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CHO-BOND® 360

SDS No PHC-056 EU

SDS Revision Date (dd/mm/yyyy): 02/11/2023

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended.

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

1.1 Product identifier : CHO-BOND® 360

Product Code(s) : 50-00-0360-0020; 50-01-0360-0020

SDS No. : PHC-056 EU

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

: Conductive adhesive.

Use pattern: professional use

Refer to restrictions found in REACH Annex XVII item 75.

1.3 Details of the supplier of the safety data sheet:

Parker Hannifin Ltd.

Engineered Materials Group

Chomerics Division Europe

Unit 6 Century Point

Halifax Road

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Bucks, HP12 3SL

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E-mail: chomerics_europe@parker.com

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Parker Hannifin Manufacturing France SAS

ZAC des Epineaux

7 avenue Louis Blériot

95740 Frépillon, France

Telephone : 033 (01) 34 32 39 00

Email: parker.france@parker.com

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1.4 Emergency Telephone Number

: INFOTRAC: (800) 535-5053 (Within Continental US and Canada); + 001 (352)

323-3500 (International)

Poisons Information Centre

The United Kingdom NHS 111

France +33 3 83 85 21 92

Germany +49 30 18412-0

Spain +34 917689800

Italy

06 68593726 (CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza - Roma) 800

183459 (Az. Osp. Univ. Foggia - Foggia)

081 5453333 (Az. Osp. "A. Cardarelli" - Napoli)

06 49978000 (CAV Policlinico "Umberto I" - Roma)

06 3054343 (CAV Policlinico "A. Gemelli" - Roma)

055 7947819 (Az. Osp. "Careggi" U.O. Tossicologia Medica - Firenze)

0382 24444 (CAV Centro Nazionale di Informazione Tossicologica - Pavia) 02

66101029 (Osp. Niguarda Ca' Granda - Milano)

800 883300 (Azienda Ospedaliera Papa Giovanni XXII - Bergamo)

1.5 National Contact

: E-mail: chomerics_europe@parker.com

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SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Liquid - grey. Mild odour.

Most important hazards:

Excessive heating above 50°C / 122°F may degrade the resin component.

Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

Harmful to aquatic life with long lasting effects. Avoid release to the environment. See Section 12 for more environmental information.

This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:

Skin corrosion/irritation - Category 2; H315

Eye damage/irritation - Category 2; H319

Skin sensitization - Category 1; H317

Germ cell mutagenicity - Category 2; H341

Hazardous to the aquatic environment; Chronic aquatic hazard - Category 3; H412

2.2 Label elements

Hazard pictogram(s)



Hazardous components which must be listed on the label:

Reaction product: bisphenol-A-(epichlorohydrin); 2,3-epoxypropyl o-tolyl ether

Signal word:

Warning!

Hazard statements:

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H317 - May cause an allergic skin reaction.

H341 - Suspected of causing genetic defects.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements:

P201 - Obtain special instructions before use.

P280 - Wear protective gloves/clothing and eye/face protection.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 - Take off contaminated clothing and wash it before reuse.

P501 - Dispose of contents/container in accordance with local regulation.

Supplemental Hazard Statements:

None required according to Regulation (EC) No. 1272/2008.



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2.3 Other hazards

Other hazards which do not result in classification:

Excessive heating above 50°C / 122°F may degrade the resin component. May release peroxides on exposure to light and air, or on contact with incompatibles. Rate of peroxide formation is not known. Burning produces obnoxious and toxic fumes. Mild respiratory irritant. Inhalation of fumes may result in metal fume fever, a flu-like illness. May cause gastrointestinal irritation. Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

Endocrine disrupting properties: May cause endocrine disruption.

PBT assessment:

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature - Mixture of: Metal compounds; Epoxy resin; Ether.

