# **Entropy Resins® Compression Molding Fast** Hardener

## 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: 07/12/2018 Revision date: 10/18/2023 Version: CEH-CPF-2023A

## **SECTION 1: Identification**

Identification

**Product form** : Mixture

**Product name** : Entropy Resins® Compression Molding Fast Hardener

**Product code** CEH-CPF, CEH-CPF-QT, CEH-CPF-2QT, CEH-CPF-GAL, CEH-CPF-2.5GAL, CEH-CPF-

5GAL, CEH-CPF-HD, CEH-CPF-D, CEH-CPF-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 Distributor

Gougeon Brothers, Inc 100 Patterson Ave. Bay City, MI 48706 - U.S.A. T 310-882-2120 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 Corr. 1C Eye Dam. 1 Resp. Sens. 1 Skin Sens. 1 Repr. 2 STOT RE 2 Aquatic Acute 3 Aquatic Chronic 2

### Label elements

### Hazard pictograms (GHS)









GHS09

Signal word (GHS)

Danger

### Hazard statements (GHS)

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

# Precautionary statements (GHS)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, fume, gas, mist, spray, vapours. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear eye protection, face protection, protective clothing, protective gloves. In case of inadequate ventilation wear respiratory 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. If exposed or concerned: Get medical advice/attention. Immediately call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. Get medical advice/attention if you feel unwell. If

10/18/2023 EN (English) Page 1

## Safety Data Sheet

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

experiencing respiratory symptoms: Call a poison center/doctor. Take off contaminated clothing and wash it before reuse. Collect spillage. Store locked up. Dispose of contents/container according to local, state, national and international regulations

#### Other hazards

No additional information available

### Unknown acute toxicity

Not applicable

## **SECTION 3: Composition/information on ingredients**

### **Substances**

Not applicable

### **Mixtures**

Name	Product identifier	%
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine	(CAS-No.) 68082-29-1	30 - 60
Isophoronediamine	(CAS-No.) 2855-13-2	10 - 30
Triethanolamine	(CAS-No.) 102-71-6	10 - 30
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane	(CAS-No.) 26950-63-0	10 - 30
Triethylenetetramine	(CAS-No.) 112-24-3	1 - 10
Piperazine	(CAS-No.) 110-85-0	1 - 5
1-Piperazineethanamine	(CAS-No.) 140-31-8	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.

### **SECTION 4: First-aid measures**

Description	of firet	aid me	SOLITOR

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

or 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 or doctor.

## Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : Causes burns to the respiratory system. May cause allergy or asthma symptoms or breathing

difficulties if inhaled.

Symptoms/effects after skin contact : Causes severe skin burns. Symptoms may include redness, pain, blisters. May cause an allergic skin reaction.

allergic skiri 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 : May be 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. Dry chemical.Unsuitable extinguishing media: Do not use a heavy water stream.

10/18/2023 EN (English) 2/8

## Safety Data Sheet

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

### Special hazards arising from the substance or mixture

Fire hazard

: Products of combustion may include, and are not limited to: oxides of carbon. Nitrogen oxides. Amines. Ammonia. Nitric acid. Aldehydes. 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.

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

### **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

: 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

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe dust, fume, gas, mist, spray, vapours. Do not swallow. Handle and open container with care. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Wear personal protective equipment. 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. 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 dry, cool, well-

ventilated area. Avoid high temperatures. Protect from moisture. Store locked up. Protect from

sunlight.

Storage temperature :  $40 - 90 \,^{\circ}\text{F} / 4 - 32 \,^{\circ}\text{C}$ 

### **SECTION 8:** Exposure controls/personal protection

## **Control parameters**

Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine (68082-29-1)		
Not applicable		
Isophoronediamine (2855-13-2)		
Not applicable		
Triethanolamine (102-71-6)		
ACGIH	ACGIH TWA (mg/m³)	5 mg/m³

10/18/2023 EN (English) 3/8

# Safety Data Sheet

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

Triethylenetetramine (112-24-3)		
AIHA WEEL	WEEL TWA (ppm; mg/m³)	1 ppm; 6 mg/m³; Absorbed via skin
Piperazine (110-85-0)		
ACGIH	ACGIH TWA (mg/m³)	0.03 mg/m³ (inhalable fraction and vapor)
1-Piperazineethanamine (140-31-8)		
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 : Clear
Colour : Amber
Odour : Ammonia like
Odour threshold : No data available

**pH** : 11.47

Melting point: No data availableFreezing point: No data available

Boiling point : > 400 °F (204 °C) (760 mmHg) estimated based on similar product.

