

# Change Climate

Bio-Epoxy SDS

CCBE: Part A

October 2021

**SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**

Product name	Bio-Epoxy CCBE: Part A
Synonyms	Bio epoxy resin
Product Code	Part A
Company	CHANGE CLIMATE Pty Ltd 6 Hamden Road Mount Barker South Australia 5251 Australia
ABN	65 147 909 751
Competent person responsible for this SDS	Dr Stephen Clarke stephen@cooe.com.au
Emergency telephone number	+61 417 778 020
Study	Original information for this SDS was provided by the University of South Australia.

**SECTION 2 HAZARDS IDENTIFICATION****2.1** *Classification of the substance or mixture*  
EC regulation criteria

Warning, Eye Irritant, Category 2A, Causes serious eye irritation



Warning, Skin Irritant, Category 2, Causes skin irritation



Warning, Skin Sensitivity, Category 1, May cause an allergic skin reaction



Warning, STOT Single Exposure, Category 3, May cause respiratory irritation



Warning, Acute Toxicity, Category 4, Harmful if swallowed



Danger, Eye Damage, Category 1, Causes serious eye damage

Adverse physicochemical, human health and environmental effects:  
No other hazards

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## 2.2 Label Elements

Hazard pictograms



GHS07

GHS05

**Signal Word** Warning & Danger

### **Hazard Statements**

- H319 Causes serious eye irritation
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H335 May cause respiratory irritation
- H302 Harmful if swallowed
- H318 Causes serious eye damage

### **Precautionary Statements**

- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product
- P280 Wear protective gloves, protective clothing and eye protection
- P301, P312 IF SWALLOWED: Call a physician or a Poisons Information Centre if you feel unwell
- P305, P312, 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 a physician or a Poisons Information Centre
- P330 Rinse mouth.
- P501 Dispose of contents and container in accordance with local, regional and national regulations.

Special provisions:

None

Contains:

CC-macromonomer  
1,2,3-tris(2,3-epoxypropoxy)propane

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

## 2.3 Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards













## **SECTION 3 COMPOSITION INFORMATION ON INGREDIENTS**

### **3.1 Substances**

N.A.

### **3.2 Mixtures**

Hazardous components within the meaning of the CLP regulation and related classification:

<b>Chemical Entity</b>	<b>CAS NO.</b>	<b>EC Number</b>	<b>Proportion</b>	<b>Classification</b>
CC-macromonomer	2624116-23-8	Not assigned	5-55%	 H319 Eye Irritant 2  H315 Skin Irritant 2  H317 Skin Sensitivity 1  H335 STOT SE 3  H302 Acute Toxicity 4  H318 Eye Damage 1
1,2,3-tris(2,3-epoxypropoxy)propane	13236-02-7	236-211-1	45-100%	 H319 Eye Irritant 2  H315 Skin Irritant 2  H317 Skin Sensitivity 1  H335 STOT SE 3  H302 Acute Toxicity 4  H318 Eye Damage 1

## **SECTION 4 FIRST AID MEASURES**

### **4.1 Eye contact**

- In case of contact with substance, immediately flush eyes with running water at least 20 minutes.

### **4.2 Skin contact**

- In case of contact with substance, immediately flush skin with running water at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.
- Wash contaminated clothing and shoes before reuse.
- Get immediate medical advice/attention.

### **4.3 Inhalation**

- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Specific medical treatment is urgent.
- Move victim to fresh air.
- Administer oxygen if breathing is difficult.

### **4.4 Ingestion**

- Do not let him/her eat anything, if unconscious.
- Get immediate medical advice/attention.

### **4.5 Indication of immediate medical attention and notes for physician**

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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

- Harmful if swallowed.
- Causes serious eye damage.

