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

### 1.1 Product identifier

Trade name : ARALDITE® 203 RESIN

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

Use of the Substance/Mixture : Adhesives

### 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

E-mail address to request full REACH registration number upon EU member State Authority request :
REACH_Registration_Nr_AM@huntsman.com

### 1.4 Emergency telephone

Emergency telephone : 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. |
| Serious eye damage, Category 1 | H318: Causes serious eye damage. |
| Skin sensitization, Category 1 | H317: May cause an allergic skin reaction. |
| Chronic aquatic toxicity, Category 2 | H411: Toxic to aquatic life with long lasting effects. |

### 2.2 Label elements

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

Hazard pictograms :



Signal Word : Danger

Hazard Statements :

| | |
|---|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary Statements :

**Prevention:**

| | |
|---|---|
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P273 | Avoid release to the environment. |
| P280 | Wear eye protection/ face protection. |
| P280 | Wear protective gloves. |

**Response:**

| | |
|---|---|
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. |
| P362 + P364 | Take off contaminated clothing and wash it before reuse. |

Hazardous ingredients which must be listed on the label:
4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]

1,4-bis(2,3-epoxypropoxy)butane

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)

### 2.3 Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Hazardous ingredients**

| Chemical Name | CAS-No.<br>EC-No.<br>Registration number | Classification (REGULATION (EC) No 1272/2008) | Concentration (%) |
|---|---|---|---|
| 4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline] | 28768-32-3<br>249-204-3<br>01-2119472303-45-0000 | Skin Sens. 1B; H317<br>Aquatic Chronic 2; H411 | >= 60 - <= 100 |
| 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane | 25068-38-6<br>500-033-5<br>01-2119456619-26-0001 | Skin Sens. 1; H317<br>Aquatic Chronic 2; H411<br>Eye Irrit. 2; H319<br>Skin Irrit. 2; H315 | >= 1 - <= 3 |
| 1,4-Bis(2,3-epoxypropoxy)butane | 2425-79-8<br>219-371-7<br>01-2119494060-45-0003 | Acute Tox. 4; H302, H312<br>Eye Dam. 1; H318<br>Skin Irrit. 2; H315<br>Skin Sens. 1; H317<br>Acute Tox. 4; H332<br>Aquatic Chronic 3; H412 | >= 7 - <= 13 |

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

If inhaled : Move to fresh air.
Keep patient warm and at rest.
If symptoms persist, call a physician.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Seek medical advice.

If swallowed : Rinse mouth with water.
Do NOT induce vomiting.
Consult a physician if necessary.

### 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**

## 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 : None known.

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

Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No data is available on the product itself.

**5.3 Advice for firefighters**

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

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.
Ensure adequate ventilation.

**6.2 Environmental precautions**

Environmental precautions : Prevent product from entering drains.
Do not allow contact with soil, surface or ground water.

**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**

None

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

| | | |
|---|---|---|
| Advice on safe handling | : | 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. |
| Advice on protection against fire and explosion | : | Normal measures for preventive fire protection. |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or 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 containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. |
| Advice on common storage | : | Strong bases<br><br>Strong oxidizing agents |
| Storage class (TRGS 510) | : | 10, Combustible liquids |
| Other data | : | No decomposition if stored and applied as directed. |

### 7.3 Specific end use(s)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

**Personal protective equipment**

| | | |
|---|---|---|
| Eye protection | : | Safety glasses |
| Hand protection | | |
| Material | : | butyl-rubber |
| Break through time | : | > 8 h<br>Nitrile rubber<br>Neoprene<br>10 - 480 min |
| Remarks | : | The suitability for a specific workplace should be discussed with the producers of the protective gloves. 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 | : | Protective suit |
| Respiratory protection | : | Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. |

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Appearance | : | paste |
| Color | : | blue |
| Odor | : | slight |
| Flash point | : | > 100 °C<br>Method: closed cup |
| Density | : | 1,25 g/cm3 (20 °C) |
| Solubility(ies) | | |
| Water solubility | : | insoluble (20 °C) |
| Decomposition temperature | : | > 200 °C |
| Viscosity | : | No data is available on the product itself. |

### 9.2 Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

| | | |
|---|---|---|
| Hazardous reactions | : | Stable under normal conditions. |

### 10.4 Conditions to avoid

| | | |
|---|---|---|
| Conditions to avoid | : | None known. |

### 10.5 Incompatible materials

| | | |
|---|---|---|
| Materials to avoid | : | Strong acids and strong bases<br>Strong oxidizing agents |

### 10.6 Hazardous decomposition products

Burning produces obnoxious and toxic fumes., Carbon oxides, Nitrogen oxides (NOx)

