

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## EPOCAST® 50-A1 US

Version 1.3      Revision Date: 18.05.2022      SDS Number: 400001008922      Date of last issue: 05.09.2018  
Date of first issue: 17.08.2015

Print Date 28.06.2022

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

#### 1.1 Product identifier

Trade name : EPOCAST® 50-A1 US

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

Use of the Substance/Mixture : Epoxy constituents

#### 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.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.
Chronic aquatic toxicity, 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.  
H361 Suspected of damaging fertility or the unborn child.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P261 Avoid breathing mist or vapours.  
P264 Wash skin thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.  
**Response:**  
P391 Collect spillage.

Hazardous components which must be listed on the label:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane  
Phenol, polymer with formaldehyde, glycidyl ether  
tris(methylphenyl) phosphate

**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: This substance/mixture contains components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

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

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**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Hazardous components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3 216-823-5 603-073-00-2 01-2119456619-26	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411  specific concentration limit Skin Irrit. 2; H315 >= 5 % Eye Irrit. 2; H319 >= 5 %	>= 30 - < 50
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4 Polymer	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 30 - < 50
Silsesquioxanes, Ph, hydroxy-terminated	181186-39-0 Polymer	Acute Tox. 4; H332	>= 10 - < 20
tris(methylphenyl) phosphate	1330-78-5 215-548-8	Repr. 2; H361 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 10 - < 20
4-nonylphenol, branched	84852-15-3 284-325-5 601-053-00-8 01-2119510715-45	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Repr. 2; H361fd Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 0,25 - < 1

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		Acute toxicity estimate	
		Acute oral toxicity: 1 412 mg/kg	

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.  
Consult a physician.  
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 : Induce vomiting immediately and call a physician.  
Keep respiratory tract clear.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

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

#### 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.

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### 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.  
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. Observe label precautions. Keep in properly labelled containers.
- Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.
- Further information on storage stability : Stable under normal conditions.
- Recommended storage temperature : 2 - 40 °C

#### 7.3 Specific end use(s)

- Specific use(s) : No data available

### 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

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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
	Consumers	Oral	Long-term systemic effects	0,5 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.)
	Soil	0,065 mg/kg dry weight (d.w.)
	Sewage treatment plant	10 mg/l
	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 : Nitrile rubber  
Break through time : 10 - 480 min

Material : Ethyl Vinyl Alcohol Laminate (EVAL)  
Break through time : > 8 h

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).

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- 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 : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines  
Equipment should conform to EN 14387
- 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

- Physical state : liquid
- Colour : amber
- Odour : slight
- Odour Threshold : No data is available on the product itself.
- pH : No data is available on the product itself.
- Melting point/freezing point : No data available
- Boiling point : > 200 °C
- Flash point : > 95 °C  
Method: 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 : < 1,5 hPa (20 °C)
- Relative vapour density : No data is available on the product itself.
- Relative density : 1,21
- Density : 1,2 g/cm<sup>3</sup> (25 °C)
- Solubility(ies)  
Water solubility : partly soluble (20 °C)
- Solubility in other solvents : No data is available on the product itself.
- Partition coefficient: n- : No data is available on the product itself.



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octanol/water

Auto-ignition temperature : No data is available on the product itself.

Decomposition temperature : > 200 °C

Viscosity

Viscosity, dynamic : 7 770 mPa.s (25 °C)

### 9.2 Other information

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

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

Burning rate : No data is available on the product itself.

Evaporation rate : No data is available on the product itself.

Molecular weight : 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 : Strong acids and strong bases  
Strong oxidizing agents

### 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:**

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

### Components:

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

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

#### **Phenol, polymer with formaldehyde, glycidyl ether:**

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

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

#### **Silsesquioxanes, Ph, hydroxy-terminated:**

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after short term inhalation.

#### **tris(methylphenyl) phosphate:**

Acute oral toxicity : LD50 (Rat): > 20 000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 11,1 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): 3 700 mg/kg  
Assessment: The component/mixture is low toxic after single contact with skin.

#### **4-nonylphenol, branched:**

Acute oral toxicity : LD50 (Rat, male and female): 1 412 mg/kg  
Acute toxicity estimate: 1 412 mg/kg  
Method: Calculation method

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Acute dermal toxicity : LD50 (Rabbit, male): 2 031 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### 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.

##### **Phenol, polymer with formaldehyde, glycidyl ether:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Irritating to skin.

##### **tris(methylphenyl) phosphate:**

Species : Rabbit  
Result : No skin irritation

##### **4-nonylphenol, branched:**

Species : Rabbit  
Assessment : Causes burns.  
Result : Causes burns.

### 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.

##### **Phenol, polymer with formaldehyde, glycidyl ether:**

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

##### **tris(methylphenyl) phosphate:**

Species : Rabbit  
Result : No eye irritation

##### **4-nonylphenol, branched:**

Result : Risk of serious damage to eyes.

