

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® CW 229-3 GB

|         |                |              |                                 |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number:  | Date of last issue: 27.09.2018  |
| 2.1     | 01.06.2023     | 400001009319 | Date of first issue: 13.09.2017 |

Print Date 01.07.2024

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

#### 1.1 Product identifier

Trade name : ARALDITE® CW 229-3 GB

Unique Formula Identifier (UFI) : QUSE-60X7-T00A-1KKT

#### 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) BV  
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

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## 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.                          |
| Eye irritation, Category 2                     | H319: Causes serious eye irritation.                   |
| Skin sensitisation, Category 1                 | H317: May cause an allergic skin reaction.             |
| Long-term (chronic) aquatic hazard, Category 2 | H411: Toxic 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 | 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 mist or vapours.                         |
| 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. |
| P391        | Collect spillage.                                                 |

#### Hazardous components which must be listed on the label:

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

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Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 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.<br>Index-No.<br>Registration number      | Classification                                                                                                                                                                                                                                                                                                  | Concentration<br>(% w/w) |
|---------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 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;<br>H411<br><br>specific concentration limit<br>Skin Irrit. 2; H315<br>>= 5 %<br>Eye Irrit. 2; H319<br>>= 5 %                                                                                                              | >= 30 -<br>< 50          |
| methanol                                                            | 67-56-1<br>200-659-6<br>603-001-00-X<br>01-2119433307-44   | Flam. Liq. 2; H225<br>Acute Tox. 3; H301<br>Acute Tox. 3; H331<br>Acute Tox. 3; H311<br>STOT SE 1; H370<br>(Bladder, Blood,<br>Central nervous<br>system, Eyes, Kidney,<br>Liver, Nervous system,<br>spleen)<br><br>specific concentration limit<br>STOT SE 1; H370<br>>= 10 %<br>STOT SE 2; H371<br>3 - < 10 % | >= 0,1 -<br>< 1          |

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 epichlorohydrin

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice : Move out of dangerous area.

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Show this safety data sheet to the doctor in attendance.  
Treat symptomatically.  
Get medical attention if symptoms occur.

- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.  
Avoid inhalation, ingestion and contact with skin and eyes.  
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.
- 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.

### 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.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire

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

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

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firefighting

courses.

Hazardous combustion  
products

: Carbon oxides  
Halogenated compounds

### 5.3 Advice for firefighters

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.

### 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 : Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.  
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.

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Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.

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

Recommended storage temperature : 2 - 18 °C

Further information on storage stability : Stable under normal conditions.

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

| Components          | CAS-No.                                                                       | Value type (Form of exposure) | Control parameters                   | Basis      |
|---------------------|-------------------------------------------------------------------------------|-------------------------------|--------------------------------------|------------|
| methanol            | 67-56-1                                                                       | TWA                           | 200 ppm<br>260 mg/m <sup>3</sup>     | 2006/15/EC |
| Further information | Indicative, Identifies the possibility of significant uptake through the skin |                               |                                      |            |
|                     |                                                                               | VME                           | 200 ppm<br>260 mg/m <sup>3</sup>     | FR VLE     |
| Further information | Risk of penetration through skin, Regulatory binding exposure limits          |                               |                                      |            |
|                     |                                                                               | VLCT (VLE)                    | 1 000 ppm<br>1 300 mg/m <sup>3</sup> | FR VLE     |
| Further information | Risk of penetration through skin, Indicative exposure limits                  |                               |                                      |            |

