

High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 08/09/2018

Revision date: 01/20/2023

Version: ER-ONE-2023a

SECTION 1: Identification

Identification

Product form : Mixture
Product name : Entropy Resins® High Bio-based Laminating Epoxy Resin
Product code : CER-ONE, CER-ONE-QT, CER-ONE-2QT, CER-ONE-GAL, CER-ONE-5GAL, CER-ONE-D, CER-ONE-T

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Epoxy resin

Details of the supplier of the safety data sheet

Manufacturer

Gougeon Brothers, Inc
100 Patterson Ave.
Bay City, MI 48706 - U.S.A.
T 888-377-6738 or 989-684-7286

Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300
CHEMTREC International +1 (703) 527-3887 24 hr

SECTION 2: Hazard identification

Classification of the substance or mixture

Skin Irrit. 2
Eye Irrit. 2A
Skin Sens. 1
Aquatic Chronic 2

Label elements

Hazard pictograms (GHS)



GHS07

GHS09

Signal word (GHS)

Warning

Hazard statements (GHS)

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.

Precautionary statements (GHS)

Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. If on skin: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage. Dispose of contents/container to in accordance with local, regional, national and international regulations.

Other hazards

No additional information available

Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

Substances

Not applicable

Entropy Resins® High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Mixtures

Name	Product identifier	%
Bisphenol A-epichlorohydrin polymer	(CAS-No.) 25068-38-6	80 - 100
Alkyl (C12-14) glycidyl ether	(CAS-No.) 68609-97-2	5 - 10
Benzyl alcohol	(CAS-No.) 100-51-6	1 - 5
4-Hydroxymethyl-1,3-dioxolan-2-one	(CAS-No.) 931-40-8	1 - 5
Benzoic acid, 4{[(methylphenylamino) methylene] amino}-, ethyl ester	(CAS-No.) 57834-33-0	1 - 5

The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as confidential business information (CBI). Any ingredient not disclosed in this section may have been determined not to be hazardous to health or the environment, or it may be present at a level below its disclosure threshold. Refer to Section 15 for additional information regarding this CBI claim.

SECTION 4: First-aid measures

Description of first aid measures

- First-aid measures after inhalation** : Not a normal route of exposure. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact** : IF ON SKIN: Wash with plenty of Water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact** : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion** : Under normal conditions of use, no adverse effects to health have been observed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

Most important symptoms and effects, both acute and delayed

- Symptoms/effects after inhalation** : None under normal conditions. May cause irritation to the respiratory tract.
- Symptoms/effects after skin contact** : Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause an allergic skin reaction.
- Symptoms/effects after eye contact** : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
- Symptoms/effects after ingestion** : None under normal conditions. May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Foam. Carbon dioxide. Dry chemical.
- Unsuitable extinguishing media** : Do not use a heavy water stream.

Special hazards arising from the substance or mixture

- Fire hazard** : Products of combustion may include, and are not limited to: oxides of carbon. Phenolics. During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Under fire conditions closed containers may rupture or explode.
- Reactivity** : No dangerous reactions known under normal conditions of use.
- Advice for firefighters**
- Protection during firefighting** : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

- General measures** : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

For non-emergency personnel

No additional information available

For emergency responders

No additional information available

Entropy Resins® High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and material for containment and cleaning up

For containment

: Stop leak without risks if possible. Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment. Do not use sawdust or other combustible material to absorb spilled material.

Methods for cleaning up

: Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

Precautions for safe handling

Precautions for safe handling

: Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Ensure adequate ventilation. Wear personal protective equipment. When mixed with epoxy curing agents this product causes an exothermic reaction, which in large masses, can produce enough heat to damage or ignite surrounding materials and emit fumes and vapors that vary widely in composition and toxicity.

Hygiene measures

: Wash contaminated clothing before reuse. Always wash hands after handling the product.

Conditions for safe storage, including any incompatibilities

Storage conditions

: Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Avoid high temperatures. Protect from moisture. Protect from sunlight.

Storage temperature

: 40 - 120 °F / 4 - 49 °C

SECTION 8: Exposure controls/personal protection

Control parameters

Bisphenol A-epichlorohydrin polymer (25068-38-6)		
Not applicable		
Alkyl (C12-14) glycidyl ether (68609-97-2)		
Not applicable		
4-Hydroxymethyl-1,3-dioxolan-2-one (931-40-8)		
Not applicable		
Benzyl alcohol (100-51-6)		
AIHA	WEEL TWA (ppm)	10 ppm
Benzoic acid, 4[[(methylphenylamino) methylene] amino]-, ethyl ester (57834-33-0)		
Not applicable		

Exposure controls

Appropriate engineering controls

: Ensure good ventilation of the work station.

Hand protection

: Wear suitable gloves resistant to chemical penetration.

Eye protection

: Wear eye/face protection.

Skin and body protection

: Wear suitable protective clothing.

Respiratory protection

: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls

: Avoid release to the environment.

