

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**HUNTSMAN**

Enriching lives through innovation

## ARALDITE® 2028-1 ISOCYANATE

|         |                |              |                                 |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number:  | Date of last issue: 03.10.2018  |
| 2.1     | 21.01.2022     | 400001015061 | 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 ISOCYANATE         |
| Substance name | : Hexamethylene diisocyanate, Polymer |
| CAS-No.        | : 28182-81-2                          |
| EC-No.         | : -                                   |

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

|                                 |             |
|---------------------------------|-------------|
| Use of the<br>Substance/Mixture | : Adhesives |
|---------------------------------|-------------|

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

|                                                     |                                            |
|-----------------------------------------------------|--------------------------------------------|
| Company                                             | : Huntsman Advanced Materials (Europe)BVBA |
| Address                                             | : Everslaan 45<br>3078 Everberg<br>Belgium |
| Telephone                                           | : +41 61 299 20 41                         |
| Telefax                                             | : +41 61 299 20 40                         |
| E-mail address of person<br>responsible for the SDS | : Global_Product_EHS_AdMat@huntsman.com    |

#### 1.4 Emergency telephone number

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency telephone number | : Centres Antipoison et de Toxicovigilance:<br>ANGERS: 02 41 48 21 21<br>BORDEAUX: 05 56 96 40 80<br>LILLE: 0 825 812 822<br>LYON: 04 72 11 69 11<br>MARSEILLE 04 91 75 25 25<br>NANCY: 03 83 32 36 36<br>PARIS: 01 40 05 48 48<br>RENNES: 02 99 59 22 22<br>STRASBOURG: 03 88 37 37 37<br>TOULOUSE: 05 61 77 74 47<br>EUROPE: +32 35 75 1234<br>France ORFILA: +33(0)145425959<br>ASIA: +65 6336-6011<br>China: +86 20 39377888<br>+86 532 83889090<br>India: + 91 22 42 87 5333<br>Australia: 1800 786 152<br>New Zealand: 0800 767 437<br>USA: +1/800/424.9300 |
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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

#### 2.2 Label elements

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

Hazard pictograms

:



Signal word

: Warning

Hazard statements

: H317

May cause an allergic skin reaction.

Precautionary statements

: **Prevention:**

P261

Avoid breathing mist or vapours.

P272

Contaminated work clothing should not be allowed out of the workplace.

P280

Wear protective gloves.

**Response:**

P333 + P313

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

P362 + P364

Take off contaminated clothing and wash it before reuse.

**Disposal:**

P501

Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

##### Additional Labelling:

As from 24 August 2023 adequate training is required before industrial or professional use.

#### 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

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### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Substance name : Hexamethylene diisocyanate, Polymer  
CAS-No. : 28182-81-2  
EC-No. : -

#### Hazardous components

| Chemical name                         | CAS-No.<br>EC-No.     | Concentration (%)<br>w/w) | M-Factor, SCL, ATE                                                                                                                                                                                                                        |
|---------------------------------------|-----------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hexamethylene diisocyanate, oligomers | 28182-81-2<br>Polymer | $\geq 90 - \leq 100$      |                                                                                                                                                                                                                                           |
| hexamethylene diisocyanate            | 822-06-0<br>212-485-8 | $\geq 0,1 - < 0,5$        | specific concentration limit<br>Resp. Sens. 1;<br>H334<br>$\geq 0,5$ %<br>Skin Sens. 1; H317<br>$\geq 0,5$ %<br><br>Acute toxicity estimate<br><br>Acute oral toxicity:<br>746 mg/kg<br>Acute inhalation toxicity (vapour):<br>0,124 mg/l |

### 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.

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It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- |                         |   |                                                                                                                                                                           |
|-------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| If inhaled              | : | Call a physician or poison control centre immediately.<br>If inhaled, remove to fresh air.<br>Get medical attention if symptoms occur.                                    |
| In case of skin contact | : | If on skin, rinse well with water.                                                                                                                                        |
| In case of eye contact  | : | Flush eyes with water as a precaution.<br>Remove contact lenses.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.                |
| If swallowed            | : | Keep respiratory tract clear.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.<br>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.

## 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 : No information available.

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.

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Further information : No action shall be taken involving any personal risk or without suitable training.

