Safety Data Sheet

Prepared in Accordance with HCS 29 C.F.R. 1910.1200

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 9120A0

Revision Date: 10/25/2021

Product Name: EPOPLEX LS50 WHITE RESIN

Supersedes Date: 07/06/2021

1.2 Relevant identified uses of the substance or mixture and uses advised against Base component of 2 components coating - Industrial use. For use by appropriately trained applicators.

1.3 Details of the supplier of the safety data sheet

Manufacturer:

EPOPLEX, A DIVISION OF STONCOR GROUP, INC
1000 EAST PARK AVENUE
MAPLE SHADE, NJ 08052

+1 856 7797500 (US)

Datasheet Produced by: ehs@stonhard.com

1.4 Emergency telephone number:

CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)

Giftinformasjonen: +47 22 59 13 00

2. Hazard Identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Chronic, category 2
Carcinogenicity, category 2
Eye Irritation, category 2A
STOT, single exposure, category 3, RTI
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

Warning

Named Chemicals on Label

titanium dioxide, Trimethylolpropane triacrylate, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)

HAZARD STATEMENTS

Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2A	H319	Causes serious eye irritation.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous ingredients

Name According to EEC	EINEC No.	CAS-No.	%	Classifications	
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	500-033-5	25068-38-6	50 - <75	H315-317-319-335-411	Aquatic Chronic 2, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3 RTI

titanium dioxide	236-675-5	13463-67-7	10 - <25	H351	Carc. 2
Trimethylolpropane triacrylate	239-701-3	15625-89-5	10 - <25	H315-317-319	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1
silicon dioxide (amorphous)	231-545-4	7631-86-9	1.0 - <2.5		
alumina trihydrate	244-492-7	21645-51-2	1.0 - <2.5		

CAS-No.	M-Factors
25068-38-6	0
13463-67-7	0
15625-89-5	0
7631-86-9	0
21645-51-2	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

GENERAL NOTES: When symptoms persist or in all cases of doubt seek medical advice.
AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.
AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.
AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to skin. May cause sensitization by skin contact. Prolonged or repeated exposure increases the risk. Harmful to aquatic organisms.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Contains epoxy constituents. See information supplied by the manufacturer.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.
PROTECTION AND HYGIENE MEASURES: Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Extremes of temperature and direct sunlight.
STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits
(US)

Name	CAS-No.	ACGIH TWA	ACGIH STEL	ACGIH Ceiling
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	25068-38-6			
titanium dioxide	13463-67-7	10 MGM3 10 MGM3		
Trimethylolpropane triacrylate	15625-89-5			
silicon dioxide (amorphous)	7631-86-9	10.0 mg/m3		
alumina trihydrate	21645-51-2	10.0 mg/m3		

Name	CAS-No.	OSHA PEL	OSHA STEL
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	25068-38-6		

titanium dioxide	13463-67-7	15 MGM3
Trimethylolpropane triacrylate	15625-89-5	
silicon dioxide (amorphous)	7631-86-9	0.8 mg/m3
alumina trihydrate	21645-51-2	5.0 mg/m3

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Respirator with filter for organic vapor.
EYE PROTECTION: Safety glasses.
HAND PROTECTION: Impervious gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use.
OTHER PROTECTIVE EQUIPMENT: No Information
ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Not determined
Physical State	Liquid
Odor	FAINT EPOXY ODOR
Odor threshold	Not determined
pH	NON-AQUEOUS
Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	146 - N.D.
Flash Point, (°F / °C)	>201F / >94C
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	N/A - N/A
Vapour Pressure	NOT DETERMINED
Vapour density	Not determined
Relative density	Not determined
Solubility in / Miscibility with water	NEGLIGIBLE
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	N/A
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	5.0

Specific Gravity (g/cm3)	1.354

10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
No decomposition if stored and applied as directed. Stable. Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Extremes of temperature and direct sunlight.

