

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:.....CPI Hardener
APPLICABLE PRODUCT CODES:EH-CPI, EH-CPI-2, EH-CPI-5, EH-CPI-6
CHEMICAL FAMILY:.....Polyamine mixture.
INTENDED PRODUCT USES:.....Curing agent for epoxy resins.
PRODUCT RESTRICTIONS:.....None identified.
SDS VERSION:EH-CPI-2018a

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 sensitizer, Category 1
Eye damage/irritation, Category 1
Chronic aquatic toxicity, Category 3

Label Elements

Hazard Pictogram(s):



Signal Word:
DANGER

Hazard Statements:

H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H412 Harmful to aquatic life with long lasting effects

Precautionary Statements:

Prevention

P261 Avoid breathing dust/fumes/mist/vapors/spray
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 water and soap.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call POISON CONTROL CENTER or doctor.
P333 + P313 If skin irritation or rash occurs: Get medical attention/advice
P362 + P364 Take off contaminated clothing and wash before reuse.

Disposal

P501 Dispose of contents and container according to local, state, national and International regulations

Other Hazards

None known.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

INGREDIENT NAME	CAS #	CONCENTRATION (%)
Triethylenetetramine, reaction products with propylene oxide	26950-63-0	75-100
Triethylenetetramine	112-24-3	1-25

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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 health or environmental hazard, or may only be present in concentrations that do not require disclosure. Refer to Section 15 for additional information regarding any CBI claim.

4. FIRST AID MEASURES

FIRST AID FOR EYES:..... SYMPTOMS: Causes eye burns and eye damage. RESPONSE: Flush immediately with water for at least 15 minutes. Remove contact lenses if present and easy to do. Immediately call a POISON CONTROL CENTER or doctor.

FIRST AID FOR SKIN:..... SYMPTOMS: May cause mild skin irritation. May cause allergic reaction. RESPONSE: Wash skin with soap and water. If skin irritation or rash occurs: Get medical attention/advice. NOTE TO PHYSICIANS: Corticosteroid cream has been effective in treating skin irritation and rash.

FIRST AID FOR INHALATION:..... SYMPTOMS: None known or expected under normal conditions of use. Excessive exposure may cause mild irritation. RESPONSE: Remove to fresh air if effects occur. Seek medical assistance if symptoms develop and persist.

FIRST AID FOR INGESTION:..... SYMPTOMS: May cause mild gastrointestinal irritation if significant amounts are ingested. RESPONSE: Rinse mouth with water. Prevent aspiration of vomit. Seek medical assistance if symptoms develop and persist.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:..... SUITABLE: Foam, carbon dioxide (CO₂), dry chemical, limestone powder. 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: oxides of nitrogen, carbon monoxide, carbon dioxide, volatile amines, ammonia. 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.

SPECIAL FIRE FIGHTING PROCEDURES:..... Use full-body protective gear and a self-contained breathing apparatus. Use of water may generate toxic aqueous solutions. Do not allow water run-off from fighting fire to enter drains or other water courses.

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, diatomaceous earth) and collect in a suitable, closed container. Do not use sawdust, wood chips or other cellulosic materials to absorb the spill, as the possibility for spontaneous combustion exists. Warm, soapy water 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) / 90°F (32°C).

STORAGE:..... Store in cool, dry place away from high temperatures and moisture. Keep container tightly closed. Store away from incompatible materials listed in Section 10.

HANDLING PRECAUTIONS:..... Use with adequate ventilation. Do not breathe vapors or mists from heated material. Avoid exposure to concentrated vapors. Avoid all skin and eye contact. Wash hands thoroughly after handling. 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.

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:..... Chemical splash-proof goggles or face shield.

SKIN PROTECTION GUIDELINES:..... Wear liquid-proof, chemical resistant gloves (nitrile-butyl rubber, neoprene, butyl rubber or natural rubber). Body protective clothing should be used as needed based on the task being performed and the potential for exposure.

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, organic vapor cartridge + P100, or a multi-contaminant

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cartridge, 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 to the guidelines established in OSHA 1910.134 or other applicable respiratory protection standard.

ADDITIONAL PROTECTIVE MEASURES:..... Use where there is immediate access to safety shower and emergency eye wash. Wash thoroughly after use. Contact lens should not be worn when working with this material. 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
Triethylenetetramine, reaction products with propylene oxide	26950-63-0	No data available.
Triethylenetetramine	112-24-3	AIHA WEEL TWA: 1 ppm; 6 mg/ m3; Absorbed via skin

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Liquid.
COLOR: Amber.
ODOR: Ammonia-like
ODOR THRESHOLD: No data available
pH: 11.4
MELTING POINT / FREEZING POINT No data available.
BOILING POINT (760mm/Hg): > 400°F (204°C)
FLASH POINT: 347°F (175°C)
AUTO IGNITION TEMPERATURE No data available.
LOWER EXPLOSIVE LIMIT (LEL) No data available.
UPPER EXPLOSIVE LIMIT (UEL) No data available.
VAPOR PRESSURE <1.33 hPa @ 21°C.
SPECIFIC GRAVITY/DENSITY (water = 1) 1.01 (20°C).
BULK DENSITY 8.44 lbs./gal. (1.01 kg/L)
VAPOR DENSITY (air = 1) No data available.
EVAPORATION RATE (Butyl Acetate = 1) No data available.
WATER SOLUBILITY (% BY WT.) Soluble.
PARTITION COEFFICIENT, n-OCTANOL/WATER (log Pow) No data available.
KINEMATIC VISCOSITY: 821.7 (mm²/s @ 22°C)
DECOMPOSITION TEMPERATURE: No data available
% VOLATILE BY WEIGHT: ASTM 2369-07 was used to determine the Volatile Matter Content of mixed epoxy resin and hardener. The combined VOC content for the resin and hardener system is listed below.