### SECTION 6: Accidental release measures

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

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

#### 6.2 Environmental precautions

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

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

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

#### 6.4 Reference to other sections

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

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.  
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
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.  
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

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Hygiene measures : 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. Keep in properly labelled containers.

Advice on common storage : For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 2 - 40 °C

Further information on storage stability : Stable under normal conditions.

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

| Components                 | CAS-No.                                                           | Value type (Form of exposure) | Control parameters      | Basis  |
|----------------------------|-------------------------------------------------------------------|-------------------------------|-------------------------|--------|
| hexamethylene diisocyanate | 822-06-0                                                          | VME                           | 0,01 ppm<br>0,075 mg/m3 | FR VLE |
| Further information        | Risk for sensitisation of the airways, Indicative exposure limits |                               |                         |        |
|                            |                                                                   | VLCT (VLE)                    | 0,02 ppm<br>0,15 mg/m3  | FR VLE |
| Further information        | Risk for sensitisation of the airways, Indicative exposure limits |                               |                         |        |

### 8.2 Exposure controls

#### Personal protective equipment

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles

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

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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).

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<br>Choose body protection according to the amount and concentration of the dangerous substance at the work place. |
| Respiratory protection   | : In the case of vapour formation use a respirator with an approved filter.                                                             |

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|                                                  |                                               |
|--------------------------------------------------|-----------------------------------------------|
| Physical state                                   | : liquid                                      |
| Colour                                           | : yellow                                      |
| Odour                                            | : slight                                      |
| Odour Threshold                                  | : No data is available on the product itself. |
| pH                                               | : substance/mixture reacts with water         |
| Melting point/range                              | : No data available                           |
| Boiling point/boiling range                      | : No data available                           |
| Flash point                                      | : 181 °C<br>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                                  | : < 0,0001 hPa (20 °C)                        |
| Relative vapour density                          | : No data is available on the product itself. |
| Relative density                                 | : 1,14 (20 °C)                                |

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|                                        |                                               |
|----------------------------------------|-----------------------------------------------|
| Density                                | : ca. 1,14 g/cm <sup>3</sup> (20 °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              | : ca. 480 °C<br>Method: DIN Method, other     |
| Decomposition temperature              | : No data is available on the product itself. |
| Viscosity                              |                                               |
| Viscosity, dynamic                     | : 10 000 mPa.s (23 °C)<br>Method: ISO 3219    |

### 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 | : Decomposes when moist. |
|---------------------|--------------------------|

### 10.4 Conditions to avoid

|                     |                        |
|---------------------|------------------------|
| Conditions to avoid | : Exposure to moisture |
|---------------------|------------------------|

### 10.5 Incompatible materials

|                    |         |
|--------------------|---------|
| Materials to avoid | : water |
|--------------------|---------|

### 10.6 Hazardous decomposition products

Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)

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### SECTION 11: Toxicological information

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

##### Acute toxicity

###### Product:

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

###### Components:

###### **Hexamethylene diisocyanate, oligomers:**

Acute oral toxicity : LD50 (Rat): > 5 000 mg/kg  
Acute dermal toxicity : LD50 (Rabbit): > 2 000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

###### **hexamethylene diisocyanate:**

Acute oral toxicity : LD50 (Rat, male): 959 mg/kg  
Method: OECD Test Guideline 401  
  
LD50 (Rat, male): 746 mg/kg  
Method: OECD Test Guideline 401  
  
Acute toxicity estimate: 746 mg/kg  
Method: Calculation method  
  
Acute inhalation toxicity : LC50 (Rat, male and female): 0,124 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403  
  
Acute toxicity estimate: 0,124 mg/l  
Test atmosphere: vapour  
Method: Calculation method  
  
Acute dermal toxicity : LD50 (Rat, male and female): > 7 000 mg/kg  
Method: OECD Test Guideline 402

##### Skin corrosion/irritation

###### Components:

###### **Hexamethylene diisocyanate, oligomers:**

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

###### **hexamethylene diisocyanate:**

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|               |   |                                          |
|---------------|---|------------------------------------------|
| Species       | : | Rabbit                                   |
| Exposure time | : | 4 h                                      |
| Method        | : | OECD Test Guideline 404                  |
| Result        | : | Corrosive after 1 to 4 hours of exposure |

