

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® CW 1195-1 BD BLACK

|         |                |              |                                 |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number:  | Date of last issue: -           |
| 1.0     | 08.08.2018     | 400001007832 | Date of first issue: 08.08.2018 |

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : ARALDITE® CW 1195-1 BD BLACK

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

Use of the Substance/Mixture : Component used for the manufacture of electrical insulation parts

#### 1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe)BVBA  
Address : Everslaan 45  
3078 Everberg  
Belgium  
Telephone : +41 61 299 20 41  
Telefax : +41 61 299 20 40  
E-mail address of person responsible for the SDS : Global\_Product\_EHS\_AdMat@huntsman.com

#### 1.4 Emergency telephone number

Emergency telephone number : Centres Antipoison et de Toxicovigilance:  
ANGERS: 02 41 48 21 21  
BORDEAUX: 05 56 96 40 80  
LILLE: 0 825 812 822  
LYON: 04 72 11 69 11  
MARSEILLE 04 91 75 25 25  
NANCY: 03 83 32 36 36  
PARIS: 01 40 05 48 48  
RENNES: 02 99 59 22 22  
STRASBOURG: 03 88 37 37 37  
TOULOUSE: 05 61 77 74 47  
EUROPE: +32 35 75 1234  
France ORFILA: +33(0)145425959  
ASIA: +65 6336-6011  
China: +86 20 39377888  
+86 532 83889090  
India: + 91 22 42 87 5333  
Australia: 1800 786 152  
New Zealand: 0800 767 437  
USA: +1/800/424.9300

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2

H315: Causes skin irritation.

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Eye irritation, Category 2

H319: Causes serious eye irritation.

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Chronic aquatic toxicity, Category 3

H412: Harmful to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

:



Signal word

: Warning

Hazard statements

: H315  
H317  
H319  
H412

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

P273

Avoid release to the environment.

P280

Wear protective gloves/ eye protection/ face protection.

**Response:**

P333 + P313

If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313

If eye irritation persists: Get medical advice/ attention.

Hazardous components which must be listed on the label:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate

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

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

| Chemical name | CAS-No.<br>EC-No. | Classification | Concent |
|---------------|-------------------|----------------|---------|
|---------------|-------------------|----------------|---------|

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|                                                                             | Index-No.<br>Registration number                           |                                                                                            | ration<br>(% w/w) |
|-----------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------|
| 7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate | 2386-87-0<br>219-207-4<br>01-2119846133-44                 | Skin Sens. 1; H317                                                                         | >= 20 -<br>< 30   |
| 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane         | 1675-54-3<br>216-823-5<br>603-073-00-2<br>01-2119456619-26 | Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>Skin Sens. 1; H317<br>Aquatic Chronic 2; H411 | >= 10 -<br>< 20   |

For explanation of abbreviations see section 16.

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

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- |                         |                                                                                                                                                                      |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice          | : Move out of dangerous area.<br>Show this safety data sheet to the doctor in attendance.<br>Treat symptomatically.<br>Get medical attention if symptoms occur.      |
| If inhaled              | : If inhaled, remove to fresh air.<br>Get medical attention if symptoms occur.                                                                                       |
| In case of skin contact | : If skin irritation persists, call a physician.<br>If on skin, rinse well with water.<br>If on clothes, remove clothes.                                             |
| In case of eye contact  | : Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist. |
| If swallowed            | : Keep respiratory tract clear.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.                                  |

#### 4.2 Most important symptoms and effects, both acute and delayed

None known.

#### 4.3 Indication of any immediate medical attention and special treatment needed

- |           |                          |
|-----------|--------------------------|
| Treatment | : Treat symptomatically. |
|-----------|--------------------------|

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon oxides  
Halogenated compounds  
Metal oxides

#### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Specific extinguishing methods : No data is available on the product itself.

Further information : 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.

### SECTION 6: Accidental release measures

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

Personal precautions : Use personal protective equipment.  
Refer to protective measures listed in sections 7 and 8.

#### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

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### 6.4 Reference to other sections

For disposal considerations see section 13., See Section 1 for emergency contact information.,  
For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| Advice on protection against fire and explosion | : Normal measures for preventive fire protection.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hygiene measures                                | : When using do not eat or drink. When using do not smoke.<br>Wash hands before breaks and at the end of workday.                                                                                                                                                                                                                                                                                                                                                                                                                    |

### 7.2 Conditions for safe storage, including any incompatibilities

|                                               |                                                                                                                                                                                                       |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Requirements for storage areas and containers | : 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. |
| Advice on common storage                      | : Strong acids<br><br>Strong bases<br><br>Strong oxidizing agents                                                                                                                                     |
| Further information on storage stability      | : Stable under normal conditions.                                                                                                                                                                     |

### 7.3 Specific end use(s)

|                 |                     |
|-----------------|---------------------|
| Specific use(s) | : No data available |
|-----------------|---------------------|

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name                                                              | End Use   | Exposure routes | Potential health effects              | Value              |
|-----------------------------------------------------------------------------|-----------|-----------------|---------------------------------------|--------------------|
| 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane         | Workers   | Dermal          | Systemic effects, Short-term exposure | 8,33 mg/kg bw/day  |
|                                                                             | Workers   | Inhalation      | Systemic effects, Short-term exposure | 12,25 mg/m3        |
|                                                                             | Workers   | Dermal          | Systemic effects, Long-term exposure  | 8,33 mg/kg bw/day  |
|                                                                             | Workers   | Inhalation      | Systemic effects, Long-term exposure  | 12,25 mg/m3        |
|                                                                             | Consumers | Dermal          | Systemic effects, Short-term exposure | 3,571 mg/kg bw/day |
|                                                                             | Consumers | Oral            | Systemic effects, Short-term exposure | 0,75 mg/kg bw/day  |
|                                                                             | Consumers | Dermal          | Systemic effects, Long-term exposure  | 3,571 mg/kg bw/day |
|                                                                             | Consumers | Oral            | Systemic effects, Long-term exposure  | 0,75 mg/kg bw/day  |
| iron manganese trioxide                                                     | Workers   | Inhalation      | Long-term local effects               | 10 mg/m3           |
| 7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate | Workers   | Dermal          | Acute systemic effects                | 0,208 mg/kg        |
|                                                                             | Workers   | Inhalation      | Acute systemic effects                | 0,729 mg/m3        |
|                                                                             | Workers   | Dermal          | Long-term systemic effects            | 0,1 mg/kg          |
|                                                                             | Workers   | Inhalation      | Long-term systemic effects            | 0,4 mg/m3          |
|                                                                             | Consumers | Oral            | Acute systemic effects                | 0,125 mg/kg        |
|                                                                             | Consumers | Inhalation      | Acute systemic effects                | 0,2188 mg/m3       |
|                                                                             | Consumers | Oral            | Long-term systemic effects            | 0,1 mg/kg          |
|                                                                             | Consumers | Inhalation      | Long-term systemic effects            | 0,1 mg/m3          |
|                                                                             | Consumers | Dermal          | Acute systemic                        | 0,125 mg/kg        |

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|  |           |        |                            |           |
|--|-----------|--------|----------------------------|-----------|
|  |           |        | effects                    |           |
|  | Consumers | Dermal | Long-term systemic effects | 0,1 mg/kg |

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

| Substance name                                                      | Environmental Compartment | Value        |
|---------------------------------------------------------------------|---------------------------|--------------|
| 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane | Fresh water               | 0,006 mg/l   |
| Remarks:                                                            | Assessment Factors        |              |
|                                                                     | Marine water              | 0,0006 mg/l  |
|                                                                     | Assessment Factors        |              |
|                                                                     | Freshwater - intermittent | 0,018 mg/l   |
|                                                                     | Assessment Factors        |              |
|                                                                     | Fresh water sediment      | 0,996 mg/kg  |
|                                                                     | Equilibrium method        |              |
|                                                                     | Marine sediment           | 0,0996 mg/kg |
|                                                                     | Equilibrium method        |              |
|                                                                     | Soil                      | 0,196 mg/kg  |
|                                                                     | Equilibrium method        |              |
|                                                                     | Sewage treatment plant    | 10 mg/l      |
|                                                                     | Assessment Factors        |              |
|                                                                     | Secondary Poisoning       | 11 mg/kg     |

