

## Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

### AQUASTOP NANOGLUM (A)

Date of first edition: 3/7/2022

Safety Data Sheet dated 12/05/2025

version 7

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

### 1.1. Product identifier

Mixture identification:

Trade name: AQUASTOP NANOGLUM (A)

Trade code: S100B0007 30

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

Recommended use: Waterproofing product

Uses advised against: All uses other than recommended ones

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

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

Ireland Emergency medical information: (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland.

Members of the public Number (8 am-10 pm): +353 (0)1 809 2166

Healthcare professional telephone Number (24hrs): +353 (0)1 809 2566

Malta In case of emergency call: +356 2395 2000 (24h)

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## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Skin Irrit. 2 Causes skin irritation.

Eye Irrit. 2 Causes serious eye irritation.

Skin Sens. 1A May cause an allergic skin reaction.

Aquatic Chronic 2 Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

#### Regulation (EC) No 1272/2008 (CLP):

##### Hazard pictograms and Signal Word



Warning

##### Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

##### Precautionary statements

P273 Avoid release to the environment.

P280 Wear protective gloves and eye protection.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P501 Dispose of contents/container in accordance with applicable regulations.

### Contains

Cashew, nutshell liq.  
 bis-[4-(2,3-epoxipropoxi)phenyl]propane  
 p-tert-butylphenyl 1-(2,3-epoxy)propyl ether

### Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

### 2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: Crystalline silica in breathable fraction present in the product does not contribute to the hazard classification according to the criteria laid down by the EC Regulation 1272/2008 (CLP) by virtue of the physical state of the product itself (liquid/solid paste) as it is marketed and reasonably be expected to be used. (Position IMA-Europe, Classification of mixtures in liquid form containing crystalline silica (May 2020)). The liquid/solid paste mixture, due to hardening or exposure to heat, can lose its liquid content (water and other liquid components) and appear in a solid state; in case of handling of the solid mixture for disposal (non-compliant product) in so doing, comply with the local and national regulations currently in force.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: AQUASTOP NANOGLUM (A)

### Hazardous components within the meaning of the CLP regulation and related classification:

| Qty       | Name   | Ident. Numbr.                                       | Classification   | Registration Number |
|-----------|--|---|--|---------------------|
| ≥20-<50 % | bis-[4-(2,3-epoxipropoxi)phenyl]propane      | CAS:1675-54-3<br>EC:216-823-5<br>Index:603-073-00-2 | Eye Irrit. 2, H319; Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411, M-Chronic:1  | 01-2119456619-26    |
|           |  |   | Specific Concentration Limits:<br>C ≥ 5%: Eye Irrit. 2 H319<br>C ≥ 5%: Skin Irrit. 2 H315  |                     |
| ≥10-<20 % | p-tert-butylphenyl 1-(2,3-epoxy)propyl ether | CAS:3101-60-8<br>EC:221-453-2                       | Skin Sens. 1, H317; Aquatic Chronic 2, H411, M-Chronic:1   |                     |
| ≥5-<10 %  | Quartz                                       | CAS:14808-60-7<br>EC:238-878-4                      | STOT RE 1, H372  |                     |
| ≥0.5-<1 % | Titanium dioxide                             | CAS:13463-67-7<br>EC:236-675-5                      | Not classified as hazardous  |                     |
| ≥0.5-<1 % | Cashew, nutshell liq.                        | CAS:8007-24-7<br>EC:232-355-4                       | Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317   | 01-2119502450-57    |
| <0.036 %  | xylene                                       | CAS:1330-20-7<br>EC:215-535-7<br>Index:601-022-00-9 | Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; STOT SE 3, H335; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412; Eye Irrit. 2, H319, M-Chronic:1 | 01-2119488216-32    |
| <0.01 %   | ethyl acrylate                               | CAS:140-88-5<br>EC:205-438-8<br>Index:607-032-00-X  | Flam. Liq. 2, H225; Acute Tox. 3, H331; Acute Tox. 4, H312; Acute Tox. 4, H302; STOT SE 3, H335; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317                                   | 01-2119459301-46    |
|           |  |   | Specific Concentration Limits:<br>C ≥ 5%: STOT SE 3 H335<br>C ≥ 5%: Skin Irrit. 2 H315<br>C ≥ 5%: Eye Irrit. 2 H319  |                     |

<0.0015 % methanol

CAS:67-56-1      Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 3, H301; Acute Index:603-001-00-X Tox. 3, H311; Acute Tox. 3, H331

01-2119433307-44

Specific Concentration Limits:  
C ≥ 10%: STOT SE 1 H370  
3% ≤ C < 10%: STOT SE 2 H371

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediatley and dispose off safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

- Remove casualty to fresh air and keep warm and at rest.

### 4.2. Most important symptoms and effects, both acute and delayed

Eye irritation

Eye damages

Skin Irritation

Erythema

### 4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

- Water.
- Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

- None in particular.

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

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.

### 5.3. Advice for firefighters

- Use suitable breathing apparatus .
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

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

#### For non emergency personnel:

- Wear personal protection equipment.
- Remove persons to safety.
- See protective measures under point 7 and 8.

#### For emergency responders:

- Wear personal protection equipment.

### 6.2. Environmental precautions

- Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
- Retain contaminated washing water and dispose it.
- In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
- Suitable material for taking up: absorbing material, organic, sand

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

- Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

#### 6.4. Reference to other sections

See also section 8 and 13

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### Advice on general occupational hygiene:

### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

|                           | OEL Type | Country | Occupational Exposure Limit   |
|---------------------------|----------|---------|---|
| Quartz<br>CAS: 14808-60-7 | ACGIH    |         | Long Term: 0.025 mg/m <sup>3</sup> (8h)<br>R, A2 - Pulm fibrosis, lung cancer   |
|                           | NATIONAL | HUNGARY | Long Term: 0.1 mg/m <sup>3</sup><br>Source: 5/2020. (II. 6.) ITM rendelet   |
|                           | NATIONAL | IRELAND | Long Term: 0.1 mg/m <sup>3</sup><br>Respirable fraction<br>Source: 2021 Code of Practice  |
|                           | NATIONAL | ITALY   | Long Term: 0.1 mg/m <sup>3</sup><br>Polvere di silice cristallina respirabile (frazione inalabile). Rif:D.Lgs 81/2008<br>Source: D.lgs. 81/2008, Allegato XLIII               |
|                           | NATIONAL | SPAIN   | Long Term: 0.3 mg/m <sup>3</sup><br>Respirable fraction<br>Source: LEP 2022   |
|                           | NATIONAL | BELGIUM | Long Term: 0.1 mg/m <sup>3</sup><br>C<br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1   |
|                           | NATIONAL | DENMARK | Long Term: 0.3 mg/m <sup>3</sup><br>alveolijae, liite 3<br>Source: BEK nr 2203 af 29/11/2021  |
|                           | NATIONAL | DENMARK | Long Term: 0.1 mg/m <sup>3</sup><br>EK<br>Source: BEK nr 2203 af 29/11/2021   |
|                           | NATIONAL | ESTONIA | Long Term: 0.1 mg/m <sup>3</sup><br>1, C<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105   |
|                           | NATIONAL | FINLAND | Long Term: 0.05 mg/m <sup>3</sup><br>alveolijae, liite 3<br>Source: HTP-ARVOT 2020  |
|                           | NATIONAL | FRANCE  | Long Term: 0.1 mg/m <sup>3</sup><br>La VLEP s'applique à la fraction alvéolaire. Forme de silice cristalline.<br>Source: INRS outil65, article R. 4412-149 du Code du travail |