10.5 Incompatible materials
Strong oxidizing agents. Acids and bases.

10.6 Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction. Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50:	No information
Inhalation LC50:	No information
Irritation:	No information available.
Corrosivity:	No information available.
Sensitization:	No information available.
Repeated dose toxicity:	No information available.
Carcinogenicity:	No information available.
Mutagenicity:	No information available.
Toxicity for reproduction:	No information available.
STOT-single exposure:	No information available.
STOT-repeated exposure:	No information available.
Aspiration hazard:	No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50	Gas LC50	Dust/Mist LC50
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	>2000 mg/kg, rat, oral	>2000 mg/kg, rat		0.000	0.000
13463-67-7	titanium dioxide	10000 mg/kg, oral (rat)			0.000	6,82 mg/l (rat) 4h
15625-89-5	Trimethylolpropane triacrylate	5000 mg/kg, oral, rat			0.000	0.000
7631-86-9	silicon dioxide (amorphous)	3,160 mg/kg, rat		58.8 mg/l, 4hr, rat	0.000	0.000

Additional Information:

This product is classified as a "Reproductive Toxicity - Category 2" due to containing a substance classified as a reproductive toxin via ingestion / oral exposure route only. Normal product application methods by trained crew members would not present a risk of oral exposure or ingestion. This product may contain Titanium Dioxide, which is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. This classification is relevant when exposed to titanium dioxide in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: No information

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	1.8 mg/l	No information	1.3 mg/L
13463-67-7	titanium dioxide	>100 mg/l (EC50, 48h, Daphnia magna OECD202)ation	No information	>1000 mg/l
15625-89-5	Trimethylolpropane triacrylate	19.9 mg/l	No information	0.87 mg/l (zebra fish)
7631-86-9	silicon dioxide (amorphous)	No information	No information	
21645-51-2	alumina trihydrate	No information	No information	

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	UN number	UN3082
14.2	UN proper shipping name	Environmentally Hazardous Substance, Liquid, n.o.s.
	Technical name	reaction product: bisphenol-a-(epichlorhydrin) epoxy resin
14.3	Transport hazard class(es)	9
	Subsidiary shipping hazard	Not applicable
14.4	Packing group	III
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	Not applicable
	EmS-No.:	F-A , S-F
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable

15. Regulatory Information

15.1 **Safety, health and environmental regulations/legislation for the substance or mixture:**

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Carcinogenicity, Skin Corrosion or Irritation, Respiratory or Skin Sensitization, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the U.S. Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR part 372:

No SARA 313 substances exist in this product above de minimis concentrations.

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. Clean Air Act:

EPA Coating Category:	TRAFFIC MARKING COATINGS
EPA VOC Content Limit (g/l):	150
Product VOC Content (g/l)	5.0
Thinning Recommendations:	The coating is to be applied without thinning.
Application Recommendations:	For professional use only.

* As per the federal EPA definition for coating categories in 40 CFR 59.401.
** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
No NJ Right-To-Know components exist in this product.	

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

California Proposition 65:

WARNING: Cancer - www.P65Warnings.ca.gov

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory or exempt.

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

Composition Information Changed
Substance and/or Product Properties Changed in Section(s):
02 - Hazard Identification
09 - Physical and Chemical Properties
11 - Toxicological Information
12 - Ecological Information
15 - Regulatory Information

This Safety Data Sheet (SDS) has been revised to meet updated national hazard communication standards which have adopted the provisions of the UN GHS system. There have been both formatting and content changes based on the GHS classification (if applicable), Please review each section of the SDS for specific changes.

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark;
European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;
European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP);
EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m3	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container
RTI	Respiratory Tract Irritation
NE	Narcotic Effects

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions

and recommendations are not followed.

Safety Data Sheet

Prepared in Accordance with HCS 29 C.F.R. 1910.1200

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 9115A0

Revision Date: 10/25/2021

Product Name: EPOPLEX LS50 LF YELLOW A

Supersedes Date: 05/07/2020

1.2 Relevant identified uses of the substance or mixture and uses advised against Base component of 2 components coating - Industrial use. For use by appropriately trained applicators.