The following substances shall be indicated according to legislation:

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE
Copper	7440-50-8	231-159-6	Not applicable.	80.0 - 95.0	not hazardous. Substances for which there are Member Country workplace exposure limits.	Not applicable.
Reaction product: bisphenol-A- (epichlorohydrin)	25068-38-6	500-033-5	Not applicable.	5.0 - 10.0	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	Not applicable.
silver	7440-22-4	231-131-3	Not applicable.	3.0 - 7.0	not hazardous. Substances for which there are Community workplace exposure limits.	Not applicable.

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2,3-epoxypropyl o-tolyl ether	2210-79-9	218-645-3	Not applicable.	1.0 - 3.0	Skin Irrit. 2; H315 Skin Sens. 1; H317 Muta. 2; H341 Aquatic Chronic 2; H411	Not applicable.
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For the full text of the H phrases not mentioned in this Section or in Section 2, see Section 16.

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. IF exposed or concerned: Get medical attention/advice.
- Inhalation* : If breathed in, move person into fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. IF exposed or concerned: Get medical attention/advice.
- Skin contact* : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
- 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.

4.1.2 Self-protection for the first aider

- : None known or reported by the manufacturer.

4.2 Most important symptoms and effects, both acute and delayed

- : Causes skin irritation. Contact may cause redness, swelling and a painful sensation. Causes serious eye irritation. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema. Suspected of causing genetic defects. Mild respiratory irritant. May cause coughing and breathing difficulties. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Carbon dioxide (CO2); Dry chemical; Alcohol resistant foam; Water spray .

Unsuitable extinguishing media

- : None known.

5.2 Special hazards arising from the substance or mixture

- : Not considered flammable. However, may burn if exposed to extreme heat and flame. After prolonged storage, may release explosive peroxides in the presence of air. Rate of peroxide formation is not known. The pressure in sealed containers can increase under the influence of heat. Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Metal oxides; formaldehyde; Phenol; Aldehydes; Other unidentified organic compounds.

5.3 Advice for firefighters

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Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not get water inside containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Wear appropriate protective equipment. Restrict access to area until completion of clean-up.

6.2 Environmental precautions

- : Avoid release to the environment. Prevent product from entering drains, sewers, waterways and soil.

6.3 Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities.

6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted. Ensure adequate ventilation. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Avoid breathing dust, mist or vapours. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10).

7.3 Specific end use(s)

- : Adhesive

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:



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<u>Chemical Name</u>	<u>Exposure Limits</u>	<u>Type</u>	<u>Notes</u>
2,3-epoxypropyl o-tolyl ether	None known.	European Union (OEL)	None.
	N/Av	Germany (OEL)	N/Av
Copper	1 mg/m ³ (TWA)	Finland (OEL)	None.
	0.2 mg/m ³ (fumes); 1 mg/m ³ (dust) (TWA)	France (OEL)	None.
	2 mg/m ³ (dust) (STEL)		
	1 mg/m ³ ; 0.1 mg/m ³ (fumes) (TWA)	Hungary (OEL)	None.
	4 mg/m ³ ; 0.4 mg/m ³ (fumes) (STEL)		
	0.2 mg/m ³ (TWA)	Poland (OEL)	None.
	0.2 mg/m ³ (fumes); 1 mg/m ³ (dust) (TWA)	Spain (OEL)	None.
	1 mg/m ³ (total dust); 0.2 mg/m ³ (respirable dust)	Sweden (OEL)	None.
	0.2 mg/m ³ (fumes); 1 mg/m ³ (dust) (TWA)	The United Kingdom (WELs)	None.
Reaction product: bisphenol-A-(epichlorohydrin)	2 mg/m ³ (dust) (STEL)		
	N/Av	European Union (OEL)	N/Av
	N/Av	Germany (OEL)	N/Av
	N/Av	Spain (OEL)	N/Av
silver			
	0.1 mg/m ³ (TWA)	European Union (OEL)	None.
	0.1 mg/m ³ (TWA)	Finland (OEL)	None.
	0.1 mg/m ³ (TWA)	France (OEL)	None.
	0.1 mg/m ³ (inhalable) (TWA)	Germany (OEL)	(exposure factor 8)
	0.1 mg/m ³ (TWA)	Hungary (OEL)	None.
	0.4 mg/m ³ (STEL)		
	0.1 mg/m ³ (TWA)	Italy (OEL)	None.
	0.05 mg/m ³ (TWA)	Poland (OEL)	None.
	0.1 mg/m ³ (TWA)	Spain (OEL)	None.
	0.1 mg/m ³ (TWA)	Sweden (OEL)	None.
	0.1 mg/m ³ (TWA)	The United Kingdom (WELs)	None.

