

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® 2028-1 POLYOL

|         |                |              |                                 |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number:  | Date of last issue: 02.10.2018  |
| 1.3     | 03.02.2022     | 400001013922 | Date of first issue: 12.05.2015 |

Print Date 18.04.2024

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

#### 1.1 Product identifier

Trade name : ARALDITE® 2028-1 POLYOL

Unique Formula Identifier (UFI) : K2V0-J0Y5-2007-61EN

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

Use of the Substance/Mixture : Component of a Polyurethane System.

#### 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

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Eye irritation, Category 2

H319: Causes serious eye irritation.

#### 2.2 Label elements

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

Hazard pictograms

:



Signal word

: Warning

Hazard statements

: H319

Causes serious eye irritation.

Precautionary statements

: **Prevention:**

P264

Wash skin thoroughly after handling.

P280

Wear eye protection/ face protection.

**Response:**

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313

If eye irritation persists: Get medical advice/ attention.

#### 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

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) |
|---------------|-------------------------------------------------------|----------------|--------------------------|
|               |                                                       |                |                          |

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|                                               |                                            |                                                |                  |
|-----------------------------------------------|--------------------------------------------|------------------------------------------------|------------------|
| [3-(2,3-epoxypropoxy)propyl]trimethoxy silane | 2530-83-8<br>219-784-2<br>01-2119513212-58 | Eye Dam. 1; H318<br>Aquatic Chronic 3;<br>H412 | $\geq 1 - < 2,5$ |
| propylidynetrimethanol                        | 77-99-6<br>201-074-9<br>01-2119486799-10   | Repr. 2; H361                                  | $\geq 1 - < 3$   |

For explanation of abbreviations see section 16.

### 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.  
No action shall be taken involving any personal risk or without suitable training.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact : Wash with water and soap as a precaution.
- 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.

Hazardous combustion products : No hazardous combustion products are known

#### 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.

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### 6.4 Reference to other sections

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

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

- Advice on safe handling : Do not breathe vapours/dust.  
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. 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     |
|-------------------------|---------|-----------------|----------------------------|-----------|
| .epsilon.-Caprolactone, | Workers | Inhalation      | Long-term systemic effects | 3,5 mg/m3 |

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|                                                          |           |            |                                      |                   |
|----------------------------------------------------------|-----------|------------|--------------------------------------|-------------------|
| oligomeric reaction products with propylidynetrimethanol |           |            |                                      |                   |
|                                                          | Workers   | Dermal     | Long-term systemic effects           | 1,1 mg/kg         |
|                                                          | Consumers | Inhalation | Long-term systemic effects           | 1 mg/m3           |
|                                                          | Consumers | Dermal     | Long-term systemic effects           | 0,6 mg/kg         |
|                                                          | Consumers | Oral       | Long-term systemic effects           | 0,6 mg/kg         |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane             | Workers   | Dermal     | Systemic effects, Long-term exposure | 21 mg/kg bw/day   |
|                                                          | Workers   | Inhalation | Systemic effects, Long-term exposure | 147 mg/m3         |
|                                                          | Consumers | Oral       | Systemic effects, Long-term exposure | 12,5 mg/kg bw/day |
|                                                          | Consumers | Inhalation | Systemic effects, Long-term exposure | 43,5 mg/kg bw/day |
|                                                          | Consumers | Dermal     | Systemic effects, Long-term exposure | 12,5 mg/kg bw/day |
| propylidynetrimethanol                                   | Workers   | Inhalation | Long-term systemic effects           | 3,3 mg/m3         |
|                                                          | Workers   | Dermal     | Long-term systemic effects           | 0,94 mg/kg bw/day |
|                                                          | Consumers | Inhalation | Long-term systemic effects           | 0,58 mg/m3        |
|                                                          | Consumers | Dermal     | Long-term systemic effects           | 0,34 mg/kg bw/day |
|                                                          | Consumers | Oral       | Long-term systemic effects           | 0,34 mg/kg bw/day |

