SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: .....Entropy Resins® Clear Laminating Epoxy Resin
APPLICABLE PRODUCT CODES: .....CLR, ER-CLR-QT, ER-CLR-2QT, ER-CLR-GAL, ER-CLR-5GAL, ER-CLR-D, ER-CLR-T
CHEMICAL FAMILY: .....Epoxy resin mixture.
INTENDED PRODUCT USES:.....Epoxy resin.
PRODUCT RESTRICTIONS: .....None identified.
SDS VERSION: CLR-2023a

MANUFACTURER:
Gougeon Brothers, Inc.
100 Patterson Ave.
Bay City, MI 48706, U.S.A.
Phone: 310-882-2120 or 989-684-7286
www.entropyresins.com

EMERGENCY TELEPHONE NUMBERS (24 HRS):
Transportation
CHEMTREC: ..... 800-424-9300 (U.S.)
703-527-3887 (International)
Non-transportation
Poison Hotline:..... 800-222-1222

2. HAZARDS IDENTIFICATION

Classification of Substance or Mixture

Skin corrosion/irritation, Category 2
Skin sensitizer, Category 1
Eye damage/irritation, Category 2A
Chronic aquatic toxicity, Category 2

Label Elements

Hazard Pictogram(s):

Signal Word:
WARNING

Hazard Statements:
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements:
Prevention
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical attention/advice.
P337 + P313 If eye irritation persists: Get medical attention/advice.
P362 + P364 Take off contaminated clothing and wash it before re-use.
P391 Collect spillage.
Disposal
P501 Dispose of contents/container in accordance with local, regional and international regulations.

Other Hazards
None known.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

INGREDIENT NAME	CAS #	CONCENTRATION (%)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	80-100
Formaldehyde, polymer with (chloromethyl)oxirane and phenol	9003-36-5	10-30

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	5-10
Benzyl alcohol	100-51-6	1-5
Benzoic acid, 4[{(methylphenylamino) methylene} amino]-, ethyl ester	57834-33-0	1-5

The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as a trade secret. Any ingredient not disclosed may have been determined not to pose a hazard, or may only be present in concentrations that do not require disclosure. Refer to Section 15 for any additional information regarding a CBI claim.

4. FIRST AID MEASURES

FIRST AID FOR EYES..... SYMPTOMS: Causes serious irritation and redness. RESPONSE: Flush immediately with water for at least 15 minutes. Remove contact lenses if present and easy to do. Consult a physician as precautionary measure.

FIRST AID FOR SKIN..... SYMPTOMS: Causes skin irritation. May cause allergic skin reaction and sensitization. RESPONSE: Remove contaminated clothing. Wipe excess from skin. Apply waterless skin cleaner and then wash with soap and water. Consult a physician if effects occur.

FIRST AID FOR INHALATION ..... SYMPTOMS: Not a likely route of exposure under normal conditions of use. RESPONSE: Remove to fresh air if respiratory irritation occurs and keep comfortable for breathing.

FIRST AID FOR INGESTION..... SYMPTOMS: No acute adverse health effects expected from amounts ingested under normal conditions of use. RESPONSE: Seek medical attention if a significant amount is ingested.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: ..... SUITABLE: Foam, carbon dioxide (CO_2), dry chemical. NON-SUITABLE: Direct water stream.

FIRE AND EXPLOSION HAZARDS: ..... During a fire, smoke may contain the original materials in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include, but are not limited to: phenolics, carbon monoxide, and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES:..... Wear a self-contained breathing apparatus and complete full-body personal protective equipment. Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES: ..... Keep unnecessary and unprotected personnel from entering area. Use appropriate safety and personal protective equipment as indicated in Section 8.

MITIGATION AND CLEAN UP PROCEDURES: ..... Stop leak without additional risk. Isolate area. Dike and absorb with inert material (*e.g.*, sand) and collect in a suitable, closed container. Warm, soapy water or non-flammable, safe solvent may be used to clean residual.

ENVIRONMENTAL PRECAUTIONS: ..... Prevent from entering into soil, ditches, sewers, waterways and groundwater. See Section 12 for environmental impact information.

7. HANDLING AND STORAGE

STORAGE TEMPERATURE (min./max.):..... 40°F (4°C) / 120°F (49°C)

STORAGE: ..... Store in cool, dry place. Store in tightly sealed containers to prevent moisture absorption and loss of volatiles. Excessive heat over long periods of time will degrade the resin.