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## **SECTION 5 FIRE-FIGHTING MEASURES**

### **5.1 Suitable (and unsuitable) extinguishing media**

- Suitable extinguishing media: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO<sub>2</sub>
- Unsuitable extinguishing media: High pressure water streams

### **5.2 Specific hazards arising from the chemical**

- May be ignited by heat, sparks or flames.
- Containers may explode when heated.
- Some of these materials may burn, but none ignite readily.

### **5.3 Fire will produce irritating and/or toxic gases.**

- Special protective equipment and precautions for fire-fighters
- Dike fire-control water for later disposal; do not scatter the material
- Move containers from fire area if you can do it without risk.
- Fire involving Tanks; Cool containers with flooding quantities of water until well after fire is out.
- Fire involving Tanks; Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Fire involving Tanks; Always stay away from tanks engulfed in fire.

## **SECTION 6 ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

- Eliminate all ignition sources.
- Stop leak if you can do it without risk.
- Please note that materials and conditions to avoid.
- Ventilate the area.
- Do not touch or walk through spilled material.

### **6.2 Prevent dust cloud.**

- Environmental precautions and protective procedures
- Prevent entry into waterways, sewers, basements or confined areas.

### **6.3 The methods of purification and removal**

- Small Spill; Flush area with flooding quantities of water. And take up with sand or other non-combustible absorbent material and place into containers for later disposal.
- Large Spill; Dike far ahead of liquid spill for later disposal.
- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

## **SECTION 7 HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

- Please note that materials and conditions to avoid.
- Wash thoroughly after handling.
- Please work with reference to engineering controls and personal protective equipment.
- Be careful to high temperature.

### **7.2 Conditions for safe storage**

- Store in a closed container.
- Store in cool and dry place.

### **7.3 Specific end use(s)**

- None in particular

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## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

#### 8.1 Occupational Exposure limits

- ACGIH regulation : Not available
- OSHA regulation : Not available
- NIOSH regulation : Not available
- EU regulation : Not available

#### 8.2 Appropriate engineering controls

- Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

#### 8.3 Personal protective equipment

##### A. Respiratory protection :

- Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.
- In case exposed to liquid material, the respiratory protective equipments as follow are recommended. escape full facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) or escape half facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) or direct full facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) half facepiece gas mask (of use for acid gas, in case of acid gas for organic compounds) or powered air-purifying gas mask.
- In lack of oxygen(< 19.5%), wear the supplied-air respirator or self-contained oxygen breathing apparatus.

##### B. Eye protection :

- Wear facepiece with goggles to protect.
- An eye wash unit and safety shower station should be available nearby work place.
- Wear the protective glasses or breathable safety goggles to protect from vaporous state organic material causing eye irritation or other disorder.
- An eye wash unit and safety shower station should be available nearby work place.

##### C. Hand protection :

- Wear chemical resistant gloves.
- Wear appropriate protective gloves by considering physical and chemical properties of chemicals.

##### D. Body protection :

- Wear appropriate protective chemical resistant clothing.
- Wear appropriate protective clothing by considering physical and chemical properties of chemicals.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	Viscous liquid – CCBE (Part A): 700 – 41,000cP @ 20°C
BioBased content (ASTM D6866)	CCBE (Part A): 92 -99 %
Epoxy Equivalent Weight (EEW)	CCBE (Part A): 145 g/eq - 195 g/eq
Colour	Colourless

## Safety data

pH	6 - 8
pK <sub>a</sub>	13.0 – 13.5
Melting point	Approx -50°C at atmospheric pressure
Boiling point	Approx 280°C at atmospheric pressure
Flash point	158.7 °C (209°C – Cleveland Open Cup)
Vapour Pressure	0.4 Pa @ 20°C 0.58 Pa @ 25°C
Vapour conc <sup>n</sup> from liquid held in a sealed vessel.	3.9 ppm (0.00039 % by vol) @ 20°C 5.7 ppm (0.00057% by vol) @ 25°C
Ignition temperature	387 °C @ atmospheric pressure
Lower explosion limit	no data available
Upper explosion limit	no data available
Density	CCBE (Part A): 1.220 – 1.250 g/cm <sup>3</sup> @ 20°C
Water solubility	Approx. 50 g/ L @room temperature
Log Pow	-1.94 @ 25°C
Surface tension	47.5nN/m (1g/L @ 20°C)

## SECTION 10 STABILITY AND REACTIVITY

### 10.1 Chemical stability and Possibility of hazardous reactions

- Fire may produce irritating and/or toxic gases.
- Inhalation of material may be harmful.

