

**ARALDITE® DW 0131 WHITE**

Version	Revision Date:	SDS Number:	Date of last issue: 2017/09/26
1.1	2018/10/01	400001008640	Date of first issue: 2017/09/26

**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : ARALDITE® DW 0131 WHITE

**Manufacturer or supplier's details**

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**Recommended use of the chemical and restrictions on use**

Recommended use : Component used for the manufacture of electrical insulation parts

Restrictions on use : For industrial use only.

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

<b>Appearance</b>	: paste
<b>Colour</b>	: white
<b>Odour</b>	: slight

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.

**GHS Classification**

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2A

Skin sensitisation : Category 1

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Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

**GHS label elements**

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.  
**Storage:**  
Not available  
**Disposal:**  
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

**Physical and chemical hazards**

Not classified based on available information.

**Health hazards**

Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.

**Environmental hazards**

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

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### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3	>= 50 - < 70
titanium dioxide	13463-67-7	>= 30 - < 50

Both 25068-38-6 and 1675-54-3 can be used to describe the epoxy resin which is produced through the reaction of Bisphenol A and Epichlorhydrin

## 4. FIRST AID MEASURES

General advice	: Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Treat symptomatically. Get medical attention if symptoms occur.
If inhaled	: If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	: None known.
Notes to physician	: Treat symptomatically.

## 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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- |   |  |
|---|--|
| Unsuitable extinguishing media                | : High volume water jet  |
| Specific hazards during firefighting          | : Do not allow run-off from fire fighting to enter drains or water courses.  |
| Hazardous combustion products                 | : Carbon oxides<br>Halogenated compounds<br>Metal oxides   |
| Specific extinguishing methods                | : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for firefighters | : Wear self-contained breathing apparatus for firefighting if necessary.   |

**6. ACCIDENTAL RELEASE MEASURES**

- |   |   |
|---|---|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.<br>Refer to protective measures listed in sections 7 and 8.  |
| Environmental precautions   | : Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up               | : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).<br>Keep in suitable, closed containers for disposal.                             |

**7. HANDLING AND STORAGE**

**Handling**

- |   |  |
|---|--|
| Advice on protection against fire and explosion | : Normal measures for preventive fire protection.  |
| Advice on safe handling                         | : Do not breathe vapours/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Dispose of rinse water in accordance with local and national regulations.<br>Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. |
| Avoidance of contact                            | : Strong acids<br>Strong bases   |

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Strong oxidizing agents

**Storage**

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep in properly labelled containers.

Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 2 - 40 °C

Further information on storage stability : Stable under normal conditions.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
titanium dioxide	13463-67-7	PC-TWA (Total dust)	8 mg/m3	GBZ 2.1-2007
		TWA	10 mg/m3 (Titanium dioxide)	ACGIH

**Personal protective equipment**

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines

Filter type : Combined particulates and organic vapour type

Eye/face protection : Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: paste
Colour	: white
Odour	: slight
Odour Threshold	: No data is available on the product itself.
pH	: 5.5 - 8.5 (20 °C) Concentration: 500 g/l
Freezing point	: No data is available on the product itself.
Melting point	: No data is available on the product itself.
Boiling point	: > 200 °C
Flash point	: 200 °C Method: Pensky-Martens closed cup 210 °C Method: Cleveland open cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Flammability (liquids)	: No data is available on the product itself.
Upper explosion limit / Upper flammability limit	: No data is available on the product itself.
Lower explosion limit / Lower flammability limit	: No data is available on the product itself.
Vapour pressure	: 0.0001 hPa (20 °C)
Relative vapour density	: No data is available on the product itself.
Relative density	: 1.7 (25 °C)
Density	: 1.7 g/cm <sup>3</sup> (25 °C)
Solubility(ies)	
Water solubility	: insoluble (20 °C)
Solubility in other solvents	: No data is available on the product itself.
Partition coefficient: n-octanol/water	: No data is available on the product itself.
Auto-ignition temperature	: No data is available on the product itself.
Decomposition temperature	: > 200 °C

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Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Viscosity  
Viscosity, dynamic : 60,000 - 160,000 mPa.s ( 25 °C)

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

**10. STABILITY AND REACTIVITY**

Reactivity : No dangerous reaction known under conditions of normal use.  
Chemical stability : Stable under normal conditions.  
Possibility of hazardous reactions : No hazards to be specially mentioned.  
Conditions to avoid : None known.