Biological Exposure Indices:

No biological exposure limits noted for the ingredient(s).

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Derived No Effect Level (DNEL):

(7440-50-8) workers dermal systemic effects long term exposure 137 mg/kg bw/day ; workers dermal systemic effects acute/short term exposure 273 mg/kg bw/day

(7440-22-4) general population inhalation systemic effects long term exposure 0.04 mg/m³; workers inhalation systemic effects long term exposure 0.1 mg/m³ ; general population oral systemic effects long term exposure 1.2 mg/kg bw/day

(2210-79-9) workers dermal systemic effects long term exposure 6 mg/kg bw/day ; workers inhalation systemic effects long term exposure 21.12 mg/m³; workers inhalation systemic effects acute/short term exposure 42.24 mg/m³

Predicted No Effect Concentration (PNEC):

(7440-50-8) 7.8 µg/L (freshwater); 5.2 µg/L (marine water); 87 mg/kg (sediment (freshwater)); 676 mg/kg (sediment (marine water)); 230 µg/L PNEC (sewage treatment); 65 mg/kg (soil)

(7440-22-4) 0.04 µg/L (freshwater); 0.86 µg/L (marine water); 438.13 mg/kg (sediment (freshwater)); 438.13 mg/kg (sediment (marine water)); 0.025 mg/L (sewage treatment); 1.41 mg/kg (soil)

(2210-79-9) 2.8 µg/L (freshwater); 0.28 µg/L (marine water); 28 µg/L (freshwater (intermittent releases)); 0.039 mg/kg (sediment (freshwater)); 0.0039 mg/kg (sediment (marine water)); 10 mg/L (sewage treatment); 0.012 mg/kg (soil)

8.2 Exposure controls

Ventilation and engineering measures

- : Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used. Advice should be sought from respiratory protection specialists.

Skin protection

- : Wear protective gloves/clothing. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it. Wear resistant clothing and boots.

Eye / face protection

- : Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary. See also EN 166.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

- : Avoid breathing dust, mist or vapours. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing must not be allowed out of the workplace.

8.3 Environmental exposure controls

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	: Liquid - grey
Colour	: grey
Odour	: mild
Odour threshold	: No information available.
pH	: No information available.
Flash point	: > 93.3°C
Flashpoint (Method)	: closed cup



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Lower flammable limit (% by vol.)

: No information available.

Upper flammable limit (% by vol.)

: No information available.

Auto-ignition temperature

: No information available.

Decomposition temperature

: No information available.

Oxidizing properties

: None known.

Explosive properties

: Not explosive

Initial boiling point and boiling range

: No information available.

Melting/Freezing point

: No information available.

Relative density

: > 1

Solubility in water

: insoluble

Other solubility(ies)

: No information available.

Vapour pressure

: No information available.

Vapour density

: No information available.

Partition coefficient: n-octanol/water

: No information available.

Viscosity

: No information available.

Evaporation rate (BuAe = 1)

: No information available.

Particle characteristics

: Not applicable.

9.2 Other Information

Volatiles (% by weight) : No information available.

Volatile organic Compounds (VOC's)

: No information available.

Other physical/chemical comments

: No additional information.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under normal conditions. After prolonged storage, may release explosive peroxides in the presence of air. Rate of peroxide formation is not known. Excessive heating above 50°C / 122°F may degrade the resin component.

10.3 Possibility of hazardous reactions

: Hazardous polymerization does not occur.