### 10.2 Conditions to avoid

- Ignition sources (heat, sparks or flames)

### 10.3 Incompatible materials

- Combustibles

### 10.4 Hazardous decomposition products

- Irritating and/or toxic gases

## SECTION 11 TOXICOLOGICAL INFORMATION

<b>Acute toxicity</b>	Oral LD50 (rat) – 1800mg/kg
<b>Inhalation / Aspiration</b>	No data available
<b>Irritation and corrosion</b>	no data available
<b>Skin / Sensitisation</b>	P.I.I. 3/1 (Moderate skin irritation) Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
<b>Eye damage / irritation</b>	No data available
<b>Chronic exposure</b> - IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>Germ Cell Mutagenicity</b>	Positive (Ames test/Salmonella TA – 100)
<b>Carcinogenicity</b>	<b>IARC, NTP &amp; OSHA:</b> No data available
<b>Reproductive Toxicity</b>	No data available

<b>Specific Target Organ Toxicity – Single Exposure:</b>	No data available
<b>Specific Target Organ Toxicity – Repeated Exposure:</b>	No data available
<b>Signs and Symptoms of Exposure</b>	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
<b>Potential Health Effects</b>	<p><b>Inhalation:</b> May be harmful if inhaled. Causes respiratory tract irritation.</p> <p><b>Skin:</b> May be harmful if absorbed through skin. Causes skin irritation.</p> <p><b>Eyes:</b> Causes serious eye irritation.</p> <p><b>Ingestion:</b> May be harmful if swallowed.</p>

## SECTION 12 ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)	no data available
Ecotoxicity effects	no data available
Bioaccumulation potential	no data available
Mobility effects	no data available
Other adverse effects	no data available

## SECTION 13 DISPOSAL CONSIDERATIONS

### 13.1 Disposal method

- Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### 13.2 Disposal precaution

- Consider the required attentions in accordance with waste treatment management regulation.

## SECTION 14 TRANSPORT INFORMATION

Land transport (UN RTDG/ADR/RID)	Not applicable
Inland waterway transport (UN RTDG/ADN(R))	Not applicable
Marine transport (UN RTDG/IMDG)	Not applicable
Air transport (UN RTDG/ICAO/IATA)	Not applicable

## SECTION 15 REGULATORY INFORMATION

Labelling according to EC Directives



## 15.1 Safety, health and environmental regulations specific for the product in question

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European Inventory of Existing Commercial Chemical Substances (EINECS)	Listed.
EC Inventory	Listed.
United States Toxic Substances Control Act (TSCA) Inventory	Listed.
China Catalog of Hazardous chemicals 2015	Not Listed.
New Zealand Inventory of Chemicals (NZIoC)	Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Not Listed.
Vietnam National Chemical Inventory	Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)	Listed.

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

## SECTION 16 OTHER INFORMATION

### Information on revision

Creation Date	Jun 24, 2015
Revision Date	Oct, 15, 2021

### Full text of phrases referred to in Section 3:

- H319 Causes serious eye irritation
- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H335 May cause respiratory irritation
- H302 Harmful if swallowed
- H318 Causes serious eye damage

Warning, Eye Irritant, Category 2A, Causes serious eye irritation

Warning, Skin Irritant, Category 2, Causes skin irritation

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Warning, STOT Single Exposure, Category 3, May cause respiratory irritation

Warning, Acute Toxicity, Category 4, Harmful if swallowed

Danger, Eye Damage, Category 1, Causes serious eye damage

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

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## References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

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