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### Respiratory or skin 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.

##### **Phenol, polymer with formaldehyde, glycidyl ether:**

Exposure routes : Skin  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : May cause sensitisation by skin contact.

##### **tris(methylphenyl) phosphate:**

Exposure routes : Skin  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Does not cause skin sensitisation.

##### **4-nonylphenol, branched:**

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  
Test system: mouse lymphoma cells  
Metabolic activation: without metabolic activation  
Result: positive

Test Type: reverse mutation assay  
Test system: Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)  
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay  
Species: Mouse (male)  
Cell type: Germ  
Application Route: Oral  
Dose: 3333, 10000 mg/kg  
Result: negative

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Test Type: gene mutation test  
Species: Rat (male)  
Cell type: Somatic  
Application Route: Oral  
Dose: 50,250,500,1000 mg/kg bw/day  
Method: OECD Test Guideline 488  
Result: negative

### Phenol, polymer with formaldehyde, glycidyl ether:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Result: positive

Concentration: 0 - 5000 ug/plate  
Metabolic activation: with and without metabolic activation  
Result: positive

Genotoxicity in vivo : Cell type: Germ  
Application Route: Oral  
Result: negative

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

### tris(methylphenyl) phosphate:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Result: negative

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects

### Carcinogenicity

#### 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

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Method : OECD Test Guideline 453  
Result : negative  
Target Organs : Digestive organs

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

### **Phenol, polymer with formaldehyde, glycidyl ether:**

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

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Frequency of Treatment : 5 daily  
Method : OECD Test Guideline 453  
Result : negative

### tris(methylphenyl) phosphate:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

### 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  
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

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Method: OECD Test Guideline 414

Result: No teratogenic effects

### Phenol, polymer with formaldehyde, glycidyl ether:

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
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  
General Toxicity Maternal: NOAEL: 30 mg/kg body weight  
Result: No teratogenic effects

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

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

### tris(methylphenyl) phosphate:

Effects on fertility : Species: Rat, male and female  
Application Route: Oral  
General Toxicity - Parent: LOAEL: 62,5 mg/kg body weight  
Target Organs: Testes, Ovary  
Method: OECD Test Guideline 415  
Result: positive

Effects on foetal development : Species: Rat, female  
Application Route: Oral  
Dose: 20, 100, 400, 750 milligram per kilogram  
General Toxicity Maternal: NOEL: 20 mg/kg body weight  
Method: OPPTS 870.3700  
Result: Teratogenic effects

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

### 4-nonylphenol, branched:

Effects on foetal development : Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 75 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

Reproductive toxicity - : Suspected human reproductive toxicant



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Assessment

### STOT - single exposure

No data available

### 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 : >= 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

#### **Phenol, polymer with formaldehyde, glycidyl ether:**

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

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Exposure time : 13 Weeks  
Number of exposures : 3 d  
Method : Subchronic toxicity

### tris(methylphenyl) phosphate:

Species : Rat, male and female  
NOEL : 1000 mg/kg  
Application Route : Ingestion  
Exposure time : 2 160 h  
Method : Subchronic toxicity

### 4-nonylphenol, branched:

Species : Rat, male and female  
NOAEL : 100 mg/kg  
Application Route : Ingestion  
Exposure time : 672 h  
Number of exposures : 7 d  
Method : Subacute toxicity

Species : Rat, male and female  
NOAEL : 50 mg/kg  
Application Route : Ingestion  
Exposure time : 2 160 h  
Number of exposures : 7 d  
Method : Subchronic toxicity

### Aspiration toxicity

No data available

## 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

No data available

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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.

##### **Phenol, polymer with formaldehyde, glycidyl ether:**

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)): 1,7 mg/l  
Exposure time: 48 h

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Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 202

EC50 (Daphnia magna (Water flea)): 2,7 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 9,4 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water

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

Toxicity to fish (Chronic toxicity) : GLP: yes

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

### tris(methylphenyl) phosphate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,6 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,146 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 : 0,4042 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (activated sludge): > 1 000 mg/l  
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 0,01 mg/l  
Exposure time: 28 d  
Species: Other

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,1 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: semi-static test

M-Factor (Chronic aquatic toxicity) : 1

### 4-nonylphenol, branched:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0,128 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Test substance: Fresh water  
Method: ASTM Method, other

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,209 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Test substance: Fresh water  
Method: ASTM Method, other

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,221 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Test substance: Fresh water  
Method: ASTM Method, other

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,085 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: ASTM Method, other

EC50 (Daphnia magna (Water flea)): 0,14 mg/l  
Exposure time: 48 h  
Test substance: Fresh water  
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic plants : EbC50 (Desmodesmus subspicatus (green algae)): 1,3 mg/l  
Exposure time: 72 h  
Test Type: static test  
Test substance: Fresh water