### Serious eye damage/eye irritation

#### Components:

##### Hexamethylene diisocyanate, oligomers:

|         |   |                         |
|---------|---|-------------------------|
| Species | : | Rabbit                  |
| Method  | : | OECD Test Guideline 405 |
| Result  | : | No eye irritation       |

##### hexamethylene diisocyanate:

|         |   |                                 |
|---------|---|---------------------------------|
| Species | : | Rabbit                          |
| Method  | : | OECD Test Guideline 405         |
| Result  | : | Irreversible effects on the eye |

### Respiratory or skin sensitisation

#### Components:

##### Hexamethylene diisocyanate, oligomers:

|                 |   |                                          |
|-----------------|---|------------------------------------------|
| Exposure routes | : | Skin                                     |
| Species         | : | Guinea pig                               |
| Assessment      | : | May cause sensitisation by skin contact. |
| Method          | : | OECD Test Guideline 406                  |

##### hexamethylene diisocyanate:

|                 |   |                                          |
|-----------------|---|------------------------------------------|
| Test Type       | : | Maximisation Test                        |
| Exposure routes | : | Skin                                     |
| Species         | : | Rabbit                                   |
| Method          | : | OECD Test Guideline 406                  |
| Result          | : | May cause sensitisation by skin contact. |

|                 |   |                                        |
|-----------------|---|----------------------------------------|
| Exposure routes | : | Respiratory Tract                      |
| Species         | : | Guinea pig                             |
| Result          | : | May cause sensitisation by inhalation. |

|            |   |                                                                                                                                                                                                  |
|------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Assessment | : | Harmful if inhaled., Causes skin irritation., Causes serious eye irritation.<br>May cause an allergic skin reaction., May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
|------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Germ cell mutagenicity

#### Components:

##### Hexamethylene diisocyanate, oligomers:

|                       |   |                                                                                 |
|-----------------------|---|---------------------------------------------------------------------------------|
| Genotoxicity in vitro | : | Metabolic activation: with and without metabolic activation<br>Result: negative |
|-----------------------|---|---------------------------------------------------------------------------------|

##### hexamethylene diisocyanate:

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Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Concentration: 1,0 - 10 ml  
Metabolic activation: with and without metabolic activation  
Result: negative

Test Type: Ames test  
Test system: Salmonella typhimurium  
Concentration: 6, 12, 20, 25, 50 and 150 µL p  
Metabolic activation: with and without metabolic activation  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse (male and female)  
Cell type: Bone marrow  
Application Route: Inhalation  
Exposure time: 6 h  
Dose: 1.47 ppm  
Method: OECD Test Guideline 474  
Result: negative

### Carcinogenicity

#### Components:

##### hexamethylene diisocyanate:

|                        |                           |
|------------------------|---------------------------|
| Species                | : Rat, male and female    |
| Application Route      | : Inhalation              |
| Exposure time          | : 24 month(s)             |
| Dose                   | : 0,164 ppm               |
| Frequency of Treatment | : 6 hour                  |
| Method                 | : OECD Test Guideline 453 |
| Result                 | : negative                |

### Reproductive toxicity

#### Components:

##### hexamethylene diisocyanate:

Effects on fertility : Species: Rat, male and female  
Application Route: Inhalation  
Target Organs: Nasal inner lining  
Method: OECD Test Guideline 422  
Result: negative

Effects on foetal development : Species: Rat, male and female  
Application Route: Inhalation  
General Toxicity Maternal: NOAEL: 0,005 ppm  
Method: OECD Test Guideline 414  
Result: No teratogenic effects

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### STOT - single exposure

#### Components:

##### hexamethylene diisocyanate:

|                 |   |                          |
|-----------------|---|--------------------------|
| Exposure routes | : | Inhalation               |
| Target Organs   | : | Respiratory Tract        |
| Assessment      | : | Causes damage to organs. |

### STOT - repeated exposure

#### Components:

##### hexamethylene diisocyanate:

|               |   |                                                                 |
|---------------|---|-----------------------------------------------------------------|
| Target Organs | : | Nasal inner lining                                              |
| Assessment    | : | Causes damage to organs through prolonged or repeated exposure. |

### Repeated dose toxicity

#### Components:

##### Hexamethylene diisocyanate, oligomers:

|               |   |                       |
|---------------|---|-----------------------|
| Species       | : | Rat                   |
| NOEC          | : | 3,7 mg/m <sup>3</sup> |
| Exposure time | : | 504 h                 |

|               |   |                       |
|---------------|---|-----------------------|
| Species       | : | Rat                   |
| NOEC          | : | 3,3 mg/m <sup>3</sup> |
| Exposure time | : | 2 160 h               |

