


# SAFETY DATA SHEET

ARALDITE® AY 133 CI

## Section 1. Identification of the substance/mixture and of the company/undertaking

- Product name** : ARALDITE® AY 133 CI
- Supplier/Manufacturer** : Huntsman Advanced Materials (Guangdong) Co., Ltd.  
Flying Geese Mountain Industrial Park  
Shilou Town, Panyu, Guangzhou  
Guangdong 511447, P.R.C.  
Tel.: +86 20 39377000  
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- e-mail address of person responsible for this SDS** : Global\_Product\_EHS\_AdMat@huntsman.com
- Emergency telephone number (24h/7day)** : EUROPE: +32 35 75 1234  
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ASIA: +65 6336-6011  
China: +86 20 39377888  
+86 532 83889090  
India: +91 22 4050 6333  
Australia: 1800 786 152  
New Zealand: 0800 767 437  
USA: +1/800/424.9300
- Distributor** :
- Use of the substance/mixture** : Resin for adhesive systems

## Section 2. Hazards identification

- Emergency Overview** : Under normal conditions of storage and use, hazardous reactions will not occur. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.
- GHS Classification** : SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
SKIN SENSITIZATION - Category 1  
GERM CELL MUTAGENICITY - Category 2  
AQUATIC TOXICITY (CHRONIC) - Category 2
- GHS label elements**
- Symbol** : 
- Signal word** : Warning
- Hazard statements** : H319 - Causes serious eye irritation.  
H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H341 - Suspected of causing genetic defects.  
H411 - Toxic to aquatic life with long lasting effects.
- Precautionary statements**

**Version** : 1

**Date of issue/Date of revision** : 1/24/2014.

## Section 2. Hazards identification

<b>Prevention</b>	: P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves: > 8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL). Wear eye or face protection. P273 - Avoid release to the environment. P261 - Avoid breathing vapour. P264 - Wash hands thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace.
<b>Response</b>	: P391 - Collect spillage. P308 + P313 - IF exposed or concerned: Get medical attention. P302 + P352 + P362-2 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P333 + P313 - If skin irritation or rash occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
<b>Storage</b>	: P405 - Store locked up.
<b>Disposal</b>	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Physical/chemical hazards</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Health hazards</b>	: Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.
<b>Environmental effects</b>	: Water polluting material. May be harmful to the environment if released in large quantities. This material is toxic to aquatic life with long lasting effects.
<b>Other hazards which do not result in classification</b>	: None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Hazardous ingredients	%	CAS number
reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)	60 - 100	25068-38-6
Bisphenol F epoxy resin	13 - 30	9003-36-5
o-cresyl glycidyl ether	7 - 13	2210-79-9
Glycidylether of C12-C14 alcohols	1 - 3	68609-97-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### First aid

<b>Inhalation</b>	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
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## Section 4. First-aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

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

#### Potential acute health effects

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : Irritating to mouth, throat and stomach.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Eye contact** : Causes serious eye irritation.

#### Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:  
irritation  
redness
- Eyes** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

### Indication of immediate medical attention and special treatment needed, if necessary

- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : Symptomatic treatment and supportive therapy as indicated. Following severe exposure the patient should be kept under medical review for at least 48 hours.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.

- Specific hazard** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

## Section 5. Fire-fighting measures

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds
- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Not available.

## Section 6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

- Precautions for safe handling** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Storage temperature: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**Storage hazard class Huntsman Advanced Materials** : Storage class 10, Environmentally hazardous liquids

## Section 8. Exposure controls/personal protection

### Control parameters

Ingredient name	Exposure limits
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**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Material of gloves for long term application (BTT>480min):** : butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL)

**Material of gloves for short term/splash application (10min <BTT<480min):** : nitrile rubber, neoprene

#### (BTT = Break Through Time)

Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers. Additional information can be found for instance at [www.gisbau.de](http://www.gisbau.de).

## Section 8. Exposure controls/personal protection

- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Colour** : Colourless.
- Odour** : Epoxy
- Odour threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point/boiling range** : Not available.
- Density** : 1.15 g/cm<sup>3</sup> [25°C (77°F)]
- Evaporation rate (butyl acetate = 1)** : Not available.
- Vapour pressure** : Not available.
- Vapour density** : Not available.
- Relative density** : Not available.
- Solubility** : Not available.
- Flash point** : Closed cup: >130°C (>266°F)
- Flammability (solid, gas)** : Not available.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Viscosity** : Dynamic (room temperature): 1625 mPa·s (1625 cP) 25 deg C
- Explosive properties** : Not available.
- Oxidising properties** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Other information**  
No additional information.