Flash point : > 200 °F (93 °C) estimated based on similar product.

Relative evaporation rate (butylacetate=1) : No data available Flammability (solid, gas) : No data available

Vapour pressure : < 1 mmHg @ 20 °C / 68 °F estimated based on ingredient data

Relative vapour density at 20 °C : No data available
Relative density : 0.94 (water = 1)
Solubility : Appreciable.
Partition coefficient n-octanol/water : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available

Viscosity, kinematic : 1761 mm $^2$ /s @ 25  $^{\circ}$ C / 77  $^{\circ}$ F

Viscosity, dynamic: No data availableExplosive limits: No data availableExplosive properties: No data availableOxidising properties: No data available

Other information

**VOC content** : 3.31 g/l (CPM/CPF); 1.20 g/l (305/CPF)

Bulk density : 7.81 lb/gal (0.97 kg/L)

### **SECTION 10: Stability and reactivity**

Reactivity : No dangerous reactions known under normal conditions of use.

Chemical stability : Stable under normal conditions.

10/18/2023 EN (English) 4/8

# Safety Data Sheet

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

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. Heating will cause a rise in pressure with a risk of bursting.

Conditions to avoid : Heat. Direct sunlight. Incompatible materials.

Incompatible materials : Acids. Oxidizing materials. Halogenated compounds.

Hazardous decomposition products : May include, and are not limited to: oxides of carbon. Toxic fumes. Toxic gases. Nitrogen

oxides. Amines. Ammonia. Nitric acid. Nitrosamines.

## **SECTION 11: Toxicological information**

Information on toxicological effects

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

1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxiran (26950-63-0)	
LD50 oral rat	>2000 mg/kg (ATE)
LD50 dermal rabbit	>2000 mg/kg (ATE)

Triethanolamine (102-71-6)	
LD50 dermal rabbit	> 22000 mg/kg

Triethylenetetramine (112-24-3)	
LD50 oral rat	1716 mg/kg
LD50 dermal rabbit	1465 mg/kg

Piperazine (110-85-0)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	8300 mg/kg

1-Piperazineethanamine (140-31-8)	
LD50 oral rat	2108 mg/kg
LD50 dermal rabbit	866 mg/kg

Acute toxicity (oral): Not classified.Acute toxicity (dermal): Not classified.Acute toxicity (inhalation): Not classified.

Skin corrosion/irritation : Causes severe skin burns

pH: 11.47

Serious eye damage/irritation : Causes serious eye damage.

pH: 11.47

**Respiratory or skin sensitization** : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an

allergic skin reaction.

Germ cell mutagenicity : Not classified.
Carcinogenicity : Not classified.

Ethanol, 2,2',2"-nitrilotris- (102-71-6)	
IARC group 3 - Not classifiable	

**Reproductive toxicity** : Suspected of damaging fertility or the unborn child.

**STOT-single exposure** : Not classified.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure

Aspiration hazard : Not classified.

ĺ	CPF Hardener	
	Viscosity, kinematic (calculated value) (40 °C)	1761 mm²/s @ 25 °C / 77 °F

Symptoms/effects after inhalation : Causes burns to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

10/18/2023 EN (English) 5/8

# Safety Data Sheet

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

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 : May be 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** : Toxic to aquatic life with long lasting effects.