Incompatible materials : Strong acids  
Strong bases  
Strong oxidizing agents

Hazardous decomposition products : carbon dioxide  
carbon monoxide  
Halogenated compounds

**11. TOXICOLOGICAL INFORMATION**

Exposure routes : No data is available on the product itself.

**Acute toxicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Acute oral : LD50 (Rat, female): > 2,000 mg/kg  
toxicityComponents Method: OECD Test Guideline 420  
Assessment: The substance or mixture has no acute oral toxicity

titanium dioxide:

Acute oral : LD50 (Rat, female): > 5,000 mg/kg  
toxicityComponents Method: OECD Test Guideline 425  
Assessment: The substance or mixture has no acute oral toxicity

**Components:**

titanium dioxide:

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Acute inhalation toxicity : LC50 (Rat, male and female): 3.43 - 5.09 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

titanium dioxide:  
Acute dermal toxicity : LD50 Dermal (Rabbit): > 10,000 mg/kg

Acute toxicity (other routes of administration) : No data available

**Skin corrosion/irritation**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Species: Rabbit  
Assessment: Mild skin irritant  
Method: OECD Test Guideline 404  
Result: Irritating to skin.

titanium dioxide:  
Species: Rabbit  
Assessment: No skin irritation  
Method: OECD Test Guideline 404  
Result: Normally reversible injuries

**Serious eye damage/eye irritation**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Species: Rabbit  
Result: Irritating to eyes.  
Assessment: Mild eye irritant  
Method: OECD Test Guideline 405

titanium dioxide:  
Species: Rabbit  
Result: Normally reversible injuries  
Assessment: No eye irritation  
Method: OECD Test Guideline 405



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**Respiratory or skin sensitisation**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Exposure routes: Skin

Species: Mouse

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 429

Result: Causes sensitisation.

titanium dioxide:

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin

Species: Mouse

Assessment: Does not cause skin sensitisation.

Method: OECD Test Guideline 429

Result: Does not cause skin sensitisation.

Exposure routes: Skin

Species: Guinea pig

Assessment: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

**Components:**

titanium dioxide:

Assessment: No skin irritation, No eye irritation  
Does not cause skin sensitisation., Does not cause respiratory sensitisation.

**Germ cell mutagenicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: positive

Concentration: 0 - 5000 ug/plate

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

titanium dioxide:

Genotoxicity in vitro : Test Type: Ames test  
Concentration: 100 - 200 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test

Concentration: 31 - 500 µg/L

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

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Test Type: Chromosome aberration test in vitro  
Concentration: 125 - 2500 µg/L  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Genotoxicity in vivo : Cell type: Germ  
Application Route: Oral  
Method: OECD Test Guideline 478  
Result: negative

Cell type: Somatic  
Application Route: Oral  
Dose: 0 - 5000 mg/kg  
Method: OPPTS 870.5395  
Result: negative

titanium dioxide:

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (males)  
Application Route: Inhalation  
Exposure time: 5 consecutive days  
Dose: 0.8, 7.2, and 28.5 mg/m<sup>3</sup>  
Method: OECD Test Guideline 474  
Result: negative

Test Type: Micronucleus test  
Species: Rat (male and female)  
Application Route: Oral  
Exposure time: once  
Dose: 500, 1000, and 2000 mg/kg bw  
Method: OECD Test Guideline 474  
Result: negative

**Components:**

titanium dioxide:

Germ cell mutagenicity- : Tests on bacterial or mammalian cell cultures did not show  
Assessment mutagenic effects., Animal testing did not show any mutagenic effects.