1.3 Details of the supplier of the safety data sheet

Manufacturer:

EPOPLEX, A DIVISION OF STONCOR GROUP, INC
1000 EAST PARK AVENUE
MAPLE SHADE, NJ 08052

+1 856 7797500 (US)

Datasheet Produced by: ehs@stonhard.com

1.4 Emergency telephone number:

CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)

Giftinformasjonen: +47 22 59 13 00

2. Hazard Identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Chronic, category 2
Carcinogenicity, category 2
Eye Irritation, category 2A
STOT, single exposure, category 3, RTI
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

Warning

Named Chemicals on Label

titanium dioxide, Trimethylolpropane triacrylate, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)

HAZARD STATEMENTS

Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2A	H319	Causes serious eye irritation.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous ingredients

Name According to EEC	EINEC No.	CAS-No.	%	Classifications	
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	500-033-5	25068-38-6	50 - <75	H315-317-319-335-411	Aquatic Chronic 2, Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3 RTI

Trimethylolpropane triacrylate	239-701-3	15625-89-5	10 - <25	H315-317-319	Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1
titanium dioxide	236-675-5	13463-67-7	2.5 - <10	H351	Carc. 2
yellow pigment		18275200000-5113	2.5 - <10		

CAS-No.	M-Factors
25068-38-6	0
15625-89-5	0
13463-67-7	0
18275200000-5113	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

GENERAL NOTES: When symptoms persist or in all cases of doubt seek medical advice.
AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.
AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.
AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to skin. May cause sensitization by skin contact. Prolonged or repeated exposure increases the risk. Harmful to aquatic organisms.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Contains epoxy constituents. See information supplied by the manufacturer.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.
PROTECTION AND HYGIENE MEASURES: Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Extremes of temperature and direct sunlight.
STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits
(US)

Name	CAS-No.	ACGIH TWA	ACGIH STEL	ACGIH Ceiling
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	25068-38-6			
Trimethylolpropane triacrylate	15625-89-5			
titanium dioxide	13463-67-7	10 MGM3	10 MGM3	
yellow pigment	18275200000-5113			

Name	CAS-No.	OSHA PEL	OSHA STEL
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	25068-38-6		
Trimethylolpropane triacrylate	15625-89-5		

titanium dioxide	13463-67-7	15 MGM3
yellow pigment	18275200000-5113	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Respirator with filter for organic vapor.
EYE PROTECTION: Safety glasses.
HAND PROTECTION: Impervious gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use.
OTHER PROTECTIVE EQUIPMENT: No Information
ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Yellow resin
Physical State	LIQUID
Odor	Faint epoxy odor
Odor threshold	Not determined
pH	Non-aqueous
Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	146 - N.D.
Flash Point, (°F / °C)	>201F / >94C
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	N/A - N/A
Vapour Pressure	Not determined
Vapour density	Not determined
Relative density	Not determined
Solubility in / Miscibility with water	Negligible
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Not determined
Explosive properties	Not applicable
Oxidising properties	Not applicable

9.2 Other information

VOC Content g/l:	5.0
Specific Gravity (g/cm3)	1.286

10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
No decomposition if stored and applied as directed. Stable. Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Extremes of temperature and direct sunlight.

10.5 Incompatible materials
Strong oxidizing agents. Acids and bases.

10.6 Hazardous decomposition products
Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction. Carbon dioxide (CO_2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: No information

Inhalation LC50: No information

Irritation: No information available.

Corrosivity: No information available.