Resin/Hardener	VOC Content	
	(g/L)	(lbs/gal)
305 / CPI	1.47	0.01

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 mixed with an epoxy resin will cause irreversible polymerization with significant heat buildup. Strong acids can cause polymerization.

INCOMPATIBILITIES: Avoid acids, oxidizing materials, halogenated organic compounds (e.g., methylene chloride). 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: Very toxic fumes and gases when burned or otherwise heated to decomposition. Decomposition products may include, but not limited to: oxides of carbon, oxides of nitrogen, volatile amines, ammonia.

11. TOXICOLOGICAL INFORMATION

Ingredient Name	CAS#	LD ₅₀ Oral	LD ₅₀ Dermal	LC ₅₀ Inhalation
Triethylenetetramine, reaction products with propylene oxide	26950-63-0	4190 mg/kg	>2000 mg/kg	No data available
Triethylenetetramine	112-24-3	1716 mg/kg	1465 mg/kg	No data available

Note: Results in this table were derived using the appropriate rat and rabbit species unless otherwise noted.

ACUTE TOXICITY: Acute toxicity data does not exist for this mixture.
 Oral: Not classified. Based on available data product does not meet acute oral toxicity classification criteria. Ingestion may result in mild gastrointestinal tract irritation

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Dermal: Not classified. Based on available data product does not meet acute dermal toxicity classification criteria.

Inhalation: Not classified. Based on available data product does not meet acute inhalation toxicity classification criteria.

SKIN CORROSION / IRRITATION: Not classified. Based on available data product does not meet classification criteria.

SERIOUS EYE DAMAGE / IRRITATION: Category 1. Causes serious, irreversible eye damage. Effects may be immediate.

RESPIRATORY SENSITIZATION: Not classified. Based on available data product does not meet classification criteria.

SKIN SENSITIZATION: Category 1. May cause allergic reaction.

REPRODUCTIVE TOXICITY: Not classified. Based on available data product does not meet classification criteria.

MUTAGENICITY: Not classified. Based on available data product does not meet classification criteria. Results from a battery of short term genotoxicity tests on this material or its components indicate mutagenic activity. Due to lack of sufficient data this product is not classified.

CARCINOGENICITY: Not classified. Based on available data product does not meet classification criteria. No ingredient of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC, NTP, ACGIH or OSHA.

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

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

ASPIRATION HAZARD: Not classified. Based on available data product does not meet classification criteria.

OTHER HEALTH HAZARD INFORMATION: No data available.

12. ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY: Not classified. Based on available data product does not meet classification criteria.

CHRONIC AQUATIC TOXICITY: Category 3. Harmful to aquatic life with long lasting effects.

PERSISTANCE AND BIODEGRADABILITY: No data available.

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 with long lasting effects. Prevent release to the environment, sewers and natural waters.

Ingredient	CAS#	Ecotoxicity Classification Information
Triethylenetetramine, reaction products with propylene oxide	26950-63-0	Not classified
Triethylenetetramine	112-24-3	Chronic Aquatic Cat. 3

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.

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MARINE POLLUTANT: 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.
 MARINE POLLUTANT: Not applicable.

IMDG

UN NUMBER: Not regulated.
 SHIPPING NAME: Not applicable.
 TECHNICAL SHIPPING NAME: Not applicable.
 HAZARD CLASS: Not applicable.
 PACKING GROUP: Not applicable.
 EmS Number: Not applicable.
 MARINE POLLUTANT: Not applicable.

ICAO/IATA

UN NUMBER: Not regulated.
 SHIPPING NAME: Not applicable.
 TECHNICAL SHIPPING NAME: Not applicable.
 HAZARD CLASS: Not applicable.
 PACKING GROUP: Not applicable.
 MARINE POLLUTANT: Not applicable.

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/NDL)	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	TCCL	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.

US EPA TSCA Specific 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 the health and physical classifications in Section 2.
 Subject to Section 313 No data available.

US STATE REGULATORY INFORMATION:

The following chemicals 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

Triethylenetetramine
 112-14-3

PA, MA, NJ

16. OTHER INFORMATION

REASON FOR ISSUE: Updates to all Sections.
 PREPARED BY: Gougeon Brothers, Inc.
 SDS CONTACT: safety@gougeon.com
 TITLE: Health, Safety & Environmental Manager
 APPROVAL DATE: August 24, 2018
 SUPERSEDES DATE: February 14, 2018
 SDS VERSION: EH-CPI-2018a

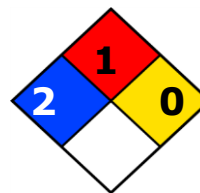
OTHER HAZARD INFORMATION AND RATING SYSTEMS:

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HMIS® RATING

HEALTH:	2
FLAMMABILITY:	1
PHYSICAL HAZARD:	0
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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