Germ cell mutagenicity- : No data available  
Assessment

**Carcinogenicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female  
Application Route: Oral  
Exposure time: 24 month(s)

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Dose: 15 mg/kg  
Frequency of Treatment: 7 days/week  
Method: OECD Test Guideline 453  
Result: negative

Species: Mouse, male  
Application Route: Dermal  
Exposure time: 24 month(s)  
Dose: 0.1 mg/kg  
Frequency of Treatment: 3 days/week  
Method: OECD Test Guideline 453  
Result: negative

Species: Rat, female  
Application Route: Dermal  
Exposure time: 24 month(s)  
Dose: 1 mg/kg  
Frequency of Treatment: 5 days/week  
Method: OECD Test Guideline 453  
Result: negative

titanium dioxide:  
Species: Rat, male and female  
Application Route: Oral  
Exposure time: 103 weeks  
Dose: 0, 25000, 50000 ppm  
Frequency of Treatment: 7 days/week  
NOAEL: > 50.000 ppm

Method: No information available.

Remarks: Titanium Dioxide: based on the results of chronic inhalation studies (with positive results only in a single species - rat), IARC has concluded that: "There is inadequate evidence in humans for the carcinogenicity of titanium dioxide." but that : "There is sufficient evidence in experimental animals for carcinogenicity of titanium dioxide". IARC's overall evaluation was that "titanium dioxide is possibly carcinogenic to humans (Group 2B)."

Huntsman has examined all of the available animal carcinogenicity and mechanistic data together with workplace epidemiology data for titanium dioxide and concludes that the weight of scientific evidence indicates that there is no causative link between titanium dioxide exposure and cancer risk in humans and that workplace exposures in compliance with applicable exposure standards will not result in lung cancer or chronic respiratory diseases in humans.

**Components:**

titanium dioxide:  
Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

**Reproductive toxicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Effects on fertility : Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
Dose: >750 milligram per kilogram

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General Toxicity - Parent: No-observed-effect level: 540 mg/kg body weight  
General Toxicity F1: No-observed-effect level: 540 mg/kg body weight  
Symptoms: No adverse effects  
Method: OECD Test Guideline 416  
Result: No effects on fertility and early embryonic development were detected.

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on foetal development : Species: Rabbit, female  
Application Route: Dermal  
General Toxicity Maternal: No observed adverse effect level: 30 mg/kg body weight  
Method: Other guidelines  
Result: No teratogenic effects

Species: Rabbit, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level: 60 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level: 180 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

titanium dioxide:

Species: Rat, male and female  
Application Route: Oral  
Dose: 100, 300, and 1000 mg/kg bw/  
Duration of Single Treatment: 20 d  
Frequency of Treatment: 7 days/week  
General Toxicity Maternal: No observed adverse effect level: 1,000 mg/kg body weight  
Developmental Toxicity: No observed adverse effect level: 1,000 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No adverse effects

**Components:**

titanium dioxide:

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

**STOT - single exposure**

No data available

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**STOT - repeated exposure**

No data available

**Repeated dose toxicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 14 Weeks

Number of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL: 100 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks

Number of exposures: 3 d

Method: Subchronic toxicity

titanium dioxide:

Species: Rat, male and female

NOEC: 3500 mg/m<sup>3</sup>

Application Route: Ingestion

Test atmosphere: dust/mist

Exposure time: 2 yr

Number of exposures: 5 d

Method: Chronic toxicity

Species: Rat, male and female

NOEC: 10 - 50 mg/m<sup>3</sup>

Application Route: Inhalation

Exposure time: 2 yr

Number of exposures: 6 hours/day, 5 days/week

Method: Chronic toxicity

**Components:**

titanium dioxide:

Repeated dose toxicity -

Assessment

: No skin irritation, No eye irritation

No adverse effect has been observed in chronic toxicity tests.