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

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| Substance name                                                      | End Use   | Exposure routes | Potential health effects              | Value               |
|---------------------------------------------------------------------|-----------|-----------------|---------------------------------------|---------------------|
| 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane | Workers   | Inhalation      | Long-term systemic effects            | 4,93 mg/m3          |
|                                                                     | Workers   | Dermal          | Long-term systemic effects            | 0,75 mg/kg bw/day   |
|                                                                     | Consumers | Inhalation      | Long-term systemic effects            | 0,87 mg/m3          |
|                                                                     | Consumers | Dermal          | Long-term systemic effects            | 0,0893 mg/kg bw/day |
| methanol                                                            | Consumers | Oral            | Long-term systemic effects            | 0,5 mg/kg bw/day    |
|                                                                     | Workers   | Dermal          | Systemic effects, Long-term exposure  | 40 mg/kg bw/day     |
|                                                                     | Workers   | Inhalation      | Systemic effects, Long-term exposure  | 260 mg/m3           |
|                                                                     | Workers   | Inhalation      | Local effects, Long-term exposure     | 260 mg/m3           |
|                                                                     | Workers   | Dermal          | Systemic effects, Short-term exposure | 40 mg/kg bw/day     |
|                                                                     | Workers   | Inhalation      | Systemic effects, Short-term exposure | 260 mg/m3           |
|                                                                     | Workers   | Inhalation      | Local effects, Short-term exposure    | 260 mg/m3           |
|                                                                     | Consumers | Dermal          | Systemic effects, Long-term exposure  | 8 mg/kg bw/day      |
|                                                                     | Consumers | Inhalation      | Systemic effects, Long-term exposure  | 50 mg/m3            |
|                                                                     | Consumers | Oral            | Systemic effects, Long-term exposure  | 8 mg/kg bw/day      |
|                                                                     | Consumers | Inhalation      | Local effects, Long-term exposure     | 50 mg/m3            |
|                                                                     | Consumers | Inhalation      | Systemic effects, Short-term exposure | 50 mg/m3            |
|                                                                     | Consumers | Inhalation      | Local effects, Short-term exposure    | 50 mg/m3            |
|                                                                     | Consumers | Dermal          | Systemic effects, Short-term exposure | 8 mg/kg bw/day      |
|                                                                     | Consumers | Oral            | Systemic effects, Short-term exposure | 8 mg/kg bw/day      |

### 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                    |
|                                                                     | Marine water              | 0,001 mg/l                    |
|                                                                     | Fresh water sediment      | 0,341 mg/kg dry weight (d.w.) |
|                                                                     | Marine sediment           | 0,034 mg/kg dry weight (d.w.) |

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|          |                            |                               |
|----------|----------------------------|-------------------------------|
|          | Soil                       | 0,065 mg/kg dry weight (d.w.) |
|          | Sewage treatment plant     | 10 mg/l                       |
|          | Secondary Poisoning        | 11 mg/kg                      |
| methanol | Fresh water                | 154 mg/l                      |
|          | Remarks:Assessment Factors |                               |
|          | Marine water               | 15,4 mg/l                     |
|          | Remarks:Assessment Factors |                               |
|          | Freshwater - intermittent  | 1540 mg/l                     |
|          | Remarks:Assessment Factors |                               |
|          | Sediment                   | 570,4 mg/kg                   |
|          | Remarks:Equilibrium method |                               |
|          | Secondary Poisoning        |                               |
|          | Sewage treatment plant     | 100 mg/l                      |
|          | Remarks:Assessment Factors |                               |
|          | Soil                       | 23,5 mg/kg                    |
|          | Remarks:Equilibrium method |                               |

### 8.2 Exposure controls

#### Personal protective equipment

Eye/face 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 : Ethyl Vinyl Alcohol Laminate (EVAL)  
Break through time : > 8 h

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

Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

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

Respiratory protection : **W A R N I N G !** This product contains quartz, which has been classified by IARC as carcinogenic for humans (Group 1), and which can cause silicosis and lung cancer following exposure to respirable dust. It is therefore important to take particular care to avoid inhalation exposure when mechanically processing cured material (e.g. grinding,

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sanding, sawing).

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                                  |                                               |
|--------------------------------------------------|-----------------------------------------------|
| Physical state                                   | : paste                                       |
| Colour                                           | : brown                                       |
| Odour                                            | : slight                                      |
| Odour Threshold                                  | : No data is available on the product itself. |
| pH                                               | : ca. 7 (20 °C)<br>Concentration: 500 g/l     |
| Melting point/freezing point                     | : No data is available on the product itself. |
| Boiling point                                    | : > 200 °C                                    |
| Flash point                                      | : 180 °C<br>Method: Pensky-Martens closed cup |
| Flammability (solid, gas)                        | : 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                                  | : < 0,00001 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                                          | : 1,78 g/cm <sup>3</sup> (25 °C)              |
| Solubility(ies)                                  |                                               |
| Water solubility                                 | : practically 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                                    |
| Viscosity                                        |                                               |

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Viscosity, dynamic : 80 000 - 200 000 mPa.s (25 °C)

### 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

Hazardous decomposition products : carbon dioxide  
carbon monoxide  
Halogenated compounds

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

##### Product:

|                           |                                                                                                                     |
|---------------------------|---------------------------------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : LD50 (Rat): > 5 000 mg/kg                                                                                         |
| Acute inhalation toxicity | : Acute toxicity estimate: > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method |
| Acute dermal toxicity     | : Acute toxicity estimate: > 2 000 mg/kg<br>Method: Calculation method                                              |

##### Components:

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

|                     |                                                                        |
|---------------------|------------------------------------------------------------------------|
| Acute oral toxicity | : LD50 (Rat, female): > 2 000 mg/kg<br>Method: OECD Test Guideline 420 |
|---------------------|------------------------------------------------------------------------|

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Assessment: The substance or mixture has no acute oral toxicity

Remarks: No mortality observed at this dose.