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

Acute oral toxicity : LD50 (Mouse, male and female): > 5.000 mg/kg
Method: OECD Test Guideline 401

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

Acute oral toxicity : LD50 (Rat, female): > 2.000 mg/kg
Method: OECD Test Guideline 420
GLP: yes

1,4-bis(2,3-epoxypropoxy)butane**:**

Acute oral toxicity : LD50 (Rat, male and female): 1.163 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity - Product : Acute toxicity estimate : > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3.000 mg/kg
Method: OECD Test Guideline 402

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

1,4-bis(2,3-epoxypropoxy)butane**:**

Acute dermal toxicity : LD50 (Rat, male and female): > 2.150 mg/kg
GLP: no

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

**Skin corrosion/irritation**

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Species: Rabbit
Assessment: Mild skin irritant
Method: OECD Test Guideline 404
Result: Normally reversible injuries

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**
Species: Rabbit
Assessment: Mild skin irritant
Method: OECD Test Guideline 404
Result: Irritating to skin.
GLP: yes

1,4-bis(2,3-epoxypropoxy)butane**:**
Species: Rabbit
Assessment: No skin irritation
Method: OECD Test Guideline 404
Result: Based on Human Evidence
GLP: yes

**Serious eye damage/eye irritation**

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Species: Rabbit
Assessment: Mild eye irritant
Result: Normally reversible injuries

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**
Species: Rabbit
Assessment: Mild eye irritant
Method: OECD Test Guideline 405
Result: Irritating to eyes.
GLP: yes

1,4-bis(2,3-epoxypropoxy)butane**:**
Species: Rabbit
Assessment: Severe eye irritation
Method: OECD Test Guideline 405
Result: Irreversible effects on the eye
GLP: yes

**Respiratory or skin sensitization**

**Ingredients:**

2-Oxiranemethanamine, N,N'-(methylenedi-4,1-phenylene)bis[N-(2-oxiranylmethyl)-**:**
Routes of exposure: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Weak sensitiser

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxirane**:**
Routes of exposure: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: Causes sensitization.

Oxirane, 2,2'-[1,4-butanediylbis(oxymethylene)]bis-**:**
Routes of exposure: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Causes sensitization.

Assessment: No data available

**Germ cell mutagenicity**

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

: Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**
Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive
GLP: yes

: Concentration: 0 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive
GLP: no

1,4-bis(2,3-epoxypropoxy)butane**:**
Genotoxicity in vitro : Concentration: 10 - 5000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive
GLP: yes

: Concentration: 1 - 100 µg/L
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive

GLP: yes

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

Genotoxicity in vivo : Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Cell type: Germ
Application Route: Oral
Exposure time: 5 d
Method: OECD Test Guideline 483
Result: negative
GLP: yes

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

Genotoxicity in vivo : Cell type: Germ
Application Route: Oral
Method: OECD Test Guideline 478
Result: negative
GLP: no

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

1,4-bis(2,3-epoxypropoxy)butane**:**

Genotoxicity in vivo : Cell type: Somatic
Application Route: Oral
Exposure time: 4 d
Dose: 187.5 - 750 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

**Carcinogenicity**

**Ingredients:**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

Species: Rat, (male and female)
Application Route: Oral
Exposure time: 24 month(s)
Dose: 15 mg/kg
Frequency of Treatment: 7 daily

Method: OECD Test Guideline 453
Result: negative

Species: Mouse, (male)
Application Route: Dermal
Exposure time: 24 month(s)
Dose: .1 mg/kg
Frequency of Treatment: 3 daily
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 daily
Method: OECD Test Guideline 453
Result: negative

Carcinogenicity - Assessment : No data available

**Reproductive toxicity**

**Ingredients:**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

Effects on fetal development : Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOAEL (No observed adverse effect level): 90 mg/kg body weight
Method: OECD Test Guideline 414
Result: No teratogenic effects.

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

Species: Rabbit, female
Application Route: Dermal
General Toxicity Maternal: NOAEL (No observed adverse effect level): 30 mg/kg body weight
Method: Other guidelines
Result: No teratogenic effects.
GLP: yes

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

Result: No teratogenic effects.
GLP: yes

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

Reproductive toxicity - Assessment : No data available

**STOT-single exposure**

No data available

**STOT-repeated exposure**

No data available

**Repeated dose toxicity**

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Species: Rat, male and female
NOAEL (No observed adverse effect level): 50
Application Route: Ingestion
Exposure time: 13 WeeksNumber of exposures: 7 d
Method: Subchronic toxicity