## Section 10. Stability and reactivity

- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : strong acids, strong bases, strong oxidising agents
- Hazardous decomposition products** : Decomposition products may include the following materials: Carbon oxides, Burning produces obnoxious and toxic fumes.



## Section 11. Toxicological information

### Information on the likely routes of exposure

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : Irritating to mouth, throat and stomach.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Eye contact** : Causes serious eye irritation.

### Symptoms related to the physical, chemical and toxicological characteristics

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

### Delayed and immediate effects and also chronic effects from short and long term exposure

Product/ingredient name	Endpoint	Species	Result	Exposure
Bisphenol A epoxy resin	LC0 Inhalation Vapour	Rat - Male	0.00001 ppm	5 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
Bisphenol F epoxy resin	LD50 Oral	Rat - Female	>2000 mg/kg	-
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
o-cresyl glycidyl ether	LC50 Inhalation Vapour	Rat - Male, Female	>6.1 ppm	4 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
Glycidylether of C12-C14 alcohols	LC0 Inhalation Vapour	Rat	>0.15 mg/l	7 hours
	LD50 Oral	Rat - Male	30.1 ml/kg	-
ARALDITE AY 133 CI	LD50 Oral	Rat	>5000 mg/kg	-

### Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Bisphenol A epoxy resin	Skin - Mild irritant	Rabbit	Skin - Mild irritant
	Eyes - Mild irritant	Rabbit	Eyes - Mild irritant
Bisphenol F epoxy resin	Eyes - Non-irritant.	Rabbit	Eyes - Non-irritant.
	Skin - Mild irritant	Rabbit	Skin - Mild irritant
o-cresyl glycidyl ether	Skin - Mild irritant	Rabbit	Skin - Mild irritant
	Eyes - Non-irritant.	Rabbit	Eyes - Non-irritant.
Glycidylether of C12-C14 alcohols	Skin - Moderate irritant	Rabbit	Skin - Moderate irritant
	Eyes - Mild irritant	Rabbit	Eyes - Mild irritant

### Conclusion/Summary

- Skin** : reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700): Irritating to skin.  
bisphenol F-epoxy resin: Slightly irritating to the skin.  
o-cresyl glycidyl ether: Non-irritating to the skin.  
glycidylether of C12-C14 alcohols: Irritating to skin.

## Section 11. Toxicological information

**Eyes** : reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700): Irritating to eyes.  
 bisphenol F-epoxy resin: Non-irritating to the eyes.  
 o-cresyl glycidyl ether: Non-irritating to the eyes.  
 glycidylether of C12-C14 alcohols: Slightly irritating to the eyes.

### Sensitisation

Product/ingredient name	Test	Route of exposure	Species	Result
Bisphenol A epoxy resin	OECD 429 Skin Sensitisation: Local Lymph Node Assay	skin	Mouse	Sensitising
Bisphenol F epoxy resin	OECD 429 Skin Sensitisation: Local Lymph Node Assay	skin	Mouse	Sensitising
o-cresyl glycidyl ether	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitising
Glycidylether of C12-C14 alcohols	EPA OPPTS	skin	Guinea pig	Sensitising
ARALDITE AY 133 CI	-	skin	Guinea pig	Sensitising

### Conclusion/Summary

#### Potential chronic health effects

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Skin contact** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Eye contact** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : Suspected of causing genetic defects.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

#### Chronic toxicity

Product/ingredient name	Test	Result type	Result	Target organs
Bisphenol A epoxy resin	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	NOAEL	Sub-chronic NOAEL Oral	50 mg/kg -
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	NOEL	Sub-chronic NOEL Dermal	10 mg/kg -
	OECD 411 Subchronic Dermal Toxicity: 90-day Study	NOAEL	Sub-chronic NOAEL Dermal	100 mg/kg -
Bisphenol F epoxy resin	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	NOAEL	Sub-chronic NOAEL Oral	250 mg/kg -
o-cresyl glycidyl ether	OECD 412 Repeated Dose Inhalation Toxicity: 28-day or 14-day Study	NOEC	Vapour	>4 ppm -