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

### methanol:

Acute oral toxicity : LD50 (Rat): 5 628 mg/kg  
Assessment: The component/mixture is toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): 128,2 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Other guidelines  
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): 15 800 mg/kg  
Assessment: The component/mixture is toxic after single contact with skin.

### Skin corrosion/irritation

#### Components:

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

Species : Rabbit  
Exposure time : 4 h  
Assessment : Irritating to skin.  
Method : OECD Test Guideline 404  
Result : Irritating to skin.

### methanol:

Species : Rabbit  
Assessment : No skin irritation  
Method : Other guidelines  
Result : No skin irritation

### Serious eye damage/eye irritation

#### Components:

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

Species : Rabbit  
Assessment : Irritating to eyes.  
Method : OECD Test Guideline 405  
Result : Irritating to eyes.

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### methanol:

|         |   |                   |
|---------|---|-------------------|
| Species | : | Rabbit            |
| Result  | : | No eye irritation |

### Respiratory or skin sensitisation

#### Product:

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

#### Components:

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

|                 |   |                                                    |
|-----------------|---|----------------------------------------------------|
| Test Type       | : | Local lymph node assay (LLNA)                      |
| Exposure routes | : | Skin                                               |
| Species         | : | Mouse                                              |
| Method          | : | OECD Test Guideline 429                            |
| Result          | : | The product is a skin sensitiser, sub-category 1B. |

### methanol:

|                 |   |                                    |
|-----------------|---|------------------------------------|
| Exposure routes | : | Skin                               |
| Species         | : | Guinea pig                         |
| Method          | : | OECD Test Guideline 406            |
| Result          | : | Does not cause skin sensitisation. |

### Germ cell mutagenicity

#### Components:

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

|                       |   |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Genotoxicity in vitro | : | Test Type: In vitro mammalian cell gene mutation test<br>Test system: mouse lymphoma cells<br>Metabolic activation: without metabolic activation<br>Result: positive<br><br>Test Type: reverse mutation assay<br>Test system: Salmonella typhimurium<br>Metabolic activation: with and without metabolic activation<br>Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)<br>Result: negative |
| Genotoxicity in vivo  | : | Test Type: in vivo assay<br>Species: Mouse (male)<br>Cell type: Germ<br>Application Route: Oral<br>Dose: 3333, 10000 mg/kg<br>Result: negative<br><br>Test Type: gene mutation test<br>Species: Rat (male)<br>Cell type: Somatic<br>Application Route: Oral                                                                                                                                                       |

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Dose: 50,250,500,1000 mg/kg bw/day  
Method: OECD Test Guideline 488  
Result: negative

### methanol:

Genotoxicity in vitro : Concentration: 15.8 - 63.3 mg/ml  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

Concentration: 5 - 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

Concentration: ca 40 mg/ml  
Metabolic activation: negative  
Result: negative

Genotoxicity in vivo : Application Route: Intraperitoneal injection  
Dose: 1920 - 4480 mg/kg  
Method: OECD Test Guideline 474  
Result: negative

### Carcinogenicity

#### Product:

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

#### Components:

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

Species : Rat, male  
Application Route : Oral  
Exposure time : 24 month(s)  
Dose : 0, 2, 15, or 100 mg/kg bw/day  
Frequency of Treatment : 7 days/week  
NOAEL : 15 mg/kg bw/day  
Method : OECD Test Guideline 453  
Result : negative  
Target Organs : Digestive organs

Species : Mouse, male  
Application Route : Dermal  
Exposure time : 24 month(s)  
Dose : 0, 0.1, 10, 100 mg/kg bw/day  
Frequency of Treatment : 3 days/week  
NOEL : 0,1 mg/kg body weight  
Method : OECD Test Guideline 453  
Result : negative  
Target Organs : Digestive organs