Sensitization: No information available.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50	Gas LC50	Dust/Mist LC50
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	>2000 mg/kg, rat, oral	>2000 mg/kg, rat		0.000	0.000

15625-89-5	Trimethylolpropane triacrylate	5000 mg/kg, oral, rat	0.000	0.000
13463-67-7	titanium dioxide	10000 mg/kg, oral (rat)	0.000	6,82 mg/l (rat) 4h

Additional Information:

This product is classified as a "Reproductive Toxicity - Category 2" due to containing a substance classified as a reproductive toxin via ingestion / oral exposure route only. Normal product application methods by trained crew members would not present a risk of oral exposure or ingestion. This product may contain Titanium Dioxide, which is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. This classification is relevant when exposed to titanium dioxide in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: No information

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	1.8 mg/l	No information	1.3 mg/L
15625-89-5	Trimethylolpropane triacrylate	19.9 mg/l	No information	0.87 mg/l (zebra fish)
13463-67-7	titanium dioxide	>100 mg/l (EC50, 48h, Daphnia magna OECD202)ation	No information	>1000 mg/l
18275200000-5113	yellow pigment	No information	No information	

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	UN number	UN3082
14.2	UN proper shipping name	Environmentally Hazardous Substance, Liquid, N.O.S.
	Technical name	reaction product: bisphenol-a-(epichlorhydrin) epoxy resin
14.3	Transport hazard class(es)	9
	Subsidiary shipping hazard	Not applicable
14.4	Packing group	III
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	For professional use only.
	EmS-No.:	F-A , S-F
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable

15. Regulatory Information

15.1 **Safety, health and environmental regulations/legislation for the substance or mixture:**

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Carcinogenicity, Skin Corrosion or Irritation, Respiratory or Skin Sensitization, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the U.S. Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR part 372:

No SARA 313 substances exist in this product above de minimis concentrations.

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. Clean Air Act:

EPA Coating Category:	Traffic Marking Coatings
EPA VOC Content Limit (g/l):	150
Product VOC Content (g/l)	5.0
Thinning Recommendations:	The coating is to be applied without thinning.
Application Recommendations:	For professional use only.

* As per the federal EPA definition for coating categories in 40 CFR 59.401.
** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name	CAS-No.
non-hazardous component	18275200000-5085

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name	CAS-No.
non-hazardous component	18275200000-5085

California Proposition 65:

WARNING: Cancer - www.P65Warnings.ca.gov

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory or exempt.

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

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Substance and/or Product Properties Changed in Section(s):
 01 - Identification
 02 - Hazard Identification
 03 - Composition/Information On Ingredients
 05 - Fire-fighting Measures
 08 - Exposure Controls/Personal Protection
 09 - Physical and Chemical Properties
 11 - Toxicological Information
 12 - Ecological Information
 15 - Regulatory Information
Composition Information Changed

This Safety Data Sheet (SDS) has been revised to meet updated national hazard communication
standards which have adopted the provisions of the UN GHS system. There have been both formatting
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and content changes based on the GHS classification (if applicable), Please review each section of the SDS for specific changes.

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark;
European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;
European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP);
EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m3	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container
RTI	Respiratory Tract Irritation
NE	Narcotic Effects

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and

it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.

Safety Data Sheet

Prepared in Accordance with HCS 29 C.F.R. 1910.1200

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 9110B5

Revision Date: 10/25/2021

Product Name: EPOPLEX LS50 HARDENER

Supersedes Date: 05/07/2020

1.2 Relevant identified uses of the substance or mixture and uses advised against Hardener for 2 components coatings - Industrial use. For use by appropriately trained applicators.

1.3 Details of the supplier of the safety data sheet

Manufacturer:

EPOPLEX, A DIVISION OF STONCOR GROUP, INC
1000 EAST PARK AVENUE
MAPLE SHADE, NJ 08052

+1 856 7797500 (US)

Datasheet Produced by: ehs@stonhard.com

1.4 Emergency telephone number:

CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)

Giftinformasjonen: +47 22 59 13 00

2. Hazard Identification

2.1 Classification of the substance or mixture

Acute Toxicity, Inhalation, category 1
Hazardous to the aquatic environment, Acute, category 1
Hazardous to the aquatic environment, Chronic, category 1
Reproductive_ToxicityF_category_1B
STOT, single exposure, category 3, RTI
Skin Corrosion, category 1
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word

Danger

Named Chemicals on Label

4,4'-isopropylidenediphenol, Diethylenetriamine, 4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with dietheylenetriamine, 4-nonylphenol, branched

HAZARD STATEMENTS

Acute Toxicity, Oral, category 4	H302	Harmful if swallowed.
Acute Toxicity, Dermal, category 4	H312	Harmful in contact with skin.
Skin Corrosion, category 1	H314-1	Causes severe skin burns and eye damage.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Acute Toxicity, Inhalation, category 1	H330-1	Fatal if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Reproductive_ToxicityF_category_1B	H360F	May damage fertility.
Hazardous to the aquatic environment, Acute, category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment, Chronic, category 1	H410	Very toxic to aquatic life with long lasting effects.

PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do no eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/ face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P352	Wash with plenty of soap and water.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

This product contains a component that is toxic by inhalation when aerosolized or sprayed. Please refer to section 11 of the SDS for toxicity information. Review the toxicity against the intended use. If product is not being aerosolized or sprayed, the inhalation toxicity may not be applicable.

This product is classified as a "Acute Toxicity, Inhalation, Category 1" due to containing Diethylenetriamine (CAS # 111-40-0). Numerous Industrial Hygiene air monitoring studies have been conducted by Stonhard to determine actual levels of exposure to Diethylenetriamine during product installations to application personnel. In each case levels of exposure were found to be well below the ACGIH Threshold Limit Value and NIOSH Recommended Exposure Limit of 1 ppm.

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous ingredients

Name According to EEC	EINEC No.	CAS-No.	%	Classifications	
4-nonylphenol, branched	284-325-5	84852-15-3	25 - <50	H302-314-361-400-410	Acute Tox. 4 Oral, Aquatic Acute 1, Aquatic Chronic 1, Repr. 2, Skin Corr. 1
Diethylenetriamine	203-865-4	111-40-0	10 - <25	H302-312-314-317-330-335	Acute Tox. 1 Inhalation, Acute Tox. 4 Dermal, Acute Tox. 4 Oral, Skin Corr. 1, Skin Sens. 1, STOT SE 3 RTI
4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with dietheylenetriamine	500-072-8	31326-29-1	10 - <25	H302-312	Acute Tox. 4 Dermal, Acute Tox. 4 Oral
4,4'-isopropylidenediphenol	201-245-8	80-05-7	10 - <25	H317-318-335-360F-400-410	Aquatic Acute 1, Aquatic Chronic 1, Eye Dam. 1, Repr. 1B, Skin Sens. 1, STOT SE 3 RTI

CAS-No.	M-Factors
84852-15-3	0
111-40-0	0
31326-29-1	0
80-05-7	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

GENERAL NOTES: When symptoms persist or in all cases of doubt seek medical advice.
AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses.
AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe burns. Harmful in contact with skin and if swallowed. Irritating to eyes and respiratory system.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING: Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapours or spray mist.
PROTECTION AND HYGIENE MEASURES: Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Direct sources of heat.
STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised

persons. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	CAS-No.	ACGIH TWA	ACGIH STEL	ACGIH Ceiling
4-nonylphenol, branched	84852-15-3			
Diethylenetriamine	111-40-0	1 PPM		
4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	31326-29-1			
4,4'-isopropylidenediphenol	80-05-7			

Name	CAS-No.	OSHA PEL	OSHA STEL
4-nonylphenol, branched	84852-15-3		
Diethylenetriamine	111-40-0	4 MGM3, 1 PPM	
4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	31326-29-1		
4,4'-isopropylidenediphenol	80-05-7		

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: Respirator with filter for organic vapor.
EYE PROTECTION: Safety glasses.
HAND PROTECTION: Impervious gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use.
OTHER PROTECTIVE EQUIPMENT: No Information
ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Not determined
Physical State	Liquid
Odor	FAINT ODOR
Odor threshold	Not determined
pH	NO DATA
Melting point / freezing point (°C)	Not determined

Boiling point/range (°C)	N.D. - N.D.
Flash Point, (°F / °C)	>236F / >113C
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	N/A - N/A
Vapour Pressure	2.17 mmHg @ 21C
Vapour density	Not determined
Relative density	Not determined
Solubility in / Miscibility with water	SLIGHT
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	NOT DETERMINED
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	5.0
Specific Gravity (g/cm3)	1.019

10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation may occur.

