Entropy Resins® BIOinfusion™ Resin QC

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)
Issue date: 7/24/2024 Revision date: 7/24/2024 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Product name : ER-BINF-QC
Product code : ER-BINF-QC, ER-BINF-QC-GAL, ER-BINF-QC-5GAL, ER-BINF-QC-15GAL, ER-BINF-QC-D

1.2. Recommended use and restrictions on use

Recommended use : Epoxy resin mixture

1.3. Supplier

Supplier
Gougeon Brothers, Inc
100 Patterson Ave.
Bay City, MI, 48706
U.S.A.
989-684-7286
www.entropyresins.com

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Acute Tox. 4 (Inhalation:vapor)	H332	Harmful if inhaled
Skin Irrit. 2	H315	Causes skin irritation
Eye Irrit. 2	H319	Causes serious eye irritation
Skin Sens. 1	H317	May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS CA labeling

Hazard pictograms (GHS CA) :

Signal word (GHS CA) : Warning

Hazard statements (GHS CA) : H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled

Precautionary statements (GHS CA) : P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 - Call a POISON CENTER or doctor if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

90.04% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (vapors))

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%
Bisphenol A-epichlorohydrin polymer	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane 4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane Epichlorohydrin-4,4'-isopropylidenediphenol resin Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane Epichlorohydrin-bisphenol A resin 4,4'-Isopropylidenediphenol-epichlorohydrin polymer Diphenylolpropane-epichlorohydrin resin Polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane 2,2-Bis(4-hydroxyphenyl)propane-epichlorohydrin copolymer Poly(bisphenol A/epichlorohydrin) Bisphenol A-epichlorohydrin, reaction product 4,4'-ISOPROPYLIDENEDIPHENOL/EPICHLOROHYDRIN COPOLYMER UP 5-207 Epoxy adhesive UP 5-207 Poly[2-(chloromethyl)oxirane-alt-4,4'-(propane-2,2-diyl)diphenol] (Chloromethyl)oxirane, 4,4'-(1-methylethylidene)bisphenol copolymer Epichlorohydrin/bisphenol A copolymer Polymer mainly composed of epichlorohydrin/bisphenol A Reaction product: bisphenol A-epichlorohydrin 4,4'-Isopropylidenediphenol/epichlorohydrin copolymer Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	CAS-No.: 25068-38-6	60 – 80

Name	Chemical name / Synonyms	Product identifier	%
Formaldehyde, polymer with (chloromethyl)oxirane and phenol	Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol Polymer, formaldehyde with (chloromethyl)oxirane and phenol Phenolic epoxy resin F-44 Formaldehyde, polymer with 2-(chloromethyl)oxirane and phenol Epoxy phenol novolac Phenol condensation products, with 1-chloro-2,3-epoxypropane and formaldehyde Epichlorohydrin-phenol-formaldehyde polymer Formaldehyde-epichlorohydrin-phenol copolymer Phenol-formaldehyde-epichlorohydrin copolymer Reaction product of 2-(chloromethyl)oxirane and phenol/formaldehyde polycondensate Epichlorohydrin/phenol/formaldehyde copolymer Epichlorohydrin/bisphenol F copolymer Polymer of: 2-(chloromethyl)oxirane; formaldehyde; phenol	CAS-No.: 9003-36-5	10 – 30
Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis-	1,4-Bis(2,3-epoxypropoxy)butane Butane, 1,4-bis(2,3-epoxypropoxy)- Butane-1,4-diol diglycidyl ether 1,4-Butanediol diglycidyl ether 1,4-Butanediol bis(2,3-epoxypropyl) ether 2,2'-(1,4-Butanediylbis(oxymethylene))bis(oxirane) 2,2'-[1,4-Butanediylbis(oxymethylene)]bis(oxirane) 1,4-Diglycidyloxybutane Diglycidyl ether of 1,4-butanediol Butanediol diglycidyl ether 1,4-Bis(oxiran-2-ylmethoxy)butane 1,4-Bis(2,3 epoxypropoxy)butane	CAS-No.: 2425-79-8	5 – 10

Name	Chemical name / Synonyms	Product identifier	%
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Alkyl (C12-14) glycidyl ether C12-14-Alkyl glycidyl ether Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. Mono[(C12-14-alkyloxy)methyl]-oxirane derivatives Oxirane, 2-((C12-14-alkyloxy)methyl) derivatives Alkyl(C12-14) glycidyl ether Oxirane, 2-[(C12-14-alkyloxy)methyl] derivatives	CAS-No.: 68609-97-2	5 – 10

Comments : 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

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician 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 : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Harmful if inhaled. 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 : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : 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

5.1. Suitable extinguishing media

Suitable extinguishing media : Carbon dioxide (CO2), dry chemical powder, foam.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use water jet.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Irritating vapors. Phenolics.

5.4. Special protective equipment and precautions for fire-fighters

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

6.1. 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.

6.2. Methods and materials for containment and cleaning up

For containment : 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.

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

6.3. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Do not swallow. Avoid breathing dust/fume/gas/mist/vapors/spray. Handle and open container with care. When using do not eat, drink or smoke. Protect from moisture. 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. Do not handle at temperatures >40 °C (104°F), unless wearing appropriate protective equipment.

Hygiene measures : Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Wash hands, forearms and face thoroughly after handling.

7.2. 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. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves resistant to chemical penetration. Consult glove manufacturer's product information on material suitability and material thickness. Examples of preferred glove barrier materials include: Nitrile rubber (NBR). Neoprene. natural rubber gloves. butyl rubber gloves

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. SDSs cannot provide detailed and complete respiratory protection guidelines. Selection of respiratory protection must be done by a qualified person who has assessed the work environment. organic vapor cartridge + P100 particulate filter.

