

Entropy Resins® Clear Extra Fast Hardener

Safety Data Sheet

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

Issue date: 04/03/2020

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Version: CHS-CLX-2023A

SECTION 1: Identification

Identification

Product form : Mixture
Product name : Entropy Resins®Clear Extra Fast Hardener
Product code : CEH-CLX, CEH-CLX-QT, CEH-CLX-2QT, CEH-CLX-GAL, CEH-CLX-2.5GAL, CEH-CLX-5GAL, CEH-CLX-HD, CEH-CLX-D, CEH-CLX-T

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

Recommended use : Curing agent for epoxy resins

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
www.entropyresins.com

Distributor

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

Acute Tox. 4 (Oral)
Skin Corr. 1B
Eye Dam. 1
Skin Sens. 1
Aquatic Acute 3
Aquatic Chronic 3

Label elements

Hazard pictograms (GHS)



GHS05

GHS07

Signal word (GHS)

Danger

Hazard statements (GHS)

Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Harmful to aquatic life with long lasting effects.

Precautionary statements (GHS)

Do not breathe dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. 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 swallowed: rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Store locked up. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Other hazards

No additional information available

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Unknown acute toxicity

30% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

SECTION 3: Composition/information on ingredients

Substances

Not applicable

Mixtures

Name	Product identifier	%
1,3-Cyclohexanedimethanamine	(CAS-No.) 2579-20-6	30-60
Benzyl alcohol	(CAS-No.) 100-51-6	10-30
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and 1,3-cyclohexanedimethanamine	(CAS-No.) 60112-98-3	10-30
Isophoronediamine	(CAS-No.) 2855-13-2	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** : If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- First-aid measures after skin contact** : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER/doctor.
- 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. Immediately call a POISON CENTER/doctor.
- First-aid measures after ingestion** : IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER/doctor.

Most important symptoms and effects, both acute and delayed

- Symptoms/effects after inhalation** : Causes burns to the respiratory system.
- Symptoms/effects after skin contact** : Causes severe skin burns. Symptoms may include redness, pain, blisters. May cause an allergic skin reaction.
- Symptoms/effects after eye contact** : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.
- Symptoms/effects after ingestion** : Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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 (CO₂). Dry chemical.
- Unsuitable extinguishing media** : Do not use water jet.

Special hazards arising from the substance or mixture

- Fire hazard** : Products of combustion may include, and are not limited to: oxides of carbon. Oxides of nitrogen. Volatile amines. Ammonia. Nitric acid. Aldehydes. Phenolics. When mixed with sawdust, wood chips, or other cellulosic material, spontaneous combustion can occur under certain conditions. Heat is generated as the air oxidizes the amine. If the heat is not dissipated quickly enough, it can ignite the sawdust.
- Reactivity** : No dangerous reactions known under normal conditions of use. Thermal decomposition generates : Corrosive vapours.

Advice for firefighters

- Protection during firefighting** : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

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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

Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. 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, wood chips or other cellulosic materials to absorb the spill, as the possibility for spontaneous combustion exists.

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

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 : Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Use personal protective equipment (PPE). Use only in well ventilated areas. When mixed with epoxy resin 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. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store locked up. Protect from moisture.

Storage temperature : Do not store at temperatures above 90°F (32°C). Do not store at temperatures below 40°F (4°C).

SECTION 8: Exposure controls/personal protection

Control parameters

1,3-Cyclohexanedimethanamine (2579-20-6)
Not applicable
Benzyl alcohol (100-51-6)
10 ppm (AIHA-WEEL)
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and 1,3-cyclohexanedimethanamine (60112-98-3)
Not applicable
Isophoronediamine (2855-13-2)
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 : Chemical goggles or face shield. 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.