## Section 11. Toxicological information

Glycidylether of C12-C14 alcohols	OECD 411 Subchronic Dermal Toxicity: 90-day Study	NOEL	Sub-chronic NOEL Dermal	1 mg/kg/d	skin
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### Carcinogenicity

Product/ingredient name	Test	Species	Exposure	Result	Route of exposure	Target organs
Bisphenol A epoxy resin	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat	2 years; 7 days per week	Negative	-	-
	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat	2 years; 5 days per week	Negative	-	-
	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Mouse	2 years; 3 days per week	Negative	-	-

### Mutagenicity

Product/ingredient name	Test	Result
Bisphenol A epoxy resin	OECD 471 Bacterial Reverse Mutation Test	Positive
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Positive
	OECD 478 Genetic Toxicology: Rodent Dominant Lethal Test	Negative
	EPA OPPTS	Negative
Bisphenol F epoxy resin	OECD 471 Bacterial Reverse Mutation Test	Positive
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Positive
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Positive
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative
	OECD 486 Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo	Negative
	OECD 471 Bacterial Reverse Mutation Test	Positive
o-cresyl glycidyl ether	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative
	No official guidelines	Equivocal
Glycidylether of C12-C14 alcohols	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative

### Teratogenicity

Product/ingredient name	Test	Species	Result / Result type
Bisphenol A epoxy resin	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	>540 mg/kg NOEL
	EPA CFR	Rabbit - Female	>300 mg/kg NOEL
Bisphenol F epoxy resin	OECD 414 Prenatal Developmental Toxicity Study	Rabbit - Female	180 mg/kg NOAEL
	EPA CFR	Rabbit - Female	>300 mg/kg NOEL
Glycidylether of C12-C14 alcohols	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	200 mg/kg NOEL

### Reproductive toxicity

## Section 11. Toxicological information

Product/ingredient name	Test	Species	Result / Result type	Target organs
Bisphenol A epoxy resin	OECD 416 Two-Generation Reproduction Toxicity Study	Rat	Oral: 540 mg/kg NOEL	-
Bisphenol F epoxy resin	OECD 416 Two-Generation Reproduction Toxicity Study	Rat	Oral: 540 mg/kg NOEL	-

## Section 12. Ecological information

**Environmental effects** : Water polluting material. May be harmful to the environment if released in large quantities. This material is toxic to aquatic life with long lasting effects.

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
Bisphenol A epoxy resin	EPA CFR	EC50	72 hours Static	Algae	9.4 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	EC50	48 hours Static	Daphnia	1.7 mg/l
	Unknown guidelines	IC50	3 hours Static	Bacteria	>100 mg/l
	OECD 203 Fish, Acute Toxicity Test	LC50	96 hours Static	Fish	1.5 mg/l
	OECD 211 <i>Daphnia</i> Magna Reproduction Test	NOEC	21 days Semi-static	Daphnia	0.3 mg/l
Bisphenol F epoxy resin	OECD 201 Alga, Growth Inhibition Test	EC50	72 hours Static	Algae	1.8 mg/l
	OECD 202 Part I ( <i>Daphnia</i> sp., Acute Immobilisation test)	EC50	48 hours Static	Daphnia	1.6 mg/l
	-	IC50	3 hours Static	Bacteria	>100 mg/l
	OECD 203 Fish, Acute Toxicity Test	LC50	96 hours Semi-static	Fish	0.55 mg/l
	OECD 211 <i>Daphnia</i> Magna Reproduction Test	NOEC	21 days Semi-static	Daphnia	0.3 mg/l
o-cresyl glycidyl ether	OECD 201 Alga, Growth Inhibition Test	EC50	72 hours Static	Algae	5.1 mg/l
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	EC50	48 hours Static	Daphnia	3.3 mg/l
	OECD 209 Activated Sludge, Respiration Inhibition Test	IC50	3 hours Static	Bacteria	>100 mg/l
	OECD 203 Fish, Acute Toxicity Test	LC50	96 hours Static	Fish	6.5 mg/l
	OECD 203 Fish, Acute Toxicity Test	LC50	96 hours Static	Fish	2.8 to 5.1 mg/l
Glycidylether of C12-C14 alcohols	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	EL50	48 hours Static	Daphnia	7.2 mg/l
	OECD 201 Alga, Growth Inhibition Test	IC50	72 hours Static	Algae	843.75 mg/l
	OECD 209 Activated Sludge, Respiration Inhibition Test	IC50	3 hours Static	Bacteria	>100 mg/l
	OECD 203 Fish, Acute Toxicity Test	LC50	96 hours Static	Fish	5000 mg/l