## 8.2 Exposure controls

### Personal protective equipment

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

#### Hand protection

Material : butyl-rubber  
Break through time : > 8 h

Material : Solvent-resistant gloves (butyl-rubber)

Material : Nitrile rubber  
Break through time : 10 - 480 min

Material : Neoprene gloves

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

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|                          |                                                                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Skin and body protection | : Impervious clothing<br>Choose body protection according to the amount and concentration of the dangerous substance at the work place.                                          |
| 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 (A-P)                                                                                                                            |

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

|                                                  |                                                           |
|--------------------------------------------------|-----------------------------------------------------------|
| Appearance                                       | : paste                                                   |
| Colour                                           | : black                                                   |
| Odour                                            | : slight                                                  |
| Odour Threshold                                  | : No data is available on the product itself.             |
| pH                                               | : 6 - 8 (20 °C)<br>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                                      | : 240 °C<br>Method: Pensky-Martens closed cup, closed cup |
| Evaporation rate                                 | : No data is available on the product itself.             |
| Flammability (solid, gas)                        | : No data is available on the product itself.             |
| Burning rate                                     | : 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                                  | : < 0,001 hPa (20 °C)                                     |
| Relative vapour density                          | : No data is available on the product itself.             |
| Relative density                                 | : No data is available on the product itself.             |
| Density                                          | : 1,65 g/cm3 (23 °C)                                      |



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Solubility(ies)  
Water solubility : No data is available on the product itself.

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

Viscosity  
Viscosity, dynamic : 50 000 - 120 000 mPa.s (20 °C)  
Method: ISO 2555

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

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

### 9.2 Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No hazards to be specially mentioned.

### 10.4 Conditions to avoid

Conditions to avoid : None known.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

Burning produces noxious and toxic fumes.

Carbon oxides

No hazardous decomposition products are known.

Hazardous decomposition products : carbon dioxide  
carbon monoxide  
Halogenated compounds  
aluminium oxide

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

Acute oral toxicity - Product : LD50 (Rat): > 5 000 mg/kg

Acute inhalation toxicity : No data available

##### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

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

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

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

##### Skin corrosion/irritation

##### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species: Rabbit

Assessment: No skin irritation

Method: OECD Test Guideline 404

Result: Normally reversible injuries

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

Species: Rabbit

Assessment: Mild skin irritant

Method: OECD Test Guideline 404

Result: Irritating to skin.

##### Serious eye damage/eye irritation

##### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species: Rabbit

Method: OECD Test Guideline 405

Result: No eye irritation

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

Species: Rabbit

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Assessment: Mild eye irritant  
Method: OECD Test Guideline 405  
Result: Irritating to eyes.

### Respiratory or skin sensitisation

#### Product:

Exposure routes: Skin  
Species: Guinea pig  
Result: Causes sensitisation.

Assessment: No data available

### Germ cell mutagenicity

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Genotoxicity in vitro : Test Type: gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: positive

: Test Type: Ames test  
Test system: Salmonella tryphimurium and E. coli  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: positive

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

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Genotoxicity in vivo : Cell type: Somatic  
Application Route: Intraperitoneal injection  
Method: Directive 67/548/EEC, Annex V, B.12.  
Result: negative

Cell type: Somatic  
Application Route: Oral

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Method: OECD Test Guideline 486

Result: negative

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

### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Germ cell mutagenicity-

Assessment

: In vitro tests showed mutagenic effects which were not observed with in vivo test.