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Species : Rat, female  
Application Route : Dermal  
Exposure time : 24 month(s)  
Dose : 0.1, 100, 1000 mg/kg bw/day  
Frequency of Treatment : 5 days/week  
NOEL : 100 mg/kg body weight  
Method : OECD Test Guideline 453  
Result : negative

Species : Rat, female  
Application Route : Oral  
Exposure time : 24 month(s)  
Dose : 0, 2, 15, or 100 mg/kg bw/day  
Frequency of Treatment : 7 days/week  
NOAEL : 100 mg/kg bw/day  
Method : OECD Test Guideline 453  
Result : negative  
Target Organs : Digestive organs

Species : Rat, females  
Application Route : Oral  
Exposure time : 24 month(s)  
Dose : 0, 2, 15, or 100 mg/kg bw/day  
Frequency of Treatment : 7 days/week  
NOEL : 2 mg/kg bw/day  
Method : OECD Test Guideline 453  
Result : negative  
Target Organs : Digestive organs

### methanol:

Species : Rat, male and female  
Application Route : Inhalation  
Exposure time : 24 month(s)  
Dose :  $\geq 1300 \text{ mg/m}^3$   
Frequency of Treatment : 20 hour  
Method : OECD Test Guideline 453  
Result : negative

Species : Mouse, male and female  
Application Route : Inhalation  
Exposure time : 18 month(s)  
Dose : 13 - 1300  $\text{mg/m}^3$   
Frequency of Treatment : 19 hour  
Method : OECD Test Guideline 453  
Result : negative

### 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: 0, 50, 180, 540 or 750 milligram per kilogram

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Duration of Single Treatment: 238 d  
Frequency of Treatment: 1 daily  
General Toxicity - Parent: NOEL: 540 mg/kg body weight  
General Toxicity F1: NOEL: 750 mg/kg body weight  
Symptoms: No adverse effects  
Method: OECD Test Guideline 416  
Result: No effects on fertility and early embryonic development were detected.

Effects on foetal development

: Species: Rabbit, female  
Application Route: Dermal  
Dose: 0, 30, 100 or 300 milligram per kilogram  
Duration of Single Treatment: 28 d  
Frequency of Treatment: 1 daily  
General Toxicity Maternal: NOAEL: 30 mg/kg body weight  
Developmental Toxicity: NOAEL: 300 mg/kg body weight  
Method: Other guidelines  
Result: No teratogenic effects

Test Type: Pre-natal  
Species: Rabbit, female  
Application Route: Oral  
Dose: 0, 20, 60 or 180 milligram per kilogram  
Duration of Single Treatment: 13 d  
Frequency of Treatment: 1 daily  
General Toxicity Maternal: NOAEL: 60 mg/kg body weight  
Developmental Toxicity: NOAEL: 180 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Test Type: Pre-natal  
Species: Rat, female  
Application Route: Oral  
Dose: 0, 60, 180 and 540 milligram per kilogram  
Duration of Single Treatment: 10 d  
Frequency of Treatment: 1 daily  
General Toxicity Maternal: NOAEL: 180 mg/kg body weight  
Developmental Toxicity: NOAEL: > 540 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

### methanol:

Effects on fertility

: Species: Rat, male and female  
Application Route: Inhalation  
Method: OECD Test Guideline 416  
Result: negative

Species: Monkey, female  
Application Route: Inhalation  
Result: negative

Species: Mouse, male  
Application Route: Oral  
Result: negative

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Effects on foetal development : Species: Monkey  
Application Route: Inhalation  
General Toxicity Maternal: NOAEL: 2 390 mg/m<sup>3</sup>  
Result: No teratogenic effects

### STOT - single exposure

#### Components:

##### **methanol:**

Target Organs : Bladder, Blood, Central nervous system, Eyes, Kidney, Liver, Nervous system, spleen  
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

### 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 : oral (gavage)  
Exposure time : 14 Weeks  
Number of exposures : 7 d  
Dose : 0, 50, 250, 1000 mg/kg/day  
Method : OECD Test Guideline 408

Species : Rat, male and female  
NOAEL :  $\geq 10$  mg/kg  
Application Route : Skin contact  
Exposure time : 13 Weeks  
Number of exposures : 5 d  
Dose : 0, 10, 100, 1000 mg/kg/day  
Method : OECD Test Guideline 411

Species : Mouse, male  
NOAEL : 100 mg/kg  
Application Route : Skin contact  
Exposure time : 13 Weeks  
Number of exposures : 3 d  
Dose : 0, 1, 10, 100 mg/kg/day  
Method : OECD Test Guideline 411