HANDLING PRECAUTIONS: ..... Avoid all skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before reuse. Avoid inhalation of vapors from heated product. Precautionary steps should be taken when curing product in large quantities. When mixed with epoxy curing agents this product causes an exothermic, 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: ..... Use with adequate general ventilation and/or local ventilation to keep exposures below established limits.

EYE PROTECTION GUIDELINES:..... Safety glasses with side shields or chemical splash goggles.

SKIN PROTECTION GUIDELINES:..... Wear liquid-proof, chemical resistant gloves (nitrile-butyl rubber, neoprene, butyl rubber or natural rubber) and full body-covering clothing.

RESPIRATORY PROTECTION GUIDELINES: ..... When ventilation cannot be made adequate enough to keep exposures below established limits, use a NIOSH approved respirator with an organic vapor cartridge, or organic vapor cartridge + P100 particulate filter, depending on specific workplace conditions. Consult with your respirator and cartridge supplier to ensure proper selection of respirator and

cartridge based on ingredients listed in Section 3 and specific workplace conditions. Use and select a respirator according the guidelines established in OSHA 1910.134 or other applicable respiratory protection standard.

ADDITIONAL PROTECTIVE MEASURES: ..... Practice good caution and personal cleanliness to avoid skin and eye contact. Avoid skin contact when removing gloves and other protective equipment. Wash thoroughly after handling. Generally speaking, working cleanly and following basic precautionary measures will greatly minimize the potential for harmful exposure to this product under normal use conditions.

OCCUPATIONAL EXPOSURE LIMITS: ..... Exposure limits may not be established for this product as a whole. For established exposure limits of specific ingredients in this product, or other available exposure limit information, refer to the table below.

Ingredient Name	CAS#	Exposure Limit Information
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	No data available.
Formaldehyde, polymer with (chloromethyl)oxirane and phenol	9003-36-5	No data available.
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	No data available.
Benzyl alcohol	100-51-6	10 ppm (AIHA-WEEL)
Benzoic acid, 4[{(methylphenylamino) methylene} amino]-, ethyl ester	57834-33-0	No data available.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: ..... Viscous liquid.
COLOR: ..... Colorless.
ODOR: ..... Mild.
ODOR THRESHOLD: ..... No data available
pH ..... No data available
MELTING POINT / FREEZING POINT ..... No data available
BOILING POINT (760mm/Hg): ..... > 400°F (204˚C) Estimated based on ingredient data.
FLASH POINT: ..... >200°F (93˚C) Based on ASTM D92 test results from similar product.
AUTO IGNITION TEMPERATURE ..... No data available
LOWER EXPLOSIVE LIMIT (LEL) ..... No data available
UPPER EXPLOSIVE LIMIT (UEL) ..... No data available
VAPOR PRESSURE ..... No data available
SPECIFIC GRAVITY/DENSITY (water = 1) 1.14
BULK DENSITY ..... 9.50 lbs./gal. (1.14 kg/L)
VAPOR DENSITY (air = 1) ..... < 1 mmHg@ 20˚C. Estimated based on ingredient data.
EVAPORATIOIN RATE (Butyl Acetate = 1) ..... No data available
WATER SOLUBILITY (% BY WT.) ..... No data available
PARTITION COEFFICIENT, n-OCTANOL/WATER (log Pow) ..... No data available
KINEMATIC VISCOSITY: ..... 2017 mm^2/s @ 20˚C
DECOMPOSITION TEMPERATURE: ..... No data available.
% VOLATILE BY WEIGHT: ..... ASTM D 2369-07 was used to determine the Volatile Content of mixed epoxy resin and hardener. Refer to the hardener SDS for information about the total volatile content of the resin/hardener system.

10. STABILITY AND REACTIVITY

STABILITY: ..... Product is stable at normal temperatures and pressures.

REACTIVITY/HAZARDOUS REACTIONS: ..... Product will not react by itself. 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.

INCOMPATIBILITIES: ..... Strong acids, bases, amines and mercaptans can cause polymerization. External heating or self-heating could result in rapid temperature increase and pressure build up. If such a condition were to occur in a drum, the drum could expand and rupture violently.

CONDITIONS TO AVOID: ..... Avoid excessive heat.