10.4 Conditions to avoid
Direct sources of heat.

10.5 Incompatible materials
Strong oxidizing agents.

10.6 Hazardous decomposition products
Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: No information

Inhalation LC50: No information

Irritation: No information available.

Corrosivity: No information available.

Sensitization: No information available.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50	Gas LC50	Dust/Mist LC50
84852-15-3	4-nonylphenol, branched	580 mg/kg oral rat			0.000	0.000
111-40-0	Diethylenetriamine	1080 mg/kg, oral, rat	1090 mg/kg	10 mg/L / 1 hour, inh, rat	0.000	0.000
31326-29-1	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with dietheylenetriamine	540 mg/kg, oral (rat)	1494 mg/kg, rabbit		0.000	0.000
80-05-7	4,4'-isopropylidenediphenol	3250 mg/kg, oral, rat	3000 mg/kg, oral, rabbit		0.000	0.000

Additional Information:

This product is classified as a "Acute Toxicity, Inhalation, Category 1" due to containing Diethylenetriamine (CAS # 111-40-0). Numerous Industrial Hygiene air monitoring studies have been conducted by Stonhard to determine actual levels of exposure to Diethylenetriamine during product installations to application personnel. In each case levels of exposure were found to be well below the ACGIH Threshold Limit Value and NIOSH Recommended Exposure Limit of 1 ppm. This product is classified as a "Reproductive Toxicity - Category 2" due to containing a substance classified as a reproductive toxin via ingestion / oral exposure route only. Normal product application methods by trained crew members would not present a risk of oral exposure or ingestion.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): No information

IC50 72hr (Algae): No information

LC50 96hr (fish): No information

12.2 Persistence and degradability: No information

12.3 Bioaccumulative potential: No information

12.4 Mobility in soil: No information

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: No information

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
84852-15-3	4-nonylphenol, branched	.035 mg/L	.0563 mg/L	.1383 mg/l
111-40-0	Diethylenetriamine	780 mg/l	No information	430 mg/l
31326-29-1	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	No information	No information	
80-05-7	4,4'-isopropylidenediphenol	10.2 mg/l	No information	205 mg/l

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1 UN number UN3267

14.2 UN proper shipping name CORROSIVE LIQUID, BASIC, ORGANIC, n.o.s.

Technical name (CONTAINS 4-NONYLPHENOL, BRANCHED, DIETHYLENETRIAMINE)

14.3 Transport hazard class(es) 8

Subsidiary shipping hazard Not applicable

14.4 Packing group III

14.5 Environmental hazards Not applicable

14.6 Special precautions for user Not applicable

EmS-No.: F-A , S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code Not applicable

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Toxicity (any route of exposure), Reproductive toxicity, Skin Corrosion or Irritation, Respiratory or Skin Sensitization, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the U.S. Superfund Amendment and Reauthorization Act (SARA) of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.	%
4-nonylphenol, branched	84852-15-3	44.9

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

U.S. Clean Air Act:

EPA Coating Category:	TRAFFIC MARKING COATINGS
EPA VOC Content Limit (g/l):	150
Product VOC Content (g/l)	5.0
Thinning Recommendations:	The coating is to be applied without thinning.
Application Recommendations:	For professional use only.

* As per the federal EPA definition for coating categories in 40 CFR 59.401.
** Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

No NJ Right-To-Know components exist in this product.

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

California Proposition 65:

WARNING: Reproductive Toxicant -- www.P65Warnings.ca.gov

No Proposition 65 Carcinogens exist in this product.

International Regulations: As follows -

* Canadian DSL:

All chemical ingredients included on inventory or exempt.