##### **methanol:**

Species : Monkey  
NOEC : 13 mg/m<sup>3</sup>  
Test atmosphere : vapour  
Exposure time : 5 040 h  
Number of exposures : 21 h

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|                     |   |                         |
|---------------------|---|-------------------------|
| Species             | : | Monkey, male and female |
| NOEC                | : | 6660 mg/m3              |
| Application Route   | : | Ingestion               |
| Test atmosphere     | : | vapour                  |
| Exposure time       | : | 72 h                    |
| Number of exposures | : | 6 h                     |
| Method              | : | OECD Test Guideline 412 |

|                     |   |            |
|---------------------|---|------------|
| Species             | : | Monkey     |
| NOEC                | : | 1300 mg/m3 |
| Test atmosphere     | : | vapour     |
| Exposure time       | : | 1 440 h    |
| Number of exposures | : | 21 h       |

|                     |   |            |
|---------------------|---|------------|
| Species             | : | Monkey     |
| LOEC                | : | 3990 mg/m3 |
| Test atmosphere     | : | vapour     |
| Exposure time       | : | 480 h      |
| Number of exposures | : | 21 h       |

### Aspiration toxicity

#### Components:

##### methanol:

May be harmful if swallowed and enters airways.

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

|            |   |                                                                                                                                                                                                                                                            |
|------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assessment | : | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher |
|------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Experience with human exposure

No data available

### Toxicology, Metabolism, Distribution

No data available

### Neurological effects

No data available

### Further information

#### Components:

##### methanol:

|         |   |                                 |
|---------|---|---------------------------------|
| Remarks | : | Solvents may degrease the skin. |
|---------|---|---------------------------------|

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### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Components:

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,8 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 : 11 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water  
Method: EPA-660/3-75-009

NOEC : 4,2 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

##### **Ecotoxicology Assessment**

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

##### **methanol:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 15 400 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10 000 mg/l  
Exposure time: 48 h  
Test Type: static test

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|                                  |                                                                                                                                                                                       |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | Test substance: Fresh water<br>Method: DIN 38412                                                                                                                                      |
| Toxicity to algae/aquatic plants | : ErC50 (Selenastrum capricornutum (green algae)): ca. 22 000 mg/l<br>Exposure time: 96 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: OECD Test Guideline 201 |
| Toxicity to microorganisms       | : IC50 (activated sludge): > 1 000 mg/l<br>Exposure time: 3 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: OECD Test Guideline 209                             |

### 12.2 Persistence and degradability

#### Components:

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

|                    |                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Biodegradability   | : Test Type: aerobic<br>Inoculum: activated sludge, non-adapted<br>Concentration: 20 mg/l<br>Result: Not readily biodegradable.<br>Biodegradation: 5 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F                                                                                                                                                 |
| Stability in water | : Degradation half life (DT50): 4,83 d (25 °C)<br>pH: 4<br>Method: OECD Test Guideline 111<br>Remarks: Fresh water<br><br>Degradation half life (DT50): 7,1 d (25 °C)<br>pH: 9<br>Method: OECD Test Guideline 111<br>Remarks: Fresh water<br><br>Degradation half life (DT50): 3,58 d (25 °C)<br>pH: 7<br>Method: OECD Test Guideline 111<br>Remarks: Fresh water |

#### **methanol:**

|                  |                                                                                                                    |
|------------------|--------------------------------------------------------------------------------------------------------------------|
| Biodegradability | : Inoculum: Marine water<br>Result: Readily biodegradable.<br>Biodegradation: 69 - 97 %<br>Exposure time: 5 - 20 d |
| Photodegradation | : Test Type: Air<br>Rate constant: 0.0093<br>Degradation (direct photolysis): 50 %                                 |

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### 12.3 Bioaccumulative potential

#### Components:

##### **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

#### **methanol:**

Bioaccumulation : Species: Leuciscus idus (Golden orfe)  
Exposure time: 3 d  
Bioconcentration factor (BCF): < 10  
Test substance: Fresh water

Partition coefficient: n-octanol/water : log Pow: -0,77

### 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 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

### 12.7 Other adverse effects

#### Product:

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

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- |                        |                                                                                                                                                                                                                                               |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                | : Dispose of contents and container in accordance with all local, regional, national and international regulations.<br>Do not dispose of waste into sewer.<br>Do not contaminate ponds, waterways or ditches with chemical or used container. |
| Contaminated packaging | : Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers.                                                                                                                                               |