### Persistence and degradability

Product/ingredient name	Test	Period	Result
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## Section 12. Ecological information

Bisphenol A epoxy resin	OECD Derived from OECD 301F (Biodegradation Test)	28 days	5 %
Bisphenol F epoxy resin	EU	28 days	0 %
o-cresyl glycidyl ether	OECD 301B Ready Biodegradability - CO2 Evolution Test	28 days	11 to 17 %
Glycidylether of C12-C14 alcohols	OECD 301F Ready Biodegradability - Manometric Respirometry Test	28 days	87 %

**Conclusion/Summary** : reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700): Not readily biodegradable.

<u>Product/ingredient name</u>	<u>Aquatic half-life</u>	<u>Photolysis</u>	<u>Biodegradability</u>
Bisphenol A epoxy resin	Fresh water 4.83 days Fresh water 3.58 days Fresh water 7.1 days	-	Not readily
Bisphenol F epoxy resin	-	-	Not readily
o-cresyl glycidyl ether	Fresh water 0.44 days Fresh water 0.39 days Fresh water 0.37 days	-	Not readily
Glycidylether of C12-C14 alcohols	-	-	Readily

### Bioaccumulative potential

<u>Product/ingredient name</u>	<u>LogP<sub>ow</sub></u>	<u>BCF</u>	<u>Potential</u>
Bisphenol A epoxy resin	3.242	31	low
Bisphenol F epoxy resin	2.7 to 3.6	-	low
o-cresyl glycidyl ether	2.5	-	low
Glycidylether of C12-C14 alcohols	3.77	-	low

### Mobility in soil

**Mobility** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

### Other ecological information

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

## Section 14. Transport information

### International transport regulations

#### 14.1 UN number      14.2 UN proper shipping name

**ADR/RID** UN3082




Environmentally hazardous substance, liquid, n.o.s. BISPHENOL A EPOXY RESIN 1,2-CRESYL GLYCIDYL ETHER

**IMDG** UN3082

Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN) (1,2-CRESYL GLYCIDYL ETHER). Marine pollutant (Bisphenol F epoxy resin)

**IATA** UN3082

Environmentally hazardous substance, liquid, n.o.s. (1,2-CRESYL GLYCIDYL ETHER) (BISPHENOL A EPOXY RESIN)

	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards	14.6 Special precautions for user	Additional information
<b>ADR/RID</b>	9 	III	Yes.	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	<b>Hazard identification number</b> 90 <b>Special provisions</b> 274, 335, 601 <b>Tunnel code</b> E
<b>IMDG</b>	9 	III	Yes.	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	<b>Emergency schedules (EmS)</b> F-A, S-F
<b>IATA</b>	9 	III	Yes.	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	<b>Passenger and Cargo Aircraft</b> Quantity limitation: 450 L Packaging instructions: 964 <b>Cargo Aircraft Only</b> Quantity limitation: 450 L Packaging instructions: 964

## Section 14. Transport information

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not applicable.

## Section 15. Regulatory information

The following laws, regulations, rules and standards for the management of chemicals made the appropriate provisions:

### China Occupational Disease Prevention Law:

**China occupation disease prevention law-occupational hazard factor classification category** : Not applicable.

**China occupation disease prevention law-Occupational disease list** : Not applicable.

### Regulations on the Safe Management of Hazardous Chemicals

**Hazardous Chemicals List** : Not applicable.

**Identification of major hazard installations for dangerous chemicals** : Not applicable.

**First batch of key supervision chemical substance** : Not applicable.

**Hazard chemical environmental registration (Trial)** : Not applicable.

### Labor Protection regulations:

**High toxic substances catalog** : Not applicable.

### Environmental management regulations for first import of chemicals and import & export of toxic chemicals:

**Strictly controlled toxic chemical for import/export** : Not listed

### Environmental Administration of New Chemical Substances:

**Inventory of Existing Chemical Substances in China** : All components are listed or exempted.

## Section 16. Other information

### History

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## Section 16. Other information

Further information :

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**References** Not available.

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