##### hexamethylene diisocyanate:

|                     |   |                         |
|---------------------|---|-------------------------|
| Species             | : | Rat, male and female    |
| NOEC                | : | 0,005 ppm               |
| Application Route   | : | inhalation (vapour)     |
| Test atmosphere     | : | vapour                  |
| Exposure time       | : | 2 yr                    |
| Number of exposures | : | 6 h                     |
| Method              | : | OECD Test Guideline 453 |

### 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 |
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### 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:

#### Hexamethylene diisocyanate, oligomers:

|                                                     |                                                                                     |
|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| Toxicity to fish                                    | : LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l<br>Exposure time: 96 h           |
| Toxicity to daphnia and other aquatic invertebrates | : LC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h              |
| Toxicity to algae/aquatic plants                    | : EC50 (Desmodesmus subspicatus (green algae)): > 1 000 mg/l<br>Exposure time: 72 h |
| Toxicity to microorganisms                          | : EC50 (activated sludge): > 1 000 mg/l<br>Exposure time: 3 h                       |

#### hexamethylene diisocyanate:

|                                                     |                                                                                                                                                                                             |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | : LC50 (Brachydanio rerio (zebrafish)): > 82,8 mg/l<br>Exposure time: 96 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: Directive 67/548/EEC, Annex V, C.1.          |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): > 89,1 mg/l<br>Exposure time: 48 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: Directive 67/548/EEC, Annex V, C.2.             |
| Toxicity to algae/aquatic plants                    | : EgC50 (Desmodesmus subspicatus (green algae)): > 77,4 mg/l<br>Exposure time: 72 h<br>Test Type: static test<br>Test substance: Fresh water<br>Method: Directive 67/548/EEC, Annex V, C.3. |
| Toxicity to microorganisms                          | : EC50 (activated sludge): 842 mg/l<br>Exposure time: 3 h<br>Test Type: static test                                                                                                         |

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Test substance: Fresh water  
Method: OECD Test Guideline 209

### Ecotoxicology Assessment

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

### 12.2 Persistence and degradability

#### Components:

##### Hexamethylene diisocyanate, oligomers:

Biodegradability : Result: Not biodegradable  
Biodegradation: 0 %  
Exposure time: 28 d

##### hexamethylene diisocyanate:

Biodegradability : Inoculum: activated sludge  
Concentration: 100 mg/l  
Result: Not readily biodegradable.  
Biodegradation: 48 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

### 12.3 Bioaccumulative potential

#### Components:

##### hexamethylene diisocyanate:

Bioaccumulation : Bioconcentration factor (BCF): 3,2  
Remarks: Bioaccumulation is unlikely.

### 12.4 Mobility in soil

#### Components:

##### hexamethylene diisocyanate:

Distribution among : Koc: 1665 - 5861  
environmental compartments

### 12.5 Results of PBT and vPvB assessment

#### Product:

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

### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according

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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.<br>Do not dispose of waste into sewer.<br>Do not contaminate ponds, waterways or ditches with chemical or used container. |
| Contaminated packaging | : Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers.                                                                                                                                               |

## SECTION 14: Transport information

### 14.1 UN number or ID number

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

Not applicable

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

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

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

|                                                                                           |                                                                                     |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : This product does not contain substances of very high concern (Regulation (EC) No |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|

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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- : 62  
461-3, France)

Other regulations:

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 | : On the inventory, or in compliance with the inventory  |
| ENCS  | : On the inventory, or in compliance with the inventory  |
| KECI  | : On the inventory, or in compliance with the inventory  |
| PICCS | : On the inventory, or in compliance with the inventory  |
| IECSC | : On the inventory, or in compliance with the inventory  |
| TCSI  | : 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))

### 15.2 Chemical safety assessment

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

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### SECTION 16: Other information

|                     |   |                                             |
|---------------------|---|---------------------------------------------|
| FR VLE              | : | France. Occupational Exposure Limits (INRS) |
| FR VLE / VME        | : | Time Weighted Average                       |
| FR VLE / VLCT (VLE) | : | Short Term Exposure Limit                   |

#### Further information

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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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