10.4 Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

10.5 Incompatible materials

: Strong oxidizing agents; Strong acids; Strong bases; Amines; Mercaptans

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10.6 Hazardous decomposition products

- : Peroxides
Burning produces obnoxious and toxic fumes. In the event of fire the following can be released: Carbon oxides; Metal oxides; formaldehyde; Phenol; Aldehydes; Other unidentified organic compounds.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.

Skin corrosion/Irritation : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Skin corrosion/irritation - Category 2. Causes skin irritation.

Serious eye damage/irritation

- : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Eye damage/irritation - Category 2. Causes serious eye irritation.

Respiratory or skin sensitisation

- : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Skin sensitization - Category 1. May cause an allergic skin reaction.
May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.
Not expected to be a respiratory sensitizer.

Germ cell mutagenicity : This mixture is classified as hazardous in accordance with Regulation (EC) No 1272/2008. Classification:
Germ cell mutagenicity - Category 2. Suspected of causing genetic defects.
Contains: 2,3-epoxypropyl o-tolyl ether (o-Cresyl glycidyl ether). o-Cresyl glycidyl ether induced a reproducible, dose-related increase in the His+ revertant frequency in Salmonella tester strains TA1535 and TA100, without rodent liver S9 metabolic activation. Therefore, the test substance is considered a direct-acting gene-mutagen in Salmonella under the conditions of the study. These positive findings suggest that the test substance induced repairable DNA damage in human lymphocytes.

Carcinogenicity : Contains no ingredient listed as a carcinogen.

Reproductive toxicity : Contains no ingredient listed as toxic to reproduction.

STOT-single exposure : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.

STOT-repeated exposure : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.

Routes of exposure : Eye contact; Skin contact; Inhalation; Ingestion



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Effects of acute exposure : Inhalation: Mild respiratory irritant. May cause coughing and breathing difficulties. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.

Skin contact: Causes skin irritation. Contact may cause redness, swelling and a painful sensation.

Eye contact: Causes serious eye irritation. Symptoms may include severe pain, tearing, redness, swelling and blurred vision.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

11.1.1 Acute Toxicity

Toxicological data : No data is available on the product itself. See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Copper	> 5.11 mg/L (dust) (No mortality)	> 2500 mg/kg	> 2000 mg/kg
Reaction product: bisphenol-A- (epichlorohydrin)	No information available.	11 400 mg/kg	> 2000 mg/kg (No mortality)
silver	> 5.16 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	> 2000 mg/kg (No mortality)
2,3-epoxypropyl o-tolyl ether	> 6.09 mg/L (mist)	> 5000 mg/kg	> 2000 mg/kg (No mortality)

11.2 Information on other Hazards

: Silver in the form of a finely divided dust may cause discoloration in contact with skin, and argyrosis in case of inhalation.

11.2.1 Endocrine disrupting properties : May cause endocrine disruption. 11.2.2 Other hazards : none

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

: Harmful to aquatic life with long lasting effects. No data is available on the product itself. Should not be released into the environment. The product contains the following substances which are hazardous for the environment: Reaction product: bisphenol-A-(epichlorohydrin). This product also contains: Copper. The acute toxicity of copper to aquatic species varies drastically by the chemical form and correlates with the availability of free ionic copper. Aquatic toxicity is highly variable not only by organism but with physical and chemical characteristics of the water itself.

See the following tables for individual ingredient ecotoxicity data.