|                           |             |   |
|---------------------------|-------------|---|
| NATIONAL                  | LITHUANIA   | Long Term: 0.1 mg/m <sup>3</sup><br>Žiūrėti 1 priedo 3 punktą.<br>Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389   |
| NATIONAL                  | NETHERLANDS | Long Term: 0.075 mg/m <sup>3</sup><br>(2)<br>Source: Arbeidsomstandighedenregeling - Lijst B1   |
| NATIONAL                  | NORWAY      | Long Term: 0.3 mg/m <sup>3</sup><br>K 7<br>Source: FOR-2021-06-28-2248  |
| NATIONAL                  | NORWAY      | Long Term: 0.05 mg/m <sup>3</sup><br>K G 7 21<br>Source: FOR-2021-06-28-2248  |
| NATIONAL                  | POLAND      | Long Term: 0.1 mg/m <sup>3</sup><br>6)<br>Source: Dz.U. 2018 poz. 1286  |
| NATIONAL                  | SWEDEN      | Long Term: 0.1 mg/m <sup>3</sup><br>C, M, 3<br>Source: AFS 2021:3   |
| SUVA                      | SWITZERLAND | Long Term: 0.15 mg/m <sup>3</sup><br>TWA mg/m <sup>3</sup> : (a), C1A, SSC, P, Cancpulm Silicose / Lungenkrebs Silikose, HSE NIOSH<br>OSHA<br>Source: suva.ch/valeurs-limites |
| Quartz<br>CAS: 14808-60-7 | EU          | Long Term: 0.1 mg/m <sup>3</sup><br>Polvere di silice cristallina respirabile, frazione inalabile. (R), A2 - Pulm fibrosis, lung cancer. Directive 2017/2398                  |
| ACGIH                     |             | Long Term: 0.025 mg/m <sup>3</sup> (8h)<br>R, A2 - Pulm fibrosis, lung cancer   |
| NATIONAL                  | HUNGARY     | Long Term: 0.1 mg/m <sup>3</sup> (8h)<br>Respirable aerosol<br>Source: 5/2020. (II. 6.) ITM rendelet  |
| NATIONAL                  | IRELAND     | Long Term: 0.1 mg/m <sup>3</sup> (8h)<br>Respirable fraction<br>Source: 2021 Code of Practice   |
| NATIONAL                  | ITALY       | Long Term: 0.1 mg/m <sup>3</sup> (8h)<br>Polvere di silice cristallina respirabile (frazione inalabile). D.Lgs 81/2008<br>Source: D.lgs. 81/2008, Allegato XLIII              |
| NATIONAL                  | SPAIN       | Long Term: 0.05 mg/m <sup>3</sup> (8h)<br>Respirable fraction<br>Source: LEP 2022   |
| NATIONAL                  | CROATIA     | Long Term: 0.1 mg/m <sup>3</sup><br>Source: NN 1/2021   |
| NATIONAL                  | AUSTRIA     | Long Term: 0.05 mg/m <sup>3</sup><br>MAK, III C, A<br>Source: BGBI. II Nr. 156/2021   |
| NATIONAL                  | BELGIUM     | Long Term: 0.1 mg/m <sup>3</sup><br>C<br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1   |
| NATIONAL                  | DENMARK     | Long Term: 0.3 mg/m <sup>3</sup><br>Source: BEK nr 2203 af 29/11/2021   |
| NATIONAL                  | DENMARK     | Long Term: 0.1 mg/m <sup>3</sup><br>EK<br>Source: BEK nr 2203 af 29/11/2021   |
| NATIONAL                  | ESTONIA     | Long Term: 0.1 mg/m <sup>3</sup><br>1, C<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105   |
| NATIONAL                  | FINLAND     | Long Term: 0.05 mg/m <sup>3</sup><br>alveolijae, liite 3<br>Source: HTP-ARVOT 2020  |
| NATIONAL                  | FRANCE      | Long Term: 0.1 mg/m <sup>3</sup><br>La VLEP s'applique à la fraction alvéolaire. Forme de silice cristalline.   |