**Aspiration toxicity**

No data available

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**Experience with human exposure**

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information**

Ingestion: No data available

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**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.5 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

titanium dioxide:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): > 10,000 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Test substance: Marine water  
Method: OECD Test Guideline 203

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.7 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water

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**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 9.4 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: EPA-660/3-75-009

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.3 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : No data available

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to microorganisms : IC50 (activated sludge): > 100 mg/l  
Exposure time: 3 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to soil dwelling organisms : No data available

**Components:**

titanium dioxide:

Plant toxicity : NOEC: 100,000 mg/kg  
Exposure time: 480 h

**Components:**

titanium dioxide:

Sediment toxicity : (Gammarus pulex (Amphipod)): > 100000 mg/kg sediment dw  
Study: Acute  
Test Type: semi-static test  
Water: Fresh water  
Exposure duration: 28 d  
Method: ASTM Method, other  
  
(Gammarus pulex (Amphipod)): 100000 mg/kg sediment dw  
Study: Chronic

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Test Type: semi-static test  
Water: Fresh water  
Exposure duration: 28 d  
Method: ASTM Method, other

(Gammarus pulex (Amphipod)): 14989 mg/kg sediment dw  
Study: Acute  
Test Type: semi-static test  
Water: Marine water  
Exposure duration: 10 d

**Components:**

titanium dioxide:  
Toxicity to terrestrial organisms : NOEC: 10,000 mg/kg  
Exposure time: 672 h

Ecotoxicology Assessment  
Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

**Persistence and degradability**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:  
Biodegradability : Inoculum: Sewage (STP effluent)  
Concentration: 20 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available



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**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Stability in water : Degradation half life(DT50): 4.83 d (25 °C) pH: 4  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life(DT50): 7.1 d (25 °C) pH: 9  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life(DT50): 3.58 d (25 °C) pH: 7  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

**Bioaccumulative potential**

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Bioaccumulation : Bioconcentration factor (BCF): 31  
Remarks: Does not bioaccumulate.

titanium dioxide:  
Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 19 - 352  
Exposure time: 14 d  
Test substance: Fresh water  
Method: semi-static test  
Remarks: Does not bioaccumulate.

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Partition coefficient: n-octanol/water : log Pow: 3.242 (25 °C)  
pH: 7.1  
Method: OECD Test Guideline 117

**Mobility in soil**

Mobility : No data available

**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Distribution among environmental compartments : Koc: 445  
Stability in soil : No data available

**Other adverse effects**

Environmental fate and : No data available

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pathways

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

**Hazardous to the ozone layer**

Ozone-Depletion Potential : Not applicable

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

**13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.  
Dispose of as hazardous waste in compliance with local and national regulations.  
Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

**International Regulations**

**IATA**

UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(BISPHENOL A EPOXY RESIN)  
Class : 9  
Packing group : III  
Labels : Miscellaneous

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Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964

**IMDG**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

**GB 6944/12268**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A EPOXY RESIN)  
Class : 9  
Packing group : III  
Labels : 9

**Special precautions for user**

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**15. REGULATORY INFORMATION**

**National regulatory information**

**China Occupational Disease Prevention Law**

Occupational hazard factor classification category : Not listed

Occupational disease list : Not listed

**Regulations on Safety Management of Hazardous Chemicals**

Hazardous chemicals list : Not listed

Identification of major hazard installations for dangerous chemicals : Not listed

Key supervision chemical substances : Not listed

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**Labor Protection Regulations**

High toxic substances catalog : Not listed

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

Strictly controlled toxic chemicals for import/export : Not listed

**Environmental Administration of New Chemical Substances**

Inventory of existing chemicals in China : On the inventory, or in compliance with the inventory

Law on the Prevention and Control of Occupational Diseases

**The components of this product are reported in the following inventories:**

CH INV	: The formulation contains substances listed on the Swiss Inventory
DSL	: All components of this product are on the Canadian DSL
AICS	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
ENCS	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On the inventory, or in compliance with the inventory

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

**16. OTHER INFORMATION**

Date format	: yyyy/mm/dd
ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
GBZ 2.1-2007	: Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
ACGIH / TWA	: 8-hour, time-weighted average
GBZ 2.1-2007 / PC-TWA	: Permissible concentration - time weighted average

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