Other information

: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state

: Liquid

Appearance

: No data available

Entropy Resins® High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Colour	: Colourless
Odour	: Mild
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 400 °F (204 °C) (760 mmHg) Estimated based on ingredient data.
Flash point	: > 200 °F (93 °C) (ASTM D92) Based on ASTM D92 test results from similar product.
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: < 1 (mmHg @ 20 °C) Estimated based on ingredient data.
Relative density	: 1.14 (water = 1)
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: >2149.1 mm ² /s @ 20 °C
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Other information	
Bulk density	: 9.50 lb/gal (1.14 kg/L)

SECTION 10: Stability and reactivity

Reactivity	: No dangerous reactions known under normal conditions of use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use. A mass of more than one pound of product plus an aliphatic amine will cause irreversible polymerization with significant heat buildup. Strong acids, bases, amines and mercaptans can cause polymerization.
Conditions to avoid	: Heat. Direct sunlight. Incompatible materials.
Incompatible materials	: Strong acids. Bases. Amines. Mercaptans.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon. Phenolics.

SECTION 11: Toxicological information

Information on toxicological effects

Bisphenol A-epichlorohydrin polymer (25068-38-6)	
LD50 oral rat	>15000 mg/kg
LD50 dermal rabbit	> 23000 mg/kg

Alkyl (C12-14) glycidyl ether (68609-97-2)	
LD50 oral rat	17000 mg/kg

Benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg
LC50 inhalation rat	> 4.18 mg/l/4h (aerosol)

Benzoic acid, 4[[(methylphenylamino) methylene] amino]-, ethyl ester (57834-33-0)	
LD50 oral rat	1000 - 2000 mg/kg

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.

Entropy Resins® High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Not classified.
Reproductive toxicity	: Not classified.
STOT-single exposure	: Not classified.
STOT-repeated exposure	: Not classified.
Aspiration hazard	: Not classified.

ONE Resin	
Viscosity, kinematic (calculated value)	>2149.1 mm ² /s @ 20 °C

Symptoms/effects after inhalation	: None under normal conditions. May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion	: None under normal conditions. May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

Toxicity

Ecology - general	: Toxic to aquatic life with long lasting effects.
--------------------------	--

Benzyl alcohol (100-51-6)	
LC50 fish 1	460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	23 mg/l (Exposure time: 48 h - Species: water flea)
LC50 fish 2	10 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Persistence and degradability

ONE Resin	
Persistence and degradability	Not established.

Bioaccumulative potential

ONE Resin	
Bioaccumulative potential	Not established.

Benzyl alcohol (100-51-6)	
Partition coefficient n-octanol/water	1.1

Mobility in soil

ONE Resin	
Ecology - soil	No additional information available.

Other adverse effects

Other information	: No other effects known.
--------------------------	---------------------------

Name	Product identifier	Ecotoxicity Classification Information
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	(CAS No) 25068-38-6	Aquatic Chronic Cat. 2
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	(CAS No) 68609-97-2	Not classified.
4-hydroxymethyl-1,3-dioxolan-2-one	(CAS No) 931-40-8	Not classified.
Benzyl alcohol	(CAS No) 100-51-6	Not classified.
Benzoic acid, 4[[(methylphenylamino) methylene] amino]-, ethyl ester	(CAS No) 57834-33-0	Not classified.

Entropy Resins® High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

SECTION 13: Disposal considerations

Waste treatment methods

Product/Packaging disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

SECTION 14: Transport information

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT/TDG

Not regulated

Transport by sea

In accordance with IMDG

UN-No. (IMDG) : 3082
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name - Addition : Epoxy Resin.
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG) : III
Marine pollutant : Yes

Transport by air

In accordance with IATA

UN-No. (IATA) : 3082
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name - Addition : Epoxy Resin.
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III
EmS-No. (1) : F-A, S-F
Marine pollutant : Yes

SECTION 15: Regulatory information

Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Benzoic acid, 4[[(methylphenylamino) methylene] amino]-, ethyl ester	CAS-No. 57834-33-0
--	--------------------

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories except for:

Benzoic acid, 4[[(methylphenylamino) methylene] amino]-, ethyl ester	CAS-No. 57834-33-0
--	--------------------

Bisphenol A-epichlorohydrin polymer (25068-38-6)

EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
--------------------------	---

4-Hydroxymethyl-1,3-dioxolan-2-one (931-40-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance.
--------------------------	--

Epichlorohydrin (106-89-8)

Listed on the United States SARA Section 302
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
SARA Section 313 - Emission Reporting	0.1 %

International regulations

No additional information available.

Entropy Resins® High Bio-based Laminating Epoxy Resin

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

US State regulations

⚠ WARNING This product can expose you to Epichlorohydrin, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Epichlorohydrin (106-89-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	Yes	9 µg/day

Benzyl alcohol (100-51-6)
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List

Epichlorohydrin (106-89-8)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Date of issue : 08/09/2018

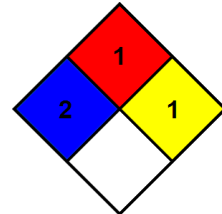
Revision date : 01/20/2023

Other information : None.

NFPA health hazard : 2

NFPA fire hazard : 1

NFPA reactivity : 1



Hazard Rating

Health : 2 Moderate Hazard

Flammability : 1 Slight Hazard

Physical : 1 Slight Hazard

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.