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H360F	May damage fertility.
H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Reasons for revision

Substance and/or Product Properties Changed in Section(s):
01 - Identification
02 - Hazard Identification
03 - Composition/Information On Ingredients
05 - Fire-fighting Measures
08 - Exposure Controls/Personal Protection
15 - Regulatory Information
Revision Statement(s) Changed

This Safety Data Sheet (SDS) has been revised to meet updated national hazard communication standards which have adopted the provisions of the UN GHS system. There have been both formatting and content changes based on the GHS classification (if applicable), Please review each section of the SDS for specific changes.

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark;
European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;
European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP);
EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million

mg/m3	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container
RTI	Respiratory Tract Irritation
NE	Narcotic Effects

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.

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LS50
Viscosity vs. Temperature

	EPOPLEX® LS50 - Viscosity (cP)		
Temperature	**Hardener**	**White**	**Yellow**
70˚F/21˚C	17500	7100	8610
75˚F/24˚C	9690	4480	6200
80˚F/27˚C	6990	3060	3890
85˚F/29˚C	5110	2180	2890
90˚F/32˚C	3890	1660	2270
95˚F/35˚C	2730	1300	1650
100˚F/38˚C	2090	925	1250
105˚F/41˚C	1590	755	1010
110˚F/43˚C	1320	590	870
115˚F/46˚C	1050	475	710
120˚F/49˚C	720	395	580
125˚F/52˚C	575	335	500
130˚F/54˚C	435	290	490

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LS50

PRODUCT DATA

PRODUCT DESCRIPTION
Epoplex® LS50 is a two-component, 100% solids epoxy coating material designed as a rapid setting highway marking coating that provides durability and corrosion and abrasion resistance. Epoplex® LS50 is formulated to provide a simple volumetric mixing ratio of two volumes of Component A to one volume of Component B.

USES, APPLICATIONS
Epoplex® LS50 may be applied to both cementitious and asphalt highway surfaces as a long-lasting striping material for both edging and center line markings.

PRODUCT ADVANTAGES
- 100% solids chemistry
- Low viscosity suitable for spray application
- Long-term abrasion and corrosion resistance
- Excellent bond strength assures good adhesion to a variety of substrates
- Protection against moisture penetration
- Special formulation chemistry for rapid set at a wide range of temperatures
- High ultraviolet light stability
- High reflective qualities

PACKAGING
Component A: Base Resin and Pigmentation
Component B: Activator/Curing Agent

Both components are available in 55 gallon drums and 250 gallon returnable totes.

PHYSICAL CHARACTERISTICS

Percent Solids	100%
Epoxy Equivalent Weight (ASTM D-1652, Method B)	300 +/- 50
Total Amine Value (ERF-25-68)	475 +/- 50
Track Free Time @ 77°F/25°C (ASTM D-711)	10 min. or less (with glass beads)
Adhesion (ASTM D-7234 formerly ASTM D-4541)	> 300 psi (100% concrete failure)
Hardness (ASTM D-2240, Shore D)	Min. 80
Abrasion Resistance (ASTM D-4060, formerly ASTM C-501)	< 80 mg weight loss
Tensile Strength (ASTM D-638)	6,000 psi
Compressive Strength (ASTM D-695)	12,000 psi
Theoretical Coverage	122 sq. ft. per gallon @ 15 mils
Mixing Ratio	2 Parts A to 1 Part B, by volume
Chromaticity (Color) (ASTM D-6628)	within coordinates
Yellowness Indexing (ASTM E-313)	Max. before QUV 8 Max. after QUV 20
Titanium Dioxide (White) (ASTM D-476, Type V) (Exceeds Type I,II,III & IV)	18-25% (Composition by weight)
Non-Lead Organic Yellow	5-10% (Composition by weight)

STORAGE CONDITIONS
Store both components of Epoplex® LS50 in a dry area. Avoid excessive heat and do not freeze. The shelf life is two years in the original, unopened container.

COLOR
Epoplex® LS50 is available in highway white, non-lead yellow, and black.

IMPORTANT:
Epoplex® believes the information contained here to be true and accurate. Information contained here is for evaluation only. Epoplex makes no warranty, expressed or implied, based on this literature. We further reserve the right to modify and change products or literature at any time.

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