Germ cell mutagenicity-

Assessment

: No data available

### **Carcinogenicity**

#### Components:

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

Species: Rat, male and female

Application Route: Oral

Exposure time: 24 month(s)

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

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Carcinogenicity - Assessment : No data available

### 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  
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:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Effects on foetal development : Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level: 25 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

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

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

Reproductive toxicity - Assessment : No data available

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### STOT - single exposure

No data available

### STOT - repeated exposure

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Exposure routes: Ingestion

Target Organs: Nasal inner lining

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

### Repeated dose toxicity

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species: Rat, male and female

NOAEL: 5 mg/kg

Application Route: Ingestion

Exposure time: 90 d Dose: 5, 50 & 500 mg/kg

Method: OECD Test Guideline 408

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

Repeated dose toxicity - : No data available  
Assessment

### Aspiration toxicity

No data available

### Experience with human exposure

General Information: No data available

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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

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Test substance: Fresh water  
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 40 mg/l  
aquatic invertebrates  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

Toxicity to algae : EbC50 (Selenastrum capricornutum (green algae)): 90 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 2000 mg/kg  
Exposure time: 3 h

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Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 209

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

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

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

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,3 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 211

### 12.2 Persistence and degradability

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Biodegradability : Inoculum: activated sludge  
Concentration: 30 mg/l  
Result: Readily biodegradable.  
Biodegradation: 71 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

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

Stability in water : Degradation half life (DT50): 4,83 d (25 °C)



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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

### 12.3 Bioaccumulative potential

#### Components:

7-oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Partition coefficient: n-octanol/water : log Pow: 1,34 (20 °C)  
Method: OECD Test Guideline 107

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

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

Partition coefficient: n-octanol/water : log Pow: 3,242 (25 °C)  
pH: 7,1  
Method: OECD Test Guideline 117

### 12.4 Mobility in soil

#### Components:

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

Distribution among environmental compartments : Koc: 445

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Other adverse effects

#### Product:

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

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- |                        |                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                | : The product should not be allowed to enter drains, water courses or the soil.<br>Do not contaminate ponds, waterways or ditches with chemical or used container.<br>Send to a licensed waste management company.<br>Dispose of as hazardous waste in compliance with local and national regulations.<br>Dispose of contents/ container to an approved waste disposal plant. |
| Contaminated packaging | : Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers.                                                                                                                                                                                                                                                                               |

### SECTION 14: Transport information

#### IATA

Not regulated as dangerous goods

#### IMDG

Not regulated as dangerous goods

#### ADR

Not regulated as dangerous goods

#### RID

Not regulated as dangerous goods

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

### SECTION 15: Regulatory information

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

- |                                                                                           |                                                                                                                     |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57). |
| REACH - List of substances subject to authorisation (Annex XIV)                           | : Not applicable                                                                                                    |
| REACH - List of substances subject to authorisation - Future sunset date                  | : Not applicable                                                                                                    |
| Occupational Illnesses (R-461-3, France)                                                  | : 51, 84                                                                                                            |

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Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

|       |                                                          |
|-------|----------------------------------------------------------|
| 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  | : Not in compliance with the inventory                   |
| KECI  | : Not 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), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

## 15.2 Chemical safety assessment

## SECTION 16: Other information

### Full text of H-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. |

### Full text of other abbreviations

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|                 |                            |
|-----------------|----------------------------|
| Aquatic Chronic | : Chronic aquatic toxicity |
| Eye Irrit.      | : Eye irritation           |
| Skin Irrit.     | : Skin irritation          |
| Skin Sens.      | : Skin sensitisation       |

### Further information

#### Classification of the mixture:

|                   |      |
|-------------------|------|
| Skin Irrit. 2     | H315 |
| Eye Irrit. 2      | H319 |
| Skin Sens. 1      | H317 |
| Aquatic Chronic 3 | H412 |

#### Classification procedure:

|                    |
|--------------------|
| Calculation method |
| Calculation method |
| Calculation method |
| Calculation method |

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