date Printed: 6/5/2014

SECTION 1 Product and Company Information

PRODUCT NAME: SeamTek ® Standard Resin, SR101
GENERIC NAME: Epoxy Resin

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 H315 Causes skin irritation H317 May cause an allergic skin reaction H318 Causes serious eye damage	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.

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 no 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-pentanediol	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.

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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 Color pH Melting/Freezing Temperature Boiling Point	 Liquid Colorless to Amber Not available 40 C/ 104 F 336 C/ 637 F
Flash Point	> 95 C/ 200 F
Ignition Temperature	Not available
Autoignition Temperature Lower explosive limit; na	Not available 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

Skin Corrosion/Irritation

Skin	Irritant

Serious Eye Damage/Eye Irritation

Eye	Irritant
Eyes	Rabbit

Severe eye irritation – 24 H

Respiratory or Skin Sensitization

May cause skin or respiratory sensitization

Mutagenicity

Mouse	Skin

Carcinogenic by RTECS Criteria

liver, ovarian, thyroid

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

No data available

Biodegradability

Persistant	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;	2		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).

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