DECOMPOSITION PRODUCTS: ..... Carbon monoxide, carbon dioxide and phenolics may be produced during uncontrolled exothermic reactions or when otherwise heated to decomposition.

11. TOXICOLOGICAL AND HAZARD ENDPOINT INFORMATION

Component Name	CAS#	LD_{50} Oral	LD_{50} Dermal	LC_{50} Inhalation
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	>15,000 mg/kg (rat)	>23,000 mg/kg (rabbit)	No data
Formaldehyde, polymer with (chloromethyl)oxirane and phenol	9003-36-5	>2,000 mg/kg (rat)	2,000 mg/kg (rat)	No data
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	17000 mg/kg (rat)	No data	No data
Benzyl alcohol	100-51-6	1620 mg/kg	No data	>4.18 mg/l; 4h aerosol

Benzoic acid, 4[{(methylphenylamino) methylene} amino]-, ethyl ester	57834-33-0	1000-2000 mg/kg	No data	No data

ACUTE TOXICITY: ..... No specific toxicity data exists for this mixture. Classification is based on acute toxicity estimation methods using ingredient data.
Oral: ..... Not classified. Based on available data does not meet acute oral toxicity criteria.
Dermal:..... Not classified. Based on available data does not meet acute dermal toxicity criteria.
Inhalation:..... Not classified. Based on available data does not meet acute inhalation toxicity criteria. If product is heated, vapors generated can cause headache, nausea, dizziness and possible respiratory irritation if inhaled in high concentrations.

SKIN CORROSION / IRRITATION:..... Causes skin irritation – Category 2.

SERIOUS EYE DAMAGE / IRRITATION: ..... Causes serious eye irritation. Category 2A.

RESPIRATORY SENSITIZATION: ..... Not classified. Based on available data does not meet criteria for respiratory sensitizer. Repeated exposure to high vapor concentrations may cause irritation of pre-existing lung allergies and increase the chance of developing allergy symptoms to this product.

SKIN SENSITIZATION:..... May cause allergic skin reaction. Category 1.

REPRODUCTIVE TOXICITY:..... Not classified. Based on available data does not meet classification criteria. Diglycidyl ether bisphenol-A, in animal studies, has been shown not to interfere with reproduction. Diglycidyl ether bisphenol-A did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.

MUTAGENICITY:..... Not classified. Based on available data does not meet criteria for germ cell mutagenicity.

Diglycidyl ether bisphenol-A in animal mutagenicity studies were negative. In vitro mutagenicity tests were negative in some cases and positive in others.

CARCINOGENICITY:..... Not classified. Based on available data does not meet criteria for carcinogenicity.

Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol-A. Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that Diglycidyl ether bisphenol-A is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that Diglycidyl ether bisphenol-A is not classified as a carcinogen.

Epichlorohydrin, an impurity in this product (<5 ppm) has been reported to produce cancer in laboratory animals and to produce mutagenic changes in bacteria and cultured human cells. It has been established by the International Agency for Research on Cancer (IARC) as a probable human carcinogen (Group 2A) based on the following conclusions: human evidence – inadequate; animal evidence – sufficient. It has been classified as an anticipated human carcinogen by the National Toxicology Program (NTP). Note: It is unlikely that normal use of this product would result in measurable exposure concentrations to this substance.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):..... Not classified. Based on available data does not meet STOT SE criteria.

SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure): ..... Not classified. Based on available data does not meet STOT RE criteria.

ASPIRATION HAZARD: ..... Not classified. Based on available data does not meet aspiration toxicity criteria.

OTHER HEALTH HAZARD INFORMATION: ..... None known.

12. ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY: ..... No specific test data available for the mixture. Calculated Estimate: Based on available data does not meet acute aquatic toxicity criteria.

CHRONIC AQUATIC TOXICITY: ..... No specific test data available for the mixture. Calculated Estimate: Aquatic Chronic Category 2.

PERSISTANCE AND BIODEGRADABILITY:..... No specific test data available for the mixture.

MOBILITY IN SOIL: ..... No specific test data available for the mixture.

ADDITIONAL ECOTOXICITY INFORMATION: ..... In the liquid, uncured state, this product may be harmful to aquatic life long lasting effects. Prevent release to the environment, sewers and natural waters.

