Safety Data Sheet

prepared to UN GHS Revision 3

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

1.1 Product Identifier 9110B5

Revision Date: 28/07/2016

Supercedes Date: 09/03/2015

Product Name: EPOPLEX LS50 HARDENER

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)

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 Toxicity, category 2
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 Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child.
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

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.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.
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

CAS-No.	Chemical Name	%
84852-15-3	4-nonylphenol, branched	25-50
111-40-0	Diethylenetriamine	10-25
31326-29-1	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	10-25
80-05-7	4,4'-isopropylidenediphenol	10-25

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
84852-15-3	GHS05-GHS07-GHS08-GHS09	H302-314-361-400-410	0
111-40-0	GHS05-GHS06	H302-312-314-317-330-335	0
31326-29-1	GHS07	H302-312	0
80-05-7	GHS05-GHS07-GHS08-GHS09	H317-318-335-361-411	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.	OSHAPEL	ACGIH TLV
4-nonylphenol, branched	84852-15-3		
Diethylenetriamine	111-40-0	1 ppm	1.0 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	5 mg/m3 respirable particulate	5 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: rubber Glove thickness: 0.3 mm permeation rate according to EN 374: 3 (breakthrough time> 60 min) Nitrile rubber Glove thickness: 0.4 mm permeation rate according to EN 374: 2 (breakthrough time> 30 min)Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Long sleeved clothing. Remove and wash contaminated clothing before re-use. Rubber or plastic apron.

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:	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.

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
84852-15-3	4-nonylphenol, branched	580 mg/kg oral rat		
111-40-0	Diethylenetriamine	1080 mg/kg, oral, rat	1090 mg/kg	10 mg/L / 1 hour, inh, rat
31326-29-1	4,4' - isopropylidenediphenol oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	540 mg/kg, oral (rat)	1494 mg/kg, rabbit	
80-05-7	4,4'-isopropylidenediphenol	3250 mg/kg, oral, rat	3000 mg/kg, oral, rabbit	

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 dietheylenetriamine	No information	No information	Not available
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 Health Hazard

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
4,4'-isopropylidenediphenol	80-05-7

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:	NONE
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: The following ingredients present in the product are known to the State of California to cause cancer:

No Proposition 65 Carcinogens exist in this product.

Warning: The following ingredients present in the product are known to the State of California to cause birth defects, or other reproductive hazards.

Chemical Name	CAS-No.

4,4'-isopropylidenediphenol	80-05-7

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.
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.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

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.