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

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Viscous.
Color	:	No data available
Odor	:	Mild.
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	>204 °C
Flash point	:	> 93 ° C Based on ASTM D92 test results from similar product
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Not flammable
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1.14 g/l
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Viscosity, kinematic	:	1257 mm2/s at 20 °C
Explosion limits	:	No data available

Formaldehyde, polymer with (chloromethyl)oxirane and phenol (9003-36-5)	
Vapor pressure	0 Pa (at 20 °C)

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. (68609-97-2)	
Flash point	159 °C Atm. press.: 100,96 other:

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
Boiling point	293.6 °C Atm. press.: 97,4 kPa Decomposition: 'yes'
Flash point	140 °C Atm. press.: 101,3 kPa
Vapor pressure	0.245 Pa (at 25 °C)

9.2. Other information

No additional information available

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 : 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. Incompatible materials.
Incompatible materials : Strong acids. strong bases. amines. Mercaptans.
Hazardous decomposition products : May include, and are not limited to: oxides of carbon. Irritating vapors. Phenolics.
Hardening time: : No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Inhalation:vapor: Harmful if inhaled.

BINF- QC	
ATE CA (vapors)	11.935 mg/l/4h
Unknown acute toxicity (GHS CA)	0.15% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 90.04% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (vapors))

Bisphenol A-epichlorohydrin polymer (25068-38-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	2200 mg/kg
ATE CA (Dermal)	2200 mg/kg body weight

Formaldehyde, polymer with (chloromethyl)oxirane and phenol (9003-36-5)	
LD50 oral rat	> 30000 mg/kg

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. (68609-97-2)	
LD50 oral rat	19000 mg/kg
LD50 dermal rabbit	> 4500 mg/kg
ATE CA (oral)	19000 mg/kg body weight

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
LD50 oral rat	1134 mg/kg (Source: NLM_CIP)
LD50 dermal rat	> 2150 mg/kg (Source: ECHA_API)
LD50 dermal rabbit	1130 mg/kg
LC50 inhalation rat	250 ppm 6h
ATE CA (oral)	1134 mg/kg body weight
ATE CA (Dermal)	1130 mg/kg body weight
ATE CA (Gases)	250 ppmV/4h
ATE CA (vapors)	11 mg/l/4h
ATE CA (dust,mist)	1.5 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. (68609-97-2)	
NOAEL (animal/female, F0/P)	200 mg/kg body weight Animal: rat, Animal sex: female, Guideline: EPA OTS 798.4420 (Preliminary Developmental Toxicity Screen)
NOAEL (animal/female, F1)	200 mg/kg body weight Animal: rat, Animal sex: female, Guideline: EPA OTS 798.4420 (Preliminary Developmental Toxicity Screen)

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
NOAEL (oral,rat,90 days)	200 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents), Guideline: other:OPPTS Guideline 870.3050

Aspiration hazard : Not classified

D-Based Infusion Resin QC	
Viscosity, kinematic	1257 mm2/s at 20 °C

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
Viscosity, kinematic	15.2 mm²/s Temp.: '20°C' Parameter: 'kinematic viscosity (in mm²/s)'

Symptoms/effects after inhalation : Harmful if inhaled. 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 : 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

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
LC50 - Fish [1]	24 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)

Ingredient	CAS#	Ecotoxicity Classification Information
Bisphenol A-epichlorohydrin polymer	25068-38-6	Not available
Formaldehyde, polymer with (chloromethyl)oxirane and phenol	9003-36-5	Aquatic Chronic Cat. 2
Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis-	2425-79-8	Aquatic Chronic Category 3
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	Aquatic Chronic Cat. 2

12.2. Persistence and degradability

BINF-QC	
Persistence and degradability	Not established.

Bisphenol A-epichlorohydrin polymer (25068-38-6)	
Persistence and degradability	Rapidly degradable

Formaldehyde, polymer with (chloromethyl)oxirane and phenol (9003-36-5)	
Persistence and degradability	Rapidly degradable

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. (68609-97-2)	
Persistence and degradability	Rapidly degradable

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

BINF-QC	
Bioaccumulative potential	Not established.

Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. (68609-97-2)	
Partition coefficient n-octanol/water	3.77 (at 20 °C)

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis- (2425-79-8)	
Partition coefficient n-octanol/water	-0.269 (at 25 °C (at pH 6.7)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone : Not classified

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

SECTION 14: Transport information

In accordance with TDG / IMDG / IATA

14.1. UN number

UN-No. (TDG) : Not applicable
UN-No. (IMDG) : 3082
UN-No. (IATA) : 3082

14.2. UN proper shipping name

Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.(Epoxy Resin)

14.3. Transport hazard class(es)

TDG
Transport hazard class(es) (TDG) : Not applicable
Hazard labels (TDG)

IMDG
Transport hazard class(es) (IMDG) : 9
Hazard labels (IMDG) : 9
:

IATA
Transport hazard class(es) (IATA) : 9
Hazard labels (IATA) : 9
:

14.4. Packing group

Packing group (TDG) : Not applicable
Packing group (IMDG) : III
Packing group (IATA) : III

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

TDG
No data available

IMDG

EMS Number : F-A, S-F

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List).

None of the components of this product are listed on the Canadian NDSL (Non-domestic Substances List) inventory.

15.2. International regulations

No additional information available

SECTION 16: Other information

Issue date : 07/24/2024

Revision date : 07/24/2024

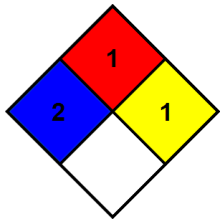
Other information : None.

Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Safety Data Sheet (SDS), Canada

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