Ingredient	CAS#	Ecotoxicity Classification Information

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Aquatic Chronic Cat. 2
Formaldehyde, polymer with (chloromethyl)oxirane and phenol	9003-36-5	Aquatic Chronic Cat. 2
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	Not Classified
Benzyl alcohol	100-51-6	Not Classified
Benzoic acid, 4[{(methylphenylamino) methylene} amino]-, ethyl ester	57834-33-0	Not Classified

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: ..... Evaluation of this product using RCRA criteria shows that it is not a hazardous waste, either by listing or characteristics, in its purchased form. It is the responsibility of the user to determine proper disposal methods.

Incinerate, recycle (fuel blending) or reclaim may be preferred methods when conducted in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

US DOT
UN NUMBER: ..... Not regulated.
SHIPPING NAME: ..... Not applicable.
TECHNICAL SHIPPING NAME: ..... Not applicable.
HAZARD CLASS: ..... Not applicable.
PACKING GROUP: ..... Not applicable.

CANADA TDG
UN NUMBER: ..... Not regulated.
SHIPPING NAME: ..... Not applicable.
TECHNICAL SHIPPING NAME: ..... Not applicable.
HAZARD CLASS: ..... Not applicable.
PACKING GROUP: ..... Not applicable.

ICAO/IATA
UN NUMBER: ..... UN 3082.
SHIPPING NAME: ..... Environmentally hazardous substance, liquid, n.o.s.
TECHNICAL SHIPPING NAME: ..... Epoxy Resin.
HAZARD CLASS: ..... Class 9.
PACKING GROUP: ..... PG III.
MARINE POLLUTANT: ..... Yes

IMDG
UN NUMBER: ..... UN 3082.
SHIPPING NAME: ..... Environmentally hazardous substance, liquid, n.o.s.
TECHNICAL SHIPPING NAME: ..... Epoxy Resin.
HAZARD CLASS: ..... Class 9.
PACKING GROUP: ..... PG III.
EmS Number: ..... F-A, S-F
MARINE POLLUTANT ..... Yes

15. REGULATORY INFORMATION

COUNTRY	INVENTORY LIST	STATUS
United States	TSCA	All ingredients are listed or otherwise compliant.
Europe	EINECS or ELINCS	All ingredients are listed or otherwise compliant.
Canada	CEPA (DSL/NDSL)	All ingredients are listed or otherwise compliant.
Australia	AICS	All ingredients are listed or otherwise compliant.
Japan	ENCS	All ingredients are listed or otherwise compliant.
South Korea	KECI	All ingredients are listed or otherwise compliant.
China	IECSC	All ingredients are listed or otherwise compliant.
Philippines	PICCS	All ingredients are listed or otherwise compliant.
New Zealand	NZIoC	All ingredients are listed or otherwise compliant.

US EPA TSCA Requirements: ..... No data available.

Canada WHMIS Confidential Business Information (CBI): ..... No data available.

US EPA SARA TITLE III Reporting and Notification Requirements:
Subject to Section 302 (TPQ) ..... No data available.
Subject to Section 304 (RQ) ..... No data available.
Subject to Section 311 or 312 ..... Refer to health and physical classifications in Section 2.
Subject to Section 313 ..... No data available.

STATE REGULATORY INFORMATION:

Chemicals listed below may be specifically regulated by individual states. For details on state regulatory requirements you should contact the appropriate state agency.

COMPONENT NAME /CAS NUMBER		STATE CODE
Benzyl alcohol 100-51-6		MA, PA, NJ
Epichlorohydrin 106-89-8	< 5ppm	[1]CA

[1.] These substances are known to the state of California to cause cancer or reproductive harm, or both.

16. OTHER INFORMATION

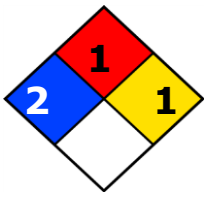
REASON FOR ISSUE: ..... Change to Section 1.
PREPARED BY: ..... Gougeon Brothers, Inc.
SDS CONTACT: ..... safety@entropyresins.com
TITLE: ..... Health, Safety & Environmental Manager
APPROVAL DATE: ..... January 19, 2023
SUPERSEDES DATE: ..... January 3, 2022
SDS VERSION: CLR-2023a

OTHER HAZARD INFORMATION AND RATING SYSTEMS:

HMIS® RATING

HEALTH:	**2**
FLAMMABILITY:	**1**
PHYSICAL HAZARD:	**1**
PERSONAL PROTECTION:	

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:
0 = Low or None; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe

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