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

| Substance name                                                                   | Environmental Compartment | Value      |
|----------------------------------------------------------------------------------|---------------------------|------------|
| .epsilon.-Caprolactone, oligomeric reaction products with propylidynetrimethanol | Fresh water               | 0,15 mg/l  |
|                                                                                  | Marine water              | 0,015 mg/l |
|                                                                                  | Freshwater - intermittent | 1,5 mg/l   |
|                                                                                  | Sewage treatment plant    | 670 mg/l   |
| [3-(2,3-epoxypropoxy)propyl]trimethoxysilane                                     | Fresh water               | 1 mg/l     |
|                                                                                  | Marine water              | 0,1 mg/l   |
|                                                                                  | Freshwater - intermittent | 1 mg/l     |
|                                                                                  | Sewage treatment plant    | 10 mg/l    |
|                                                                                  | Fresh water sediment      | 3,6 mg/kg  |
|                                                                                  | Marine sediment           | 0,36 mg/kg |
|                                                                                  | Soil                      | 0,14 mg/kg |

## 8.2 Exposure controls

### Personal protective equipment

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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 : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

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  
Recommended Filter type:  
Combined particulates and organic vapour type

Filter type : Filter type A-P

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : colourless

Odour : slight

Odour Threshold : No data is available on the product itself.

pH : substance/mixture is non-soluble (in water)

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : > 100 °C

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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 : No data is available on the product itself.

Relative vapour density : No data is available on the product itself.

Relative density : No data is available on the product itself.

Density : 1,1 g/cm<sup>3</sup> (25 °C)

Solubility(ies)  
Water solubility : insoluble (20 °C)

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

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

Decomposition temperature : No data is available on the product itself.

Viscosity  
Viscosity, dynamic : 4 000 - 5 000 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.

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### 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

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

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

#### Acute toxicity

##### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

Acute oral toxicity : LD50 (Rat, male and female): 8 025 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): 4 250 mg/kg  
Method: OECD Test Guideline 402

##### **propylidynetrimethanol:**

Acute oral toxicity : LD50 (Rat, male): ca. 14 700 mg/kg  
Method: OECD Test Guideline 401  
GLP: no  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat, male): > 850 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Directive 67/548/EEC, Annex V, B.2.  
GLP: no  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 10 000 mg/kg  
Method: OECD Test Guideline 402

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GLP: no

Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 404 |
| Result  | : | No skin irritation      |

##### **propylidynetrimethanol:**

|               |   |                                     |
|---------------|---|-------------------------------------|
| Species       | : | Rabbit                              |
| Exposure time | : | 24 h                                |
| Assessment    | : | No skin irritation                  |
| Method        | : | Directive 67/548/EEC, Annex V, B.4. |
| Result        | : | No skin irritation                  |

### Serious eye damage/eye irritation

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

|            |   |                                 |
|------------|---|---------------------------------|
| Species    | : | Rabbit                          |
| Assessment | : | Severe eye irritation           |
| Method     | : | OECD Test Guideline 405         |
| Result     | : | Risk of serious damage to eyes. |

##### **propylidynetrimethanol:**

|            |   |                   |
|------------|---|-------------------|
| Species    | : | Rabbit            |
| Assessment | : | No eye irritation |
| Result     | : | No eye irritation |
| GLP        | : | no                |

### Respiratory or skin sensitisation

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

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

##### **propylidynetrimethanol:**

|                 |   |                                                    |
|-----------------|---|----------------------------------------------------|
| Test Type       | : | Local lymph node assay (LLNA)                      |
| Exposure routes | : | Skin                                               |
| Species         | : | Mouse                                              |
| Assessment      | : | Did not cause sensitisation on laboratory animals. |
| Method          | : | OECD Test Guideline 429                            |
| Result          | : | Did not cause sensitisation on laboratory animals. |

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GLP : yes

### Germ cell mutagenicity

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

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

Genotoxicity in vivo : Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: positive

Application Route: Intraperitoneal injection  
Dose: 1600 mg/kg  
Result: negative

Application Route: Oral  
Result: negative

##### **propylidynetrimethanol:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Test system: Salmonella tryphimurium and E. coli  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster lung cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster lung cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes

### Carcinogenicity

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

Species : Mouse, male

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|                        |   |          |
|------------------------|---|----------|
| Application Route      | : | Dermal   |
| Exposure time          | : | 482 days |
| Dose                   | : | 5 mg/kg  |
| Frequency of Treatment | : | 3 daily  |
| Result                 | : | negative |

### Reproductive toxicity

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

|                      |   |                                                                                                                                                                               |
|----------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility | : | Species: Rat, male and female<br>Application Route: Oral<br>Method: OECD Test Guideline 415<br>Result: No effects on fertility and early embryonic development were detected. |
|----------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                               |   |                                                                                                                                                                                    |
|-------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on foetal development | : | Species: Rabbit, female<br>Application Route: Oral<br>General Toxicity Maternal: NOAEL: 200 mg/kg body weight<br>Method: OECD Test Guideline 414<br>Result: No teratogenic effects |
|-------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

##### **propylidynetrimethanol:**

|                      |   |                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility | : | Test Type: Reproduction / Developmental Toxicity Screening Test<br>Species: Rat, male and female<br>Application Route: Oral<br>Dose: 0/250/500/1000 mg/kg bw/day<br>Frequency of Treatment: 7 days/week<br>General Toxicity - Parent: NOAEL: > 1 000 mg/kg body weight<br>General Toxicity F1: NOAEL: > 1 000 mg/kg body weight<br>Method: OECD Test Guideline 421<br>Result: negative<br>GLP: yes |
|----------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|  |   |                                                                                                                                                                                                                                                                                                                          |
|--|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | : | Species: Rat, male and female<br>Application Route: Oral<br>Dose: 0/740/2200/6600 ppm<br>Frequency of Treatment: 7 days/week<br>General Toxicity - Parent: NOAEL: 2 200 ppm<br>General Toxicity F1: NOAEL: 2 200 ppm<br>General Toxicity F2: NOAEL: 740 parts per million<br>Method: OECD Test Guideline 443<br>GLP: yes |
|--|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                               |   |                                                                                                                                                                                                                                                                                                                              |
|-------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on foetal development | : | Test Type: Pre-natal<br>Species: Rabbit, female<br>Application Route: Oral<br>Duration of Single Treatment: 24 d<br>Frequency of Treatment: 7 days/week<br>General Toxicity Maternal: NOAEL: >= 450 mg/kg body weight<br>Developmental Toxicity: NOAEL: 450 mg/kg body weight<br>Method: OECD Test Guideline 414<br>GLP: yes |
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Test Type: Pre-natal  
Species: Rat, female  
Application Route: Oral  
Dose: 0 / 100 / 300/ 1000 mg/kg bw/  
Duration of Single Treatment: 15 d  
Frequency of Treatment: 7 days/week  
General Toxicity Maternal: NOAEL: 100 mg/kg body weight  
Developmental Toxicity: NOEL: 100 mg/kg body weight  
Method: OECD Test Guideline 414  
GLP: yes

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

### STOT - single exposure

No data available

### STOT - repeated exposure

No data available

### Repeated dose toxicity

#### Components:

#### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

Species : Rat, male and female  
NOEC : > 1000 mg/m3  
Application Route : Inhalation  
Test atmosphere : dust/mist  
Exposure time : 672 h  
Number of exposures : 5 d  
Method : OECD Test Guideline 412

Species : Rat, male and female  
NOAEL : 1000 mg/kg/d  
Application Route : Ingestion  
Exposure time : 2 160 h  
Number of exposures : 7 d  
Method : Subchronic toxicity

#### **propylidynetrimethanol:**

Species : Rat, male and female  
NOEC : 67 mg/kg  
Application Route : oral (feed)  
Exposure time : 90 d  
Number of exposures : 7 days/week  
Dose : 20, 67, 200, 667 mg/kg bw/d  
Method : Subchronic toxicity

### Aspiration toxicity

No data available

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### 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

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

##### **[3-(2,3-epoxypropoxy)propyl]trimethoxysilane:**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 55 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Test substance: Fresh water  
Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other : LC50 : 324 mg/l  
aquatic invertebrates  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to algae/aquatic : EC50 : 119 mg/l  
plants  
Exposure time: 168 h  
Test Type: static test  
Test substance: Fresh water