### SECTION 14: Transport information

#### 14.1 UN number or ID number

- |      |           |
|------|-----------|
| ADN  | : UN 3082 |
| ADR  | : UN 3082 |
| RID  | : UN 3082 |
| IMDG | : UN 3082 |
| IATA | : UN 3082 |

#### 14.2 UN proper shipping name

- |      |                                                                                    |
|------|------------------------------------------------------------------------------------|
| ADN  | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(BISPHENOL A EPOXY RESIN) |
| ADR  | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(BISPHENOL A EPOXY RESIN) |
| RID  | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(BISPHENOL A EPOXY RESIN) |
| IMDG | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(BISPHENOL A EPOXY RESIN) |
| IATA | : Environmentally hazardous substance, liquid, n.o.s.<br>(BISPHENOL A EPOXY RESIN) |

#### 14.3 Transport hazard class(es)

- |      | Class | Subsidiary risks |
|------|-------|------------------|
| ADN  | : 9   |                  |
| ADR  | : 9   |                  |
| RID  | : 9   |                  |
| IMDG | : 9   |                  |
| IATA | : 9   |                  |

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### 14.4 Packing group

#### ADN

Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9

#### ADR

Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)

#### RID

Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9

#### IMDG

Packing group : III  
Labels : 9  
EmS Code : F-A, S-F

#### IATA (Cargo)

Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

#### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : yes

#### ADR

Environmentally hazardous : yes

#### RID

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes

#### IATA (Passenger)

Environmentally hazardous : yes

#### IATA (Cargo)

Environmentally hazardous : yes

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### 14.6 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.

### 14.7 Maritime transport in bulk according to IMO instruments

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 - List of substances subject to authorisation (Annex XIV) : Not applicable

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 - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

4,4'-isopropylidenediphenol  
(Number on list 66, 30)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS

Occupational Illnesses (R-461-3, France) : 51, 84, 44

Installations classified for the protection of the environment (Environment Code R511-9) : 4511, 4722

#### 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.

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

|       |                                                                                        |
|-------|----------------------------------------------------------------------------------------|
| DSL   | : All components of this product are on the Canadian DSL                               |
| AIIC  | : On the inventory, or in compliance with the inventory                                |
| NZIoC | : 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  | : Not in compliance with the inventory                                                 |
| TSCA  | : On or in compliance with the active portion of the TSCA inventory                    |
| ENCS  | : Update: manually maintained<br>On the inventory, or in compliance with the inventory |

### Inventories

AICS (Australia), AIIC (Australia), DSL (Canada), IECSC (China), ENCS (Japan), KECI (Korea), NZIOIC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

### 15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

## SECTION 16: Other information

### Full text of H-Statements

|      |                                                    |
|------|----------------------------------------------------|
| H225 | : Highly flammable liquid and vapour.              |
| H301 | : Toxic if swallowed.                              |
| H311 | : Toxic in contact with skin.                      |
| H315 | : Causes skin irritation.                          |
| H317 | : May cause an allergic skin reaction.             |
| H319 | : Causes serious eye irritation.                   |
| H331 | : Toxic if inhaled.                                |
| H370 | : Causes damage to organs.                         |
| H411 | : Toxic to aquatic life with long lasting effects. |

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### Full text of other abbreviations

|                     |                                                         |
|---------------------|---------------------------------------------------------|
| Acute Tox.          | : Acute toxicity                                        |
| Aquatic Chronic     | : Long-term (chronic) aquatic hazard                    |
| Eye Irrit.          | : Eye irritation                                        |
| Flam. Liq.          | : Flammable liquids                                     |
| Skin Irrit.         | : Skin irritation                                       |
| Skin Sens.          | : Skin sensitisation                                    |
| STOT SE             | : Specific target organ toxicity - single exposure      |
| 2006/15/EC          | : Europe. Indicative occupational exposure limit values |
| FR VLE              | : France. Occupational Exposure Limits                  |
| 2006/15/EC / TWA    | : Limit Value - eight hours                             |
| FR VLE / VME        | : Time Weighted Average                                 |
| FR VLE / VLCT (VLE) | : Short Term Exposure Limit                             |

### Further information

#### Classification of the mixture:

|                   |      |
|-------------------|------|
| Skin Irrit. 2     | H315 |
| Eye Irrit. 2      | H319 |
| Skin Sens. 1      | H317 |
| Aquatic Chronic 2 | H411 |

#### Classification procedure:

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

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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