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**
Species: Rat, male and female
NOAEL (No observed adverse effect level): 50 mg/kg
Application Route: Ingestion
Exposure time: 14 WeeksNumber of exposures: 7 d
Method: Subchronic toxicity

Species: Rat, male and female
No-observed-effect level: 10 mg/kg
Application Route: Skin contact
Exposure time: 13 WeeksNumber of exposures: 5 d
Method: Subchronic toxicity

Species: Mouse, male
NOAEL (No observed adverse effect level): 100 mg/kg
Application Route: Skin contact
Exposure time: 13 WeeksNumber of exposures: 3 d
Method: Subchronic toxicity

1,4-bis(2,3-epoxypropoxy)butane**:**
Species: Rat, male and female
NOAEL (No observed adverse effect level): 200 mg/kg
Application Route: Ingestion
Exposure time: 672 hNumber of exposures: 7 d

Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

**Aspiration toxicity**
No data available

**Experience with human exposure**
General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

**Toxicology, Metabolism, Distribution**
No data available

**Neurological effects**
No data available

**Further information**
Ingestion: No data available

## SECTION 12: Ecological information

### 12.1 Toxicity

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 6 - < 8 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

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
GLP: no

1,4-bis(2,3-epoxypropoxy)butane**:**
Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 24 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: no

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4,7 mg/l
Exposure time: 48 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 202

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,7 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: yes

1,4-bis(2,3-epoxypropoxy)butane**:**
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 75 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: no

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**
Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): > 11 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**
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

GLP: no

1,4-bis(2,3-epoxypropoxy)butane**:**

| | | |
|---|---|---|
| Toxicity to algae | : | EL50: > 160 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: OECD Test Guideline 201<br>GLP: yes |
| M-Factor (Acute aquatic toxicity) | : | No data available |

**Ingredients:**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

| | | |
|---|---|---|
| Toxicity to fish (Chronic toxicity) | : | GLP: yes |

**Ingredients:**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0,3 mg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea)<br>Test Type: semi-static test<br>Test substance: Fresh water<br>Method: OECD Test Guideline 211 |
| M-Factor (Chronic aquatic toxicity) | : | No data available |

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

| | | |
|---|---|---|
| Toxicity to bacteria | : | IC50 (Pseudomonas putida): > 10.000 mg/l<br>Exposure time: 24 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: DIN 38 412 Part 8 |

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

| | | |
|---|---|---|
| Toxicity to bacteria | : | IC50 (activated sludge): > 100 mg/l<br>Exposure time: 3 h<br>Test Type: static test<br>Test substance: Fresh water<br>GLP: no |

1,4-bis(2,3-epoxypropoxy)butane**:**

| | | |
|---|---|---|
| Toxicity to bacteria | : | IC50 (activated sludge): > 100 mg/l<br>Exposure time: 3 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: OECD Test Guideline 209<br>GLP: no |

| | | |
|---|---|---|
| Toxicity to soil dwelling organisms | : | No data available |
| Plant toxicity | : | No data available |
| Sediment toxicity | : | No data available |
| Toxicity to terrestrial organisms | : | No data available |
| Ecotoxicology Assessment<br>Acute aquatic toxicity | : | No data available |
| Chronic aquatic toxicity | : | No data available |
| Toxicity Data on Soil | : | No data available |
| Other organisms relevant to the environment | : | No data available |
| Remarks | : | No data available |

Further information:
No data available

### 12.2 Persistence and degradability

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

| | | |
|---|---|---|
| Biodegradability | : | Inoculum: activated sludge<br>Result: Not readily biodegradable.<br>Biodegradation: > 9 - < 10 %<br>Exposure time: 29 - 30 d<br>Method: OECD Test Guideline 301B |

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

| | | |
|---|---|---|
| Biodegradability | : | Inoculum: Sewage (STP effluent)<br>Concentration: 20 mg/l<br>Result: Not readily biodegradable.<br>Biodegradation: 5 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F |

1,4-bis(2,3-epoxypropoxy)butane**:**

| | | |
|---|---|---|
| Biodegradability | : | Inoculum: activated sludge<br>Concentration: 20 mg/l<br>Result: Not readily biodegradable.<br>Biodegradation: 43 %<br>Exposure time: 28 d<br>Method: OECD Test Guideline 301F |
| Biochemical Oxygen Demand (BOD) | : | No data available |

| | | |
|---|---|---|
| Chemical Oxygen Demand (COD) | : | No data available |
| BOD/COD | : | No data available |
| ThOD | : | No data available |
| BOD/ThOD | : | No data available |
| Dissolved organic carbon (DOC) | : | No data available |
| Physico-chemical removability | : | No data available |
| Stability in water | : | No data available |
| Photodegradation | : | No data available |