Toxicity to daphnia and other : NOEC: >= 100 mg/l  
aquatic invertebrates  
Exposure time: 21 d  
(Chronic toxicity) Species: Daphnia magna (Water flea)  
Test Type: semi-static test  
Test substance: Fresh water  
Method: OECD Test Guideline 211

#### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

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

### propylidynetrimethanol:

Toxicity to fish : LC50 (Fish): > 1 000 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 13 000 mg/l  
Exposure time: 48 h  
Test Type: static test  
Test substance: Fresh water  
Method: ASTM Method, other  
GLP: no

Toxicity to algae/aquatic plants : EbC50 (Selenastrum capricornutum (green algae)): > 1 000 mg/l  
Exposure time: 72 h  
Test substance: Fresh water  
Method: OECD Test Guideline 201  
GLP: no

Toxicity to microorganisms : EC50 : > 1 000 mg/l  
Exposure time: 3 h  
Test substance: Fresh water  
Method: Directive 67/548/EEC, Annex V, C.11

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 1 000 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Test Type: static test  
Test substance: Fresh water  
GLP: no

## 12.2 Persistence and degradability

### Components:

#### [3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Biodegradability : Inoculum: activated sludge  
Result: Not readily biodegradable.  
Biodegradation: 37 %  
Exposure time: 28 d  
Method: Directive 67/548/EEC Annex V, C.4.A.

Stability in water : Degradation half life (DT50): 6,5 hrs (24,5 °C)  
pH: 7  
Method: OECD Test Guideline 111  
Remarks: Fresh water

Degradation half life (DT50): 0,15 hrs (24,5 °C)  
pH: 5  
Method: OECD Test Guideline 111  
Remarks: Fresh water

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Degradation half life (DT50): 0,13 hrs (24,5 °C)  
pH: 9  
Method: OECD Test Guideline 111  
Remarks: Fresh water

### propylidynetrimethanol:

Biodegradability : Test Type: aerobic  
Inoculum: activated sludge  
Concentration: 100 mg/l  
Result: Inherently biodegradable.  
Biodegradation: 100 %  
Related to: Dissolved organic carbon (DOC)  
Exposure time: 28 d  
Method: OECD Test Guideline 302B  
GLP: yes

Inoculum: activated sludge, non-adapted  
Concentration: 19 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 6 %  
Related to: Dissolved organic carbon (DOC)  
Exposure time: 28 d  
Method: OECD Test Guideline 301E  
GLP: yes

## 12.3 Bioaccumulative potential

### Components:

#### [3-(2,3-epoxypropoxy)propyl]trimethoxysilane:

Partition coefficient: n-octanol/water : log Pow: -2,6 (25 °C)

### propylidynetrimethanol:

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Exposure time: 42 d  
Bioconcentration factor (BCF): < 17  
Test substance: Marine water  
Method: flow-through test  
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -0,47 (26 °C)

## 12.4 Mobility in soil

No data available

## 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.

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### 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

No data available

## 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.

## SECTION 14: Transport information

### 14.1 UN number or ID number

Not regulated as dangerous goods

### 14.2 UN proper shipping name

Not regulated as dangerous goods

### 14.3 Transport hazard class(es)

Not regulated as dangerous goods

### 14.4 Packing group

Not regulated as dangerous goods

### 14.5 Environmental hazards

Not regulated as dangerous goods

### 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport 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). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Occupational Illnesses (R-461-3, France) : Not applicable

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

DSL : This product contains one or several components listed in the Canadian NDSL.

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

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

ENCS : Not in compliance with the inventory

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

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

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

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

TSCA : 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))

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### 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

|      |                                                        |
|------|--------------------------------------------------------|
| H318 | : Causes serious eye damage.                           |
| H361 | : Suspected of damaging fertility or the unborn child. |
| H412 | : Harmful to aquatic life with long lasting effects.   |

### Full text of other abbreviations

|                 |                            |
|-----------------|----------------------------|
| Aquatic Chronic | : Chronic aquatic toxicity |
| Eye Dam.        | : Serious eye damage       |
| Repr.           | : Reproductive toxicity    |

### Further information

#### Classification of the mixture:

Eye Irrit. 2                      H319

#### Classification procedure:

Calculation method

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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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