ErC50 (Selenastrum capricornutum (green algae)): 0,41 mg/l  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: Algal Toxicity, Tiers I and II

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): 950 mg/l  
Exposure time: 3 h

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

Toxicity to fish (Chronic toxicity) : NOEC: 0,006 mg/l  
Exposure time: 91 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Test Type: flow-through test  
Test substance: Fresh water

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to soil dwelling organisms : EC10: 3,44 mg/kg  
Exposure time: 504 h

EC50: 906,7 mg/kg  
Exposure time: 4 Weeks  
Species: Other  
Test substance: Synthetic

Toxicity to terrestrial organisms : EC10: 63,2 mg/kg  
Exposure time: 672 h  
Test substance: Synthetic

### 12.2 Persistence and degradability

#### Components:

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

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge, non-adapted  
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)  
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

#### **Phenol, polymer with formaldehyde, glycidyl ether:**

Biodegradability : Inoculum: Sewage (STP effluent)

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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)  
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

### tris(methylphenyl) phosphate:

Biodegradability : Test Type: aerobic  
Inoculum: Sewage (STP effluent)  
Concentration: 100 mg/l  
Result: Readily biodegradable.  
Biodegradation: 80 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

### 4-nonylphenol, branched:

Biodegradability : Inoculum: activated sludge  
Concentration: 13 mg/l  
Result: Inherently biodegradable.  
Biodegradation: ca. 48,2 %  
Exposure time: 35 d  
Method: OECD Test Guideline 301B

Inoculum: Sediment  
Concentration: 2  
Result: Inherently biodegradable.  
Biodegradation: 100 %  
Exposure time: 63 - 84 d  
Method: Anaerobic Biodegradability in the Subsurface

Inoculum: Marine water  
Concentration: 11  
Biodegradation: 50 %  
Exposure time: 56 - 112 d  
Method: OECD Test Guideline 309

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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

##### **Phenol, polymer with formaldehyde, glycidyl ether:**

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

##### **tris(methylphenyl) phosphate:**

Partition coefficient: n-octanol/water : log Pow: 5,93

##### **4-nonylphenol, branched:**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 231  
Remarks: Does not bioaccumulate.

Species: Pimephales promelas (fathead minnow)  
Bioconcentration factor (BCF): 740  
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 5,4 (23 °C)  
pH: 5,7  
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

##### **Phenol, polymer with formaldehyde, glycidyl ether:**

Distribution among environmental compartments : Koc: 445

##### **tris(methylphenyl) phosphate:**

Distribution among environmental compartments : Koc: 4,31  
Method: OECD Test Guideline 121



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### 4-nonylphenol, branched:

Distribution among environmental compartments : Koc: 23000 - 489000

## 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 : This substance/mixture contains components considered to have endocrine disrupting properties for environment , according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

### Components:

#### 4-nonylphenol, branched:

Assessment : The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

## 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.

## 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.  
Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.

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

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### 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.  
(BISPHENOL A EPOXY RESIN, EPOXY PHENOL NOVOLAC RESIN)  
**ADR** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(BISPHENOL A EPOXY RESIN, EPOXY PHENOL NOVOLAC RESIN)  
**RID** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(BISPHENOL A EPOXY RESIN, EPOXY PHENOL NOVOLAC RESIN)  
**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(BISPHENOL A EPOXY RESIN, EPOXY PHENOL NOVOLAC RESIN)  
**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
(BISPHENOL A EPOXY RESIN, EPOXY PHENOL NOVOLAC RESIN)

#### 14.3 Transport hazard class(es)

**ADN** : 9  
**ADR** : 9  
**RID** : 9  
**IMDG** : 9  
**IATA** : 9

#### 14.4 Packing group

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

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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

## 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.

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### 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). : 4-nonylphenol, branched

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, 34, 4 bis, 84

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

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

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

NZIoC : Not in compliance with the inventory

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

KECI : Not in compliance with the inventory

PICCS : Not 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

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## EPOCAST® 50-A1 US

Version 1.3      Revision Date: 18.05.2022      SDS Number: 400001008922      Date of last issue: 05.09.2018  
Date of first issue: 17.08.2015

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TSCA : All substances listed as active on the TSCA 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

H302 : Harmful if swallowed.  
H314 : Causes severe skin burns and eye damage.  
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.  
H361 : Suspected of damaging fertility or the unborn child.  
H361fd : Suspected of damaging fertility. Suspected of damaging the unborn child.  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.  
H411 : Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Acute : Short-term (acute) aquatic hazard  
Aquatic Chronic : Chronic aquatic toxicity  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Repr. : Reproductive toxicity  
Skin Corr. : Skin corrosion  
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  
Repr. 2      H361  
Aquatic Chronic 2      H411

#### Classification procedure:

Calculation method  
Calculation method  
Calculation method  
Calculation method  
Calculation method

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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