|                                     |             |  |
|-------------------------------------|-------------|--|
| NATIONAL                            | LITHUANIA   | Long Term: 0.1 mg/m <sup>3</sup><br>Žiūrėti 1 priedo 3 punktą.<br>Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389  |
| NATIONAL                            | NETHERLANDS | Long Term: 0.075 mg/m <sup>3</sup><br>(2)<br>Source: Arbeidsomstandighedenregeling - Lijst B1  |
| NATIONAL                            | NORWAY      | Long Term: 0.3 mg/m <sup>3</sup><br>K 7<br>Source: FOR-2021-06-28-2248   |
| NATIONAL                            | NORWAY      | Long Term: 0.05 mg/m <sup>3</sup><br>K G 7 21<br>Source: FOR-2021-06-28-2248   |
| NATIONAL                            | POLAND      | Long Term: 0.1 mg/m <sup>3</sup><br>6)<br>Source: Dz.U. 2018 poz. 1286   |
| NATIONAL                            | SWEDEN      | Long Term: 0.1 mg/m <sup>3</sup><br>C, M, 3<br>Source: AFS 2021:3  |
| SUVA                                | SWITZERLAND | Long Term: 0.15 mg/m <sup>3</sup><br>TWA mg/m <sup>3</sup> : (a), C1A, SSC, P, Cançpulm Silicose / Lungenkrebs Silikose, HSE NIOSH<br>OSHA<br>Source: suva.ch/valeurs-limites  |
| Titanium dioxide<br>CAS: 13463-67-7 | ACGIH       | Long Term: 2.5 mg/m <sup>3</sup> (8h)<br>Finescale particles; R ; A3 - LRT irr, pneumoconiosis   |
| NATIONAL                            | GERMANY     | Long Term: 0.3 mg/m <sup>3</sup> ; Short Term: 2.4 mg/m <sup>3</sup><br>DFG; Long term and short term: excluding ultrafine particles; respirable fraction;<br>multiplied by the material density;<br>Source: TRGS900 |
| NATIONAL                            | BELGIUM     | Long Term: 10 mg/m <sup>3</sup><br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1  |
| NATIONAL                            | CROATIA     | Long Term: 10 mg/m <sup>3</sup><br>U<br>Source: NN 1/2021  |
| NATIONAL                            | CROATIA     | Long Term: 4 mg/m <sup>3</sup><br>R<br>Source: NN 1/2021   |
| NATIONAL                            | IRELAND     | Long Term: 10 mg/m <sup>3</sup><br>Source: 2021 Code of Practice   |
| NATIONAL                            | IRELAND     | Long Term: 4 mg/m <sup>3</sup><br>Source: 2021 Code of Practice  |
| NATIONAL                            | ROMANIA     | Long Term: 10 mg/m <sup>3</sup> ; Short Term: 15 mg/m <sup>3</sup><br>Source: Republicarea 1 - nr. 743 din 29 iulie 2021   |
| NATIONAL                            | SPAIN       | Long Term: 10 mg/m <sup>3</sup><br>Source: LEP 2022  |
| NATIONAL                            | AUSTRIA     | Long Term: 5 mg/m <sup>3</sup> ; Short Term: 10 mg/m <sup>3</sup><br>60(Miw), 2x, MAK, A<br>Source: BGBl. II Nr. 156/2021  |
| NATIONAL                            | BULGARIA    | Long Term: 10 mg/m <sup>3</sup><br>Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.   |
| NATIONAL                            | DENMARK     | Long Term: 6 mg/m <sup>3</sup><br>K<br>Source: BEK nr 2203 af 29/11/2021   |
| NATIONAL                            | ESTONIA     | Long Term: 5 mg/m <sup>3</sup><br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105  |
| NATIONAL                            | FRANCE      | Long Term: 10 mg/m <sup>3</sup><br>Cancérogène de catégorie 2<br>Source: INRS outil65  |

|                                      |  |  |
|--------------------------------------|--|--|
|                                      | NATIONAL GREECE                                      | Long Term: 10 mg/m <sup>3</sup><br>εισπν.<br>Source: ΦΕΚ 94/A` 13.5.1999   |
|                                      | NATIONAL GREECE                                      | Long Term: 5 mg/m <sup>3</sup><br>αναν.<br>Source: ΦΕΚ 94/A` 13.5.1999   |
|                                      | NATIONAL LATVIA                                      | Long Term: 10 mg/m <sup>3</sup><br>Source: KN325P1   |
|                                      | NATIONAL LITHUANIA                                   | Long Term: 5 mg/m <sup>3</sup><br>Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389  |
|                                      | NATIONAL NORWAY                                      | Long Term: 5 mg/m <sup>3</sup><br>Source: FOR-2021-06-28-2248  |
|                                      | NATIONAL POLAND                                      | Long Term: 10 mg/m <sup>3</sup><br>4), 7)<br>Source: Dz.U. 2018 poz. 1286  |
|                                      | NATIONAL SLOVAKIA                                    | Long Term: 5 mg/m <sup>3</sup><br>Source: 355 NARIADENIE VLÁDY z 10. mája 2006   |
|                                      | NATIONAL SWEDEN                                      | Long Term: 5 mg/m <sup>3</sup><br>3<br>Source: AFS 2021:3  |
| SUVA                                 | SWITZERLAND  | Long Term: 3 mg/m <sup>3</sup><br>TWA mg/m <sup>3</sup> : (a), SSC, Formel / Formal, NIOSH<br>Source: suva.ch/valeurs-limites  |
| WEL-EH40                             | UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND | Long Term: 10 mg/m <sup>3</sup><br>Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)   |
| Triiron tetraoxide<br>CAS: 1317-61-9 | NATIONAL POLAND                                      | Long Term: 2.5 mg/m <sup>3</sup> ; Short Term: 5 mg/m <sup>3</sup><br>6)<br>Source: Dz.U. 2018 poz. 1286   |
| xylene<br>CAS: 1330-20-7             | ACGIH  | Long Term: 20 ppm (8h)<br>A4, BEI - URT and eye irr; hematologic eff; CNS impair   |
|                                      | NATIONAL AUSTRIA                                     | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>15(Miw), 4x, MAK<br>Source: BGBl. II Nr. 156/2021  |
|                                      | NATIONAL BULGARIA                                    | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Кожа<br>Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.  |
|                                      | NATIONAL CZECHIA                                     | Long Term: 200 mg/m <sup>3</sup> ; Short Term: Ceiling - 400 mg/m <sup>3</sup><br>B, D, I<br>Source: Nařízení vlády č. 361-2007 Sb   |
|                                      | NATIONAL DENMARK                                     | Long Term: 109 mg/m <sup>3</sup> - 25 ppm<br>EH<br>Source: BEK nr 2203 af 29/11/2021   |
|                                      | NATIONAL ESTONIA                                     | Long Term: 200 mg/m <sup>3</sup> - 50 ppm; Short Term: 450 mg/m <sup>3</sup> - 100 ppm<br>A<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105                               |
|                                      | NATIONAL FINLAND                                     | Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 440 mg/m <sup>3</sup> - 100 ppm<br>iho<br>Source: HTP-ARVOT 2020  |
|                                      | NATIONAL FRANCE                                      | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Risque de pénétration percutanée<br>Source: INRS outil65, article R. 4412-149 du Code du travail |
|                                      | NATIONAL GREECE                                      | Long Term: 435 mg/m <sup>3</sup> - 100 ppm; Short Term: 650 mg/m <sup>3</sup> - 150 ppm<br>Δ<br>Source: ΦΕΚ 94/A` 13.5.1999  |
|                                      | NATIONAL HUNGARY                                     | Long Term: 221 mg/m <sup>3</sup> ; Short Term: 442 mg/m <sup>3</sup><br>b, BEM, EU1, R   |