Isophoronediamine (2855-13-2)			
EC50 Daphnia 1	14.6 - 21.5 mg/l (Exposure time: 48 h - Species: Daphnia magna [semi-static])		
Triethanolamine (102-71-6)			
LC50 fish 1	10600 - 13000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])		
EC50 Daphnia 1	1386 mg/l		
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])		
ErC50 (algae)	169 mg/l		
NOEC chronic crustacea	16 mg/l		
Triethylenetetramine (112-24-3)			
LC50 fish 1	570 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])		
EC50 Daphnia 1	31.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)		
LC50 fish 2	495 mg/l (Exposure time: 96 h - Species: Pimephales promelas)		
Piperazine (110-85-0)			
LC50 fish 1	> 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])		
1-Piperazineethanamine (140-31-8)			
LC50 fish 1	1950 - 2460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])		
EC50 Daphnia 1	32 mg/l (Exposure time: 48 h - Species: Daphnia magna)		
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])		

### Persistence and degradability

CPF Hardener	
Persistence and degradability	Not established.

### Bioaccumulative potential

odcountriality e potential			
CPF Hardener			
Bioaccumulative potential	Not established.		
Isophoronediamine (2855-13-2)			
Partition coefficient n-octanol/water	0.79 (at 23 °C / 73 °F)		
Ethanol, 2,2',2"-nitrilotris- (102-71-6)			
BCF fish 1	< 3.9		
Partition coefficient n-octanol/water	-2.53		
Triethanolamine (102-71-6)			
BCF fish 1	(no bioaccumulation expected)		
Partition coefficient n-octanol/water	-1.4		
Piperazine (110-85-0)			
BCF fish 1	0.3 - 3.9		
1-Piperazineethanamine (140-31-8)			
BCF fish 1	(no bioaccumulation expected)		
Partition coefficient n-octanol/water	-1.48		

## Mobility in soil

CPF Hardener	
Ecology - soil	No additional information available.

10/18/2023 EN (English) 6/8

## Safety Data Sheet

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

### Other adverse effects

Other information : No other effects known.

Name	Product identifier	Ecotoxicity Classification Information
Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine	(CAS-No.) 68082-29-1	Not classified.
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane	(CAS-No.) 26950-63-0	Aquatic Acute Cat. 3, Aquatic Chronic Cat. 3
Isophoronediamine	(CAS-No.) 2855-13-2	Aquatic Acute Cat. 3, Aquatic Chronic Cat. 3
Triethanolamine	(CAS-No.) 102-71-6	Not classified.
Triethylenetetramine	(CAS-No.) 112-24-3	Aquatic Chronic Cat. 3
Piperazine	(CAS-No.) 110-85-0	Aquatic Acute Cat. 3
1-Piperazineethanamine	(CAS-No.) 140-31-8	Aquatic Acute Cat. 3, Aquatic Chronic Cat. 3

## **SECTION 13: Disposal considerations**

Waste treatment methods

**Product/Packaging disposal**This material must be disposed of in accordance with all local, state, provincial, and federal recommendationsThis 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.

Proper Shipping Name - Addition : Isophoronediamine

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.

Proper Shipping Name - Addition : Isophoronediamine Class (IMDG) : 8 - Corrosive substances

Packing group (IMDG) : III
EmS-No. (1) : F-A, S-B
Marine pollutant : Yes

Transport by air

In accordance with IATA

UN-No. (IATA) : 2735

Proper Shipping Name (IATA) : Polyamines, liquid, corrosive, n.o.s.

Proper Shipping Name - Addition : Isophoronediamine Class (IATA) : 8 - Corrosives

Packing group (IATA) : III
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.

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.

10/18/2023 EN (English) 7/8

## Safety Data Sheet

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

Fatty acids, C18-unsaturated, dimers, polymers with tall-oil fatty acids and triethylenetetramine (68082-29-1)		
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reportin Rule, (40 CFR 711).	
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane (26950-63-0)		
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).	

### International regulations

No additional information available

### **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

### Isophoronediamine (2855-13-2)

U.S. - New Jersey - Right to Know Hazardous Substance List

#### Triethanolamine (102-71-6)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

### Triethylenetetramine (112-24-3)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

### Piperazine (110-85-0)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

## 1-Piperazineethanamine (140-31-8)

- U.S. Massachusetts Right To Know List
- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

## **SECTION 16: Other information**

 Date of issue
 : 07/12/2018

 Revision date
 : 10/18/2023

 Version
 : CEH-CPF-2022a

Other information : None.

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.

10/18/2023 EN (English) 8/8