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Ecotoxicity data:

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Copper	7440-50-8	No information available.	No information available.	None.
Reaction product: bisphenol-A-(epichlorohydrin)	25068-38-6	3.4 mg/L (Rainbow trout)	No information available.	None.
silver	7440-22-4	No information available.	No information available.	None.
2,3-epoxypropyl o-tolyl ether	2210-79-9	2.8 - 5.1 mg/L (Rainbow trout)	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Copper	7440-50-8	No information available.	No information available.	None.
Reaction product: bisphenol-A-(epichlorohydrin)	25068-38-6	1.1 - 2.8 mg/L (Daphnia magna)	0.3 mg/L (Read-across)	None.
silver	7440-22-4	No information available.	No information available.	None.
2,3-epoxypropyl o-tolyl ether	2210-79-9	16 mg/L (Daphnia magna)	No information available.	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Copper	7440-50-8	No information available.	No information available.	None.
Reaction product: bisphenol-A-(epichlorohydrin)	25068-38-6	9.4 mg/L/72hr (Green algae) (Read-across)	2.8 mg/L/72hr (Read-across)	None.
silver	7440-22-4	No information available.	No information available.	None.
2,3-epoxypropyl o-tolyl ether	2210-79-9	5.1 mg/L/72hr (Green algae)	No information available.	None.

12.2 Persistence and degradability

- : The product itself has not been tested.
Contains the following chemicals which are not readily biodegradable: Copper; silver; Reaction product: bisphenol-A-(epichlorohydrin); 2,3-epoxypropyl o-tolyl ether.

12.3 Bioaccumulation potential

- : The product itself has not been tested. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Reaction product: bisphenol-A-(epichlorohydrin) (CAS 25068-38-6)	> 2.915	31
2,3-epoxypropyl o-tolyl ether (CAS 2210-79-9)	2.5	No information available.



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CHO-BOND® 360

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12.4 Mobility in soil : The product itself has not been tested.

12.5 Results of PBT and vPvB assessment

: This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Endocrine disrupting properties

: None known or reported by the manufacturer.

12.7 Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.8 Additional information : None known or reported by the manufacturer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.
- Methods of Disposal** : Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. This material and its container must be disposed of in a safe way.
- Empty containers should be taken for local recycling or waste disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
- Dispose of in accordance with the European Directives on waste and hazardous waste. Waste must be classified and labelled prior to recycling or disposal. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14. TRANSPORTATION INFORMATION



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Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
EU ADR/RID Classification Code	Not applicable.				
EU ADR / RID Hazard Identification Number	Not applicable.				
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

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 Safety, health and environmental regulations/legislation specific for the substance or mixture



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: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous mixtures.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None of the components are specifically listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended: Refer to restrictions found in REACH Annex XVII item 75. :

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances:

None.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work:

Reaction product: bisphenol-A(epichlorohydrin) (CAS # 25068-38-6)
2,3-epoxypropyl o-tolyl ether (CAS # 2210-79-9)

Directive 94/33/EC on the protection of young people at work:

Reaction product: bisphenol-A(epichlorohydrin) (CAS # 25068-38-6)
2,3-epoxypropyl o-tolyl ether (CAS # 2210-79-9)

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2023/707].

Follow national regulation for work with chemical agents.

German legislation on water endangering substances AWSV - Water contaminating class (Germany): 2 (self classified)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.



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SECTION 16. OTHER INFORMATION

Legend : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE: Acute Toxicity Estimate
CAS: Chemical Abstract Services
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
EC: European Community
EC50: Effective Concentration 50%
EEC: European Economic Community
EN: European Standard
EU: European Union
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods
LC: Lethal Concentration
LD: Lethal Dose
NOEC: No observable effect concentration
OEL: National occupational exposure limits
PEL: Permissible exposure limit
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL: Short Term Exposure Limit
TWA: Time Weighted Average

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

Preparation Date (dd/mm/yyyy) : 13/01/2017

Reviewed Date SDS (dd/mm/yyyy) : 02/11/2023

Revision No. : 4

Revision Information : (M)SDS sections updated 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING 2. HAZARDS IDENTIFICATION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION 11. TOXICOLOGICAL INFORMATION 15. REGULATORY INFORMATION

Regulation and Procedure :

Based on expert judgement:

Skin irritation ;
Eye irritation ;
Skin sensitization ;
Germ cell mutagenicity ;
Aquatic toxicity ;

H-phrases (full-text)

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H341 - Suspected of causing genetic defects <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.
H411 - Toxic to aquatic life with long lasting effects.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.



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