### 12.3 Bioaccumulative potential

**Ingredients:**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

| | | |
|---|---|---|
| Bioaccumulation | : | Bioconcentration factor (BCF): 31<br>GLP: no<br>Remarks: Does not bioaccumulate. |

### 12.4 Mobility in soil

| | | |
|---|---|---|
| Mobility | : | No data available |

**Ingredients:**

4,4'-methylenebis[N,N-bis(2,3-epoxypropyl)aniline]**:**

| | | |
|---|---|---|
| Distribution among environmental compartments | : | Koc: < 18. Method: OECD Test Guideline 121 |

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)**:**

| | | |
|---|---|---|
| Distribution among environmental compartments | : | Koc: 445. |

1,4-bis(2,3-epoxypropoxy)butane**:**

| | | |
|---|---|---|
| Distribution among environmental compartments | : | Koc: 12,59. Method: OECD Test Guideline 121 |
| Stability in soil | : | No data available |

### 12.5 Results of PBT and vPvB assessment

| | | |
|---|---|---|
| Assessment | : | No data available |

### 12.6 Other adverse effects

| | | |
|---|---|---|
| Environmental fate and pathways | : | No data available |

| | | |
|---|---|---|
| Endocrine disrupting potential | : | No data available |
| Adsorbed organic bound halogens (AOX) | : | No data available |
| Ozone-Depletion Potential | | No data available |
| Additional ecological information | : | No data available |
| Global warming potential (GWP) | : | No data available |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

| | | |
|---|---|---|
| Product | : | Can be landfilled or incinerated, when in compliance with local regulations.<br>Where possible recycling is preferred to disposal or incineration.<br>Send to a licensed waste management company. |
| Contaminated packaging | : | Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers. |

## SECTION 14: Transport information

**IATA**

| | | |
|---|---|---|
| **14.1 UN number** | : | UN 3082 |
| **14.2 UN proper shipping name** | : | Environmentally hazardous substance, liquid, n.o.s.<br>(EPOXY RESIN) |
| **14.3 Transport hazard class(es)** | : | 9 |
| **14.4 Packing group** | : | III |
| Labels | : | Miscellaneous |
| Packing instruction (cargo aircraft) | : | 964 |
| Packing instruction (passenger aircraft) | : | 964 |

**IMDG**

| | | |
|---|---|---|
| **14.1 UN number** | : | UN 3082 |
| **14.2 UN proper shipping name** | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(EPOXY RESIN) |
| **14.3 Transport hazard** | : | 9 |

**class(es)**
**14.4 Packing group** : III
Labels : 9
EmS Code : F-A, S-F
**14.5 Environmental hazards**
Marine pollutant : yes

**ADR**
**14.1 UN number** : UN 3082
**14.2 UN proper shipping name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)
**14.3 Transport hazard class(es)** : 9
**14.4 Packing group** : III
Labels : 9
**14.5 Environmental hazards**
Marine pollutant : no

**RID**
**14.1 UN number** : UN 3082
**14.2 UN proper shipping name** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)
**14.3 Transport hazard class(es)** : 9
**14.4 Packing group** : III
Labels : 9
**14.5 Environmental hazards**
Marine pollutant : no

**Transport in bulk according to Annex II of MARPOL 73/78 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**

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

TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AICS : On the inventory, or in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : Not in compliance with the inventory

| | | |
|---|---|---|
| ISHL | : | Not in compliance with the inventory |
| KECI | : | On the inventory, or in compliance with the inventory |
| PICCS | : | Not in compliance with the inventory |
| IECSC | : | On the inventory, or in compliance with the inventory |

**Inventories**

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

**15.2 Chemical Safety Assessment**

## SECTION 16: Other information

**Full text of H-Statements**

| | | |
|---|---|---|
| H302 | : | Harmful if swallowed. |
| H312 | : | Harmful in contact with skin. |
| H315 | : | Causes skin irritation. |
| H317 | : | May cause an allergic skin reaction. |
| H318 | : | Causes serious eye damage. |
| H319 | : | Causes serious eye irritation. |
| H332 | : | Harmful if inhaled. |
| H411 | : | Toxic to aquatic life with long lasting effects. |
| H412 | : | Harmful to aquatic life with long lasting effects. |

**Full text of other abbreviations**

| | | |
|---|---|---|
| Acute Tox. | : | Acute toxicity |
| Aquatic Chronic | : | Chronic aquatic toxicity |
| Eye Dam. | : | Serious eye damage |
| Eye Irrit. | : | Eye irritation |
| Skin Irrit. | : | Skin irritation |
| Skin Sens. | : | Skin sensitization |

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Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards,

toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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