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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	: Clear liquid
Colour	: Clear
Odour	: Amonia-like
Odour threshold	: No data available
pH	: 11.1
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 400 °F (204 °C) (760 mm/Hg)
Flash point	: > 200 °F (93 °C) estimated based similar product.
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 1.03 (water = 1)
Density	: 8.58 lb/gal (1.03 kg/L)
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	: 378 mm ² /s @ 20 °C (68 °F)
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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	: No dangerous reactions known under normal conditions of use. A mass of more than one pound of product plus an epoxy resin will cause irreversible polymerization with significant heat buildup and pressure.
Conditions to avoid	: Heat. Incompatible materials.
Incompatible materials	: Acids. oxidizing materials. Halogenated compounds.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon. Thermal decomposition generates : Corrosive vapours. Oxides of nitrogen. Volatile amines. Ammonia. Nitric acid. Phenolics.

SECTION 11: Toxicological information

Information on toxicological effects

1,3-Cyclohexanedimethanamine (2579-20-6)	
LD50 oral rat	700 – 780 mg/kg
LD50 dermal rabbit	1700 mg/kg
Benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg
LC50 inhalation rat	> 4.18 mg/l/4h (aerosol)

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Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and 1,3-cyclohexanedimethanamine (60112-98-3)
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Refer to 1,3-cyclohexanedimethanamine for this data.

Isophoronediamine (2855-13-2)	
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LD50 oral rat	1030 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5.01 mg/l/4h mist

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.
Skin corrosion/irritation	: Causes severe skin burns. pH: 11.1
Serious eye damage/irritation	: Causes serious eye damage. pH: 11.1
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.

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Viscosity, kinematic (calculated value) (40 °C)	378 mm ² /s @ 20 °C
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Symptoms/effects after inhalation	: Causes burns to the respiratory system.
Symptoms/effects after skin contact	: Causes severe skin burns. Symptoms may include redness, pain, blisters. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns.
Symptoms/effects after ingestion	: Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

Toxicity

Ecology - general	: Harmful to aquatic life with long lasting effects.
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Benzyl alcohol (100-51-6)	
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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])

Isophoronediamine (2855-13-2)	
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EC50 Daphnia 1	14.6 – 21.5 mg/l (Exposure time: 48 h - Species: Daphnia magna [semi-static])
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Persistence and degradability

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Persistence and degradability	Not established.
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Bioaccumulative potential

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Bioaccumulative potential	Not established.
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Benzyl alcohol (100-51-6)	
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Partition coefficient n-octanol/water	1.1
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Isophoronediamine (2855-13-2)

Partition coefficient n-octanol/water 0.79 (at 23 °C)

Mobility in soil

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Ecology - soil No additional information available.

Other adverse effects

Other information : No other effects known.

Name	CAS-No.	Ecotoxicity Classification Information
1,3-Cyclohexanedimethanamine	2579-20-6	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 3
Benzyl alcohol	100-51-6	Not classified
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and 1,3-cyclohexanedimethanamine	60112-98-3	Refer to 1,3-cyclohexanedimethanamine for this data
Isophoronediamine	2855-13-2	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 3

SECTION 13: Disposal considerations

Waste treatment methods

Product/Packaging disposal recommendations : Avoid release to the environment. 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

UN-No.(DOT/TDG) : UN2735
Proper Shipping Name (DOT/TDG) : Polyamines, liquid, corrosive, n.o.s.
Class (DOT/TDG) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT/TDG) : III

Transport by sea

In accordance with IMDG

UN-No. (IMDG) : 2735
Proper Shipping Name (IMDG) : POLYAMINES, LIQUID, CORROSIVE, N.O.S.
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : III
Marine pollutant : No

Transport by air

In accordance with IATA

UN-No. (IATA) : 2735
Proper Shipping Name (IATA) : Polyamines, liquid, corrosive, n.o.s.
Class (IATA) : 8 - Corrosives
Packing group (IATA) : III
Marine pollutant : No

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.

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.

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Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and 1,3-cyclohexanedimethanamine (60112-98-3)	
EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance. XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).

International regulations

1,3-Cyclohexanedimethanamine (2579-20-6)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Benzyl alcohol (100-51-6)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Isophoronediamine (2855-13-2)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane and 1,3-cyclohexanedimethanamine (60112-98-3)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Benzyl alcohol (100-51-6)
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List
Isophoronediamine (2855-13-2)
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

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Other information : None.

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