|          |   |  |
|----------|---|--|
| NATIONAL | LITHUANIA   | Long Term: 200 mg/m <sup>3</sup> - 50 ppm; Short Term: 450 mg/m <sup>3</sup> - 100 ppm<br>O<br>Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389   |
| NATIONAL | NETHERLAND<br>S   | Long Term: 210 mg/m <sup>3</sup> ; Short Term: 442 mg/m <sup>3</sup><br>H<br>Source: Arbeidsomstandighedenregeling - Lijst A   |
| NATIONAL | NORWAY  | Long Term: 108 mg/m <sup>3</sup> - 25 ppm<br>H E<br>Source: FOR-2021-06-28-2248  |
| NATIONAL | POLAND  | Long Term: 100 mg/m <sup>3</sup> ; Short Term: 200 mg/m <sup>3</sup><br>skóra<br>Source: Dz.U. 2018 poz. 1286  |
| NATIONAL | SLOVAKIA  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>K, 7)<br>Source: 355 NARIADENIE VLÁDY z 10. mája 2006  |
| NATIONAL | SWEDEN  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>H<br>Source: AFS 2021:3  |
| SUVA     | SWITZERLAN<br>D   | Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 440 mg/m <sup>3</sup> - 100 ppm<br>R/H, B, SNC / ZNS, NIOSH INRS<br>Source: suva.ch/valeurs-limites   |
| WEL-EH40 | UNITED<br>KINGDOM OF<br>GREAT<br>BRITAIN AND<br>NORTHERN<br>IRELAND | Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 441 mg/m <sup>3</sup> - 100 ppm<br>Sk, BMGV<br>Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)                                |
| NATIONAL | BELGIUM   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>D<br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1                                |
| NATIONAL | CROATIA   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>koža<br>Source: 2000/39/EZ   |
| NATIONAL | CYPRUS  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>δέρμα<br>Source: Οι περι Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021 |
| NATIONAL | GERMANY   | Long Term: 220 mg/m <sup>3</sup> - 50 ppm<br>DFG, EU, H, 2(II)<br>Source: TRGS 900   |
| NATIONAL | IRELAND   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Sk, IOELV<br>Source: 2021 Code of Practice   |
| NATIONAL | ITALY   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Cute<br>Source: D.lgs. 81/2008, Allegato XXXVIII   |
| NATIONAL | LATVIA  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Āda<br>Source: KN325P1   |
| NATIONAL | LUXEMBOUR<br>G  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Peau<br>Source: Mémorial A n.226 du 22 mars 2021   |
| NATIONAL | MALTA   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>skin<br>Source: S.L.424.24   |
| NATIONAL | PORTUGAL  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Cutânea<br>Source: Decreto-Lei n.º 1/2021  |
| NATIONAL | ROMANIA   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>P, Dir. 2000/39  |

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|  | NATIONAL SLOVENIA   | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>K, BAT, EU1<br>Source: UL št. 72, 11. 5. 2021                                       |
|  | NATIONAL SPAIN  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>vía dérmica, VLB®, VLI<br>Source: LEP 2022  |
|  | EU  | Long Term: 221 mg/m <sup>3</sup> - 50 ppm (8h); Short Term: 442 mg/m <sup>3</sup> - 100 ppm<br>Skin   |
| silicon dioxide, chemically prepared<br>CAS: 7631-86-9 | NATIONAL BELGIUM  | Long Term: 10 mg/m <sup>3</sup><br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1   |
|  | NATIONAL IRELAND  | Long Term: 6 mg/m <sup>3</sup><br>Inhalable fraction<br>Source: 2021 Code of Practice   |
|  | NATIONAL IRELAND  | Long Term: 2.4 mg/m <sup>3</sup><br>Respirable fraction<br>Source: 2021 Code of Practice  |
|  | NATIONAL UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND | Long Term: 6 mg/m <sup>3</sup><br>Inhalable aerosol<br>Source: EH40/2005 Workplace exposure limits  |
|  | NATIONAL UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND | Long Term: 2.4 mg/m <sup>3</sup><br>Respirable aerosol<br>Source: EH40/2005 Workplace exposure limits   |
|  | NATIONAL GERMANY  | Long Term: 4 mg/m <sup>3</sup><br>DFG, 2, Y, E<br>Source: TRGS 900  |
|  | NATIONAL SLOVENIA   | Long Term: 4 mg/m <sup>3</sup><br>Y, (I)<br>Source: UL št. 72, 11. 5. 2021  |
|  | NATIONAL AUSTRIA  | MAK<br>Source: BGBI. II Nr. 156/2021  |
|  | NATIONAL ESTONIA  | Long Term: 2 mg/m <sup>3</sup><br>1<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105  |
|  | NATIONAL LATVIA   | Long Term: 1 mg/m <sup>3</sup><br>Source: KN325P1   |
| Aluminium oxide<br>CAS: 1344-28-1                      | SUVA SWITZERLAND  | SSC, Fibpulg / Lungenfibrose, Des VMEs se trouvent sous les substances associées /<br>MAK-Werte finden sich unter den zugeordneten Stoffen<br>Source: suva.ch/valeurs-limites |
|  | SUVA SWITZERLAND  | Long Term: 4 mg/m <sup>3</sup><br>TWA mg/m <sup>3</sup> : (i), SSC, Fibpulg / Lungenfibrose<br>Source: suva.ch/valeurs-limites  |
|  | NATIONAL BELGIUM  | Long Term: 1 mg/m <sup>3</sup><br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1  |
|  | NATIONAL CROATIA  | Long Term: 10 mg/m <sup>3</sup><br>U<br>Source: NN 1/2021   |
|  | NATIONAL CROATIA  | Long Term: 4 mg/m <sup>3</sup><br>R<br>Source: NN 1/2021  |
|  | NATIONAL ROMANIA  | Long Term: 2 mg/m <sup>3</sup> ; Short Term: 5 mg/m <sup>3</sup><br>(Aerosoli)<br>Source: Republicarea 1 - nr. 743 din 29 iulie 2021  |

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| NATIONAL | SPAIN  | Long Term: 10 mg/m <sup>3</sup><br>véase Capítulo 9<br>Source: LEP 2022   |
| NATIONAL | AUSTRIA  | Long Term: 5 mg/m <sup>3</sup> ; Short Term: 10 mg/m <sup>3</sup><br>60(Miw), 2x, A<br>Source: GKV, BGBI. II Nr. 156/2021   |
| NATIONAL | AUSTRIA  | Long Term: 5 mg/m <sup>3</sup> ; Short Term: 10 mg/m <sup>3</sup><br>60(Miw), 2x, MAK, A<br>Source: GKV, BGBI. II Nr. 156/2021                                      |
| NATIONAL | DENMARK  | Long Term: 5 mg/m <sup>3</sup><br>Source: BEK nr 2203 af 29/11/2021   |
| NATIONAL | ESTONIA  | Long Term: 4 mg/m <sup>3</sup><br>1<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105  |
| NATIONAL | FRANCE   | Long Term: 10 mg/m <sup>3</sup><br>Source: INRS outil65   |
| NATIONAL | GREECE   | Long Term: 10 mg/m <sup>3</sup><br>εισπν<br>Source: ΦΕΚ 94/A` 13.5.1999   |
| NATIONAL | GREECE   | Long Term: 5 mg/m <sup>3</sup><br>αναπν<br>Source: ΦΕΚ 94/A` 13.5.1999  |
| NATIONAL | HUNGARY  | Long Term: 5 mg/m <sup>3</sup><br>N<br>Source: 5/2020. (II. 6.) ITM rendelet  |
| NATIONAL | HUNGARY  | Long Term: 2 mg/m <sup>3</sup><br>resp, N<br>Source: 5/2020. (II. 6.) ITM rendelet  |
| NATIONAL | LATVIA   | Long Term: 6 mg/m <sup>3</sup><br>Source: KN325P1   |
| NATIONAL | LATVIA   | Long Term: 4 mg/m <sup>3</sup><br>Source: KN325P1   |
| NATIONAL | NORWAY   | Long Term: 10 mg/m <sup>3</sup><br>1<br>Source: FOR-2021-06-28-2248   |
| NATIONAL | POLAND   | Long Term: 2.5 mg/m <sup>3</sup><br>4)<br>Source: Dz.U. 2018 poz. 1286  |
| NATIONAL | POLAND   | Long Term: 1.2 mg/m <sup>3</sup><br>6)<br>Source: Dz.U. 2018 poz. 1286  |
| NATIONAL | SLOVAKIA   | Long Term: 4 mg/m <sup>3</sup><br>10)<br>Source: 355 NARIADENIE VLÁDY z 10. mája 2006   |
| SUVA     | SWITZERLAND  | Long Term: 3 mg/m <sup>3</sup><br>D TWA mg/m <sup>3</sup> : (a), B, Formel / Formal, NIOSH<br>Source: suva.ch/valeurs-limites                                       |
| SUVA     | SWITZERLAND  | Long Term: 3 mg/m <sup>3</sup> ; Short Term: 24 mg/m <sup>3</sup><br>D TWA mg/m <sup>3</sup> : (a), Fimétal / Metallrauch, NIOSH<br>Source: suva.ch/valeurs-limites |
| WEL-EH40 | UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND | Long Term: 10 mg/m <sup>3</sup><br>Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)  |
| WEL-EH40 | UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN         | Long Term: 4 mg/m <sup>3</sup><br>Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)   |

IRELAND

ethyl acrylate  
CAS: 140-88-5

|          |  |   |
|----------|--|---|
|          | ACGIH  | Long Term: 5 ppm (8h); Short Term: 15 ppm<br>A4 - URT, eye, and GI irr, CNS impair, skin sens   |
| NATIONAL | AUSTRIA                                      | Long Term: 20 mg/m <sup>3</sup> - 5 ppm; Short Term: Ceiling - 40 mg/m <sup>3</sup> - 10 ppm<br>5(Mow), 8x, MAK, H, Sh<br>Source: BGBl. II Nr. 156/2021                                   |
| NATIONAL | BULGARIA                                     | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.   |
| NATIONAL | CYPRUS                                       | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: Οι περι Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021 |
| NATIONAL | CZECHIA                                      | Long Term: 20 mg/m <sup>3</sup> ; Short Term: Ceiling - 40 mg/m <sup>3</sup><br>I, S<br>Source: Nařízení vlády č. 361-2007 Sb   |
| NATIONAL | DENMARK                                      | Long Term: 21 mg/m <sup>3</sup> - 5 ppm<br>EHK<br>Source: BEK nr 2203 af 29/11/2021   |
| NATIONAL | ESTONIA                                      | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>S<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105                                  |
| NATIONAL | FINLAND                                      | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>iho<br>Source: HTP-ARVOT 2020   |
| NATIONAL | FRANCE                                       | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: INRS outil65, article R. 4412-149 du Code du travail  |
| NATIONAL | GREECE                                       | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: ΦΕΚ 19/A` 9.2.2012  |
| NATIONAL | HUNGARY                                      | Long Term: 21 mg/m <sup>3</sup> ; Short Term: 42 mg/m <sup>3</sup><br>b, i, sz, EU4, N<br>Source: 5/2020. (II. 6.) ITM rendelet   |
| NATIONAL | LATVIA                                       | Long Term: 10 mg/m <sup>3</sup><br>Source: KN325P1  |
| NATIONAL | LITHUANIA                                    | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>J<br>Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389  |
| NATIONAL | NETHERLAND                                   | Long Term: 21 mg/m <sup>3</sup> ; Short Term: 42 mg/m <sup>3</sup><br>S<br>Source: Arbeidsomstandighedenregeling - Lijst A  |
| NATIONAL | NORWAY                                       | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>H A K E S<br>Source: FOR-2021-06-28-2248  |
| NATIONAL | POLAND                                       | Long Term: 20 mg/m <sup>3</sup> ; Short Term: 40 mg/m <sup>3</sup><br>skóra<br>Source: Dz.U. 2018 poz. 1286   |
| NATIONAL | PORTUGAL                                     | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: Decreto-Lei n.º 1/2021  |
| NATIONAL | SLOVAKIA                                     | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>S<br>Source: 355 NARIADENIE VLÁDY z 10. mája 2006   |
| NATIONAL | SWEDEN                                       | Long Term: 20 mg/m <sup>3</sup> - 5 ppm; Short Term: 40 mg/m <sup>3</sup> - 10 ppm<br>M, S<br>Source: AFS 2021:3  |
| SUVA     | SWITZERLAND                                  | Long Term: 10 mg/m <sup>3</sup> - 2.5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>D<br>S, SSC, VRS Yeux / OAW Auge, INRS NIOSH<br>Source: suva.ch/valeurs-limites                   |
| WEL-EH40 | UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)                                   |

IRELAND

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| NATIONAL | BELGIUM    | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1                                |
| NATIONAL | CROATIA    | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>koža, alergen koža<br>Source: 2009/161/EU   |
| NATIONAL | GERMANY    | Long Term: 8.3 mg/m <sup>3</sup> - 2 ppm<br>DFG, EU, H, Y, Sh, 2(I)<br>Source: TRGS 900   |
| NATIONAL | IRELAND    | Long Term: 20 mg/m <sup>3</sup> - 5 ppm; Short Term: 41 mg/m <sup>3</sup> - 10 ppm<br>IOELV, Sk, Sens<br>Source: 2021 Code of Practice  |
| NATIONAL | ITALY      | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: D.lgs. 81/2008, Allegato XXXVIII  |
| NATIONAL | LUXEMBOURG | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: Mémorial A n.226 du 22 mars 2021  |
| NATIONAL | MALTA      | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Source: S.L.424.24  |
| NATIONAL | ROMANIA    | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>Dir. 2009/161<br>Source: Republicarea 1 - nr. 743 din 29 iulie 2021                                     |
| NATIONAL | SLOVENIA   | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>K, Y, EU3<br>Source: UL št. 72, 11. 5. 2021   |
| NATIONAL | SPAIN      | Long Term: 21 mg/m <sup>3</sup> - 5 ppm; Short Term: 42 mg/m <sup>3</sup> - 10 ppm<br>VLI, Sen<br>Source: LEP 2022  |
| EU       |            | Long Term: 21 mg/m <sup>3</sup> - 5 ppm (8h); Short Term: 42 mg/m <sup>3</sup> - 10 ppm   |
| ACGIH    |            | Long Term: 200 ppm (8h); Short Term: 250 ppm<br>Skin, BEI - Headache, eye dam, dizziness, nausea  |
| NATIONAL | AUSTRIA    | Long Term: 260 mg/m <sup>3</sup> - 200 ppm; Short Term: 1040 mg/m <sup>3</sup> - 800 ppm<br>15(Miw), 4x, MAK, H<br>Source: BGBI. II Nr. 156/2021  |
| NATIONAL | BULGARIA   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>Кожа<br>Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.   |
| NATIONAL | CZECHIA    | Long Term: 250 mg/m <sup>3</sup> ; Short Term: Ceiling - 1000 mg/m <sup>3</sup><br>D, B<br>Source: Nařízení vlády č. 361-2007 Sb  |
| NATIONAL | DENMARK    | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>EH<br>Source: BEK nr 2203 af 29/11/2021   |
| NATIONAL | ESTONIA    | Long Term: 250 mg/m <sup>3</sup> - 200 ppm; Short Term: 350 mg/m <sup>3</sup> - 250 ppm<br>A<br>Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105                                 |
| NATIONAL | FINLAND    | Long Term: 270 mg/m <sup>3</sup> - 200 ppm; Short Term: 330 mg/m <sup>3</sup> - 250 ppm<br>iho<br>Source: HTP-ARVOT 2020  |
| NATIONAL | FRANCE     | Long Term: 260 mg/m <sup>3</sup> - 200 ppm; Short Term: 1300 mg/m <sup>3</sup> - 1000 ppm<br>Risque de pénétration percutanée<br>Source: INRS outil65, article R. 4412-149 du Code du travail |
| NATIONAL | GREECE     | Long Term: 260 mg/m <sup>3</sup> - 200 ppm; Short Term: 325 mg/m <sup>3</sup> - 250 ppm<br>Δ<br>Source: ΦΕΚ 94/A` 13.5.1999   |
| NATIONAL | HUNGARY    | Long Term: 260 mg/m <sup>3</sup><br>b, i, BEM, EU2, R+T<br>Source: 5/2020. (II. 6.) ITM rendelet  |
| NATIONAL | LITHUANIA  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>O   |

methanol  
CAS: 67-56-1

|          |  |  |
|----------|--|--|
| NATIONAL | NETHERLANDS  | Long Term: 133 mg/m <sup>3</sup><br>H<br>Source: Arbeidsomstandighedenregeling - Lijst A   |
| NATIONAL | NORWAY   | Long Term: 130 mg/m <sup>3</sup> - 100 ppm<br>H E<br>Source: FOR-2021-06-28-2248   |
| NATIONAL | POLAND   | Long Term: 100 mg/m <sup>3</sup> ; Short Term: 300 mg/m <sup>3</sup><br>skóra<br>Source: Dz.U. 2018 poz. 1286  |
| NATIONAL | SLOVAKIA   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>K, 7)<br>Source: 355 NARIADENIE VLÁDY z 10. mája 2006  |
| NATIONAL | SWEDEN   | Long Term: 250 mg/m <sup>3</sup> - 200 ppm; Short Term: 350 mg/m <sup>3</sup> - 250 ppm<br>H, V<br>Source: AFS 2021:3  |
| SUVA     | SWITZERLAND  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm; Short Term: 520 mg/m <sup>3</sup> - 400 ppm<br>R/H, SSC, B, SNC / ZNS, INRS NIOSH<br>Source: suva.ch/valeurs-limites         |
| WEL-EH40 | UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND | Long Term: 266 mg/m <sup>3</sup> - 200 ppm; Short Term: 333 mg/m <sup>3</sup> - 250 ppm<br>Sk<br>Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)       |
| NATIONAL | BELGIUM  | Long Term: 266 mg/m <sup>3</sup> - 200 ppm; Short Term: 333 mg/m <sup>3</sup> - 250 ppm<br>D<br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1 |
| NATIONAL | CROATIA  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>koža<br>Source: 2006/15/EZ   |
| NATIONAL | CYPRUS   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>δέρμα<br>Source: Οι περι Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021               |
| NATIONAL | GERMANY  | Long Term: 130 mg/m <sup>3</sup> - 100 ppm<br>DFG, EU, H, Y, 2(II)<br>Source: TRGS 900   |
| NATIONAL | IRELAND  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>Sk, IOELV<br>Source: 2021 Code of Practice   |
| NATIONAL | ITALY  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>Cute<br>Source: D.lgs. 81/2008, Allegato XXXVIII   |
| NATIONAL | LATVIA   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>Āda<br>Source: KN325P1   |
| NATIONAL | LUXEMBOURG   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>Peau<br>Source: Mémorial A n.226 du 22 mars 2021   |
| NATIONAL | MALTA  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>skin<br>Source: S.L.424.24   |
| NATIONAL | PORTUGAL   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>Cutânea<br>Source: Decreto-Lei n.º 1/2021  |
| NATIONAL | ROMANIA  | Long Term: 260 mg/m <sup>3</sup> - 200 ppm<br>P, Dir. 2006/15<br>Source: Republicarea 1 - nr. 743 din 29 iulie 2021  |
| NATIONAL | SLOVENIA   | Long Term: 260 mg/m <sup>3</sup> - 200 ppm; Short Term: 1040 mg/m <sup>3</sup> - 800 ppm<br>K, Y, BAT, EU2   |

|                |   |
|----------------|---|
| NATIONAL SPAIN | Long Term: 266 mg/m <sup>3</sup> - 200 ppm<br>vía dérmica, VLB®, VLI, r<br>Source: LEP 2022 |
| EU             | Long Term: 260 mg/m <sup>3</sup> - 200 ppm (8h)<br>Skin                                     |

**Biological limit values**

xylene  
CAS: 1330-20-7      Biological Indicator: Methyl hippuric acid in urine; Sampling Period: End of turn  
Value: 2000 mg/L; Medium: Urine

methanol  
CAS: 67-56-1      Biological Indicator: Methyl alcohol; Sampling Period: End of turn; End of working week  
Value: 30 mg/L; Medium: Urine

**Predicted No Effect Concentration (PNEC) values**

bis-[4-(2,3-epoxipropoxi)phenyl]  
propane  
CAS: 1675-54-3      Exposure Route: Fresh Water; PNEC Limit: 0.006 mg/l

Exposure Route: Marine water; PNEC Limit: 600 ng/L  
Exposure Route: Freshwater sediments; PNEC Limit: 0.996 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 0.099 mg/kg  
Exposure Route: Soil; PNEC Limit: 0.196 mg/kg  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.018 mg/l  
Exposure Route: Fresh Water; PNEC Limit: 0.184 mg/l

Titanium dioxide  
CAS: 13463-67-7

Exposure Route: Marine water; PNEC Limit: 0.018 mg/l  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/kg  
Exposure Route: Intermittent releases (marine water); PNEC Limit: 100 mg/kg  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/kg  
Exposure Route: Fresh Water; PNEC Limit: 0.003 mg/l

Cashew, nutshell liq.  
CAS: 8007-24-7

Exposure Route: Marine water sediments; PNEC Limit: 0.088 mg/kg  
Exposure Route: Freshwater sediments; PNEC Limit: 0.97 mg/kg  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.03 mg/l  
Exposure Route: Soil; PNEC Limit: 6.71 mg/kg  
Exposure Route: Fresh Water; PNEC Limit: 327 µg/l

xylene  
CAS: 1330-20-7

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 327 µg/l  
Exposure Route: Marine water; PNEC Limit: 327 µg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6.58 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 12.46 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 12.46 mg/kg  
Exposure Route: Soil; PNEC Limit: 2.31 mg/kg

ethyl acrylate  
CAS: 140-88-5

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 11 µg/l  
Exposure Route: Marine water; PNEC Limit: 270 ng/L  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 21.3 µg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 21.3 µg/kg  
Exposure Route: Soil; PNEC Limit: 1 mg/kg  
Exposure Route: Secondary poisoning; PNEC Limit: 10 mg/kg

methanol  
CAS: 67-56-1

Exposure Route: Fresh Water; PNEC Limit: 20.8 mg/l  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1540 mg/l

Exposure Route: Marine water; PNEC Limit: 2.08 mg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 77 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 7.7 mg/kg  
Exposure Route: Soil; PNEC Limit: 100 mg/kg

#### Derived No Effect Level (DNEL) values

bis-[4-(2,3-epoxipropoxy)phenyl]propane  
CAS: 1675-54-3

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects  
Worker Professional: 0.75 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 3.571 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects  
Worker Professional: 3.571 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 12.25 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 12.25 mg/m<sup>3</sup>

Titanium dioxide  
CAS: 13463-67-7

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 10 mg/m<sup>3</sup>

Cashew, nutshell liq.  
CAS: 8007-24-7

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects  
Worker Professional: 0.5 mg/kg; Consumer: 0.25 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 0.88 mg/m<sup>3</sup>; Consumer: 0.2 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects  
Consumer: 0.25 mg/kg

xylene  
CAS: 1330-20-7

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 221 mg/m<sup>3</sup>; Consumer: 65.3 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 442 mg/m<sup>3</sup>; Consumer: 260 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 221 mg/m<sup>3</sup>; Consumer: 65.3 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Professional: 442 mg/m<sup>3</sup>; Consumer: 260 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 212 mg/kg; Consumer: 125 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 12.5 mg/kg

ethyl acrylate  
CAS: 140-88-5

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 21 mg/m<sup>3</sup>; Consumer: 2.5 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects  
Worker Professional: 0.92 mg/cm<sup>2</sup>; Consumer: 0.92 mg/cm<sup>2</sup>

methanol  
CAS: 67-56-1

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 130 mg/m<sup>3</sup>; Consumer: 26 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 130 mg/m<sup>3</sup>; Consumer: 26 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 130 mg/m<sup>3</sup>; Consumer: 26 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Professional: 130 mg/m<sup>3</sup>; Consumer: 26 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 20 mg/kg; Consumer: 4 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 20 mg/kg; Consumer: 4 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 4 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 4 mg/kg

## 8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

Protection for hands:

Suitable materials for safety gloves; EN 374:

Nitrile rubber - NBR: thickness ≥0,35mm; breakthrough time ≥480min.

Respiratory protection:

N.A.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state: Solid

Colour: White

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Kinematic viscosity: N.A.

Melting point/freezing point: N.A.

Boiling point or initial boiling point and boiling range: > 300 °C (572 °F)

Flash point: > 100 °C (212 °F)

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density: 1.20 g/cm3

Solubility in water: N.A.

Solubility in oil: N.A.

Partition coefficient n-octanol/water (log value): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 0.03 % ; 0.39 g/l

#### Particle characteristics:

Particle size: N.A.

### 9.2. Other information

No other relevant information

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

None in particular.

## 10.6. Hazardous decomposition products

None.

## SECTION 11: Toxicological information

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

#### Toxicological Information of the Preparation

|                                      |  |
|--------------------------------------|--|
| a) acute toxicity                    | Not classified   |
|                                      | Based on available data, the classification criteria are not met |
| b) skin corrosion/irritation         | The product is classified: Skin Irrit. 2(H315)                   |
| c) serious eye damage/irritation     | The product is classified: Eye Irrit. 2(H319)                    |
| d) respiratory or skin sensitisation | The product is classified: Skin Sens. 1A(H317)                   |
| e) germ cell mutagenicity            | Not classified   |
|                                      | Based on available data, the classification criteria are not met |
| f) carcinogenicity                   | Not classified   |
|                                      | Based on available data, the classification criteria are not met |
| g) reproductive toxicity             | Not classified   |
|                                      | Based on available data, the classification criteria are not met |
| h) STOT-single exposure              | Not classified   |
|                                      | Based on available data, the classification criteria are not met |
| i) STOT-repeated exposure            | Not classified   |
|                                      | Based on available data, the classification criteria are not met |
| j) aspiration hazard                 | Not classified   |
|                                      | Based on available data, the classification criteria are not met |

#### Toxicological information on main components of the mixture:

bis-[4-(2,3-epoxipropoxy)phenyl]propane

a) acute toxicity LD50 Oral Rabbit = 19800 mg/kg

LD50 Skin Rabbit > 20 mg/kg 24h

b) skin corrosion/irritation Skin Irritant Rabbit Positive

epoxy resin with an average molecular mass <= 700 d  
irritate skin of rabbits

c) serious eye damage/irritation Eye Irritant Rabbit Yes

d) respiratory or skin sensitisation Skin Sensitization Positive

Mouse

f) carcinogenicity Genotoxicity Negative

Mouse, oral

Carcinogenicity Oral Rat = 15 mg/kg

NOAEL

Carcinogenicity Skin Rat = 1 mg/kg

NOAEL

g) reproductive toxicity No Observed Effect Level Oral Rat = 750 mg/kg

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether

LD50 Oral Rat > 2000 mg/kg

LD50 Skin Rat > 2000 mg/kg 24h

c) serious eye damage/irritation Eye Irritant Rabbit No

d) respiratory or skin sensitisation Skin Sensitization Positive

Mouse

f) carcinogenicity Genotoxicity Rat Negative

g) reproductive toxicity No Observed Adverse Effect Level Oral Rat = 100 mg/kg

Quartz

a) acute toxicity LD50 Oral > 2000 mg/kg

Titanium dioxide

a) acute toxicity LD50 Oral Rat > 5000 mg/kg

LC50 Inhalation > 6.82 mg/l

|                       |                                      |   |
|-----------------------|--------------------------------------|---|
|                       | c) serious eye damage/irritation     | LD50 Skin Rat > 2000 mg/kg<br>Eye Corrosive Negative  |
|                       | d) respiratory or skin sensitisation | Eye Irritant No<br>Skin Sensitization Negative  |
|                       | i) STOT-repeated exposure            | No Observed Adverse Effect Level 1000   |
| Cashew, nutshell liq. | a) acute toxicity                    | LD50 Oral Rat = 2000 mg/kg<br>LD50 Skin Rat > 2000 mg/kg 24h  |
|                       | b) skin corrosion/irritation         | Skin Irritant Rabbit Positive   |
|                       | c) serious eye damage/irritation     | Eye Irritant Rabbit Yes   |
|                       | d) respiratory or skin sensitisation | Skin Sensitization Positive   |
|                       |                                      | Mouse   |
| xylene                | a) acute toxicity                    | LD50 Oral Rat = 3523 ml/Kg<br>LC50 Inhalation Vapour Rat = 29000 mg/m3 4h<br>LD50 Skin Rabbit = 12126 mg/kg 24h |
|                       | b) skin corrosion/irritation         | Skin Corrosive Rabbit Negative 4h   |
|                       | c) serious eye damage/irritation     | Eye Irritant Rabbit Yes 1h  |
|                       | f) carcinogenicity                   | Genotoxicity Negative   |
|                       | g) reproductive toxicity             | No Observed Adverse Effect Level Inhalation Rat = 2171 mg/kg  |
|                       |                                      | Mouse subcutaneous route  |
| ethyl acrylate        | a) acute toxicity                    | LD50 Oral Rat = 1120 ml/Kg<br>LC50 Inhalation Vapour Rat < 9.13 mg/l 4h<br>LD50 Skin Rat = 3049 mg/kg 24h       |
|                       | b) skin corrosion/irritation         | Skin Irritant Rabbit Positive   |
|                       | c) serious eye damage/irritation     | Eye Irritant Rabbit Yes 72h   |
|                       | d) respiratory or skin sensitisation | Skin Sensitization Positive   |
|                       | f) carcinogenicity                   | Genotoxicity Negative   |
|                       | g) reproductive toxicity             | No Observed Adverse Effect Level Oral Rat = 110 mg/kg   |
|                       |                                      | Mouse intraperitoneal route   |
| methanol              | a) acute toxicity                    | LD50 Oral Rat >= 2528 mg/kg<br>LC50 Inhalation = 43.68 mg/l 6h<br>LD50 Skin Rabbit = 17100 mg/kg                |
|                       | b) skin corrosion/irritation         | Skin Irritant Rabbit Negative   |
|                       | c) serious eye damage/irritation     | Eye Irritant Rabbit No  |
|                       | d) respiratory or skin sensitisation | Skin Sensitization Guineapig Negative   |
|                       | f) carcinogenicity                   | Genotoxicity Negative<br>Carcinogenicity Rat Negative   |
|                       | g) reproductive toxicity             | Lowest Observed Adverse Effect Level Oral = 1000 mg/kg  |
|                       |                                      | Mouse intraperitoneal route   |

## 11.2. Information on other hazards

### Endocrine disrupting properties:

## SECTION 12: Ecological information

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

#### List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

#### List of Eco-Toxicological properties of the components

| Component                                    | Ident. Numb.  | Ecotox Data  |
|--|---|--|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane      | CAS: 1675-54-3<br>- EINECS: 216-823-5 - INDEX: 603-073-00-2 | a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 2 mg/L 96h<br><br>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1.8 mg/L 48h<br><br>a) Aquatic acute toxicity : EC50 Algae Scenedesmus capricornutum = 11 mg/L 72h EPA-660/3-75-009<br><br>c) Bacteria toxicity : EC50 Sludge activated sludge = 100 mg/L 3h  |
| p-tert-butylphenyl 1-(2,3-epoxy)propyl ether | CAS: 3101-60-8<br>- EINECS: 221-453-2                       | a) Aquatic acute toxicity : LC50 Fish rainbow trout = 7.5 mg/L ,OECD Guideline 203 (Fish, Acute Toxicity Test)<br><br>a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 67.9 mg/L 48h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)<br><br>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 9 mg/L 72h ,OECD Guideline 201 (Alga, Growth Inhibition Test)<br><br>a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000 mg/L 3h ,OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Titanium dioxide                             | CAS: 13463-67-7 - EINECS: 236-675-5                         | a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (Cavedano americano) > 1000 mg/L 96h<br><br>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata (alge cloroficee) > 100 mg/L 72h<br><br>a) Aquatic acute toxicity : NOEC Algae = 5600 mg/L<br>a) Aquatic acute toxicity : EC50 Daphnia  Daphnia magna (Pulce d'acqua grande) > 100 mg/L 48h   |
| Cashew, nutshell liq.                        | CAS: 8007-24-7<br>- EINECS: 232-355-4                       | a) Aquatic acute toxicity : LC50 Fish Cyprinodon variegatus = 1000 mg/L 96h ,OECD Guideline 203 (Fish, Acute Toxicity Test)<br><br>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 40.46 mg/L 48h ,EPA OPPTS 850.1010 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)<br><br>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 1300 mg/L 72h ,OECD Guideline 201 (Alga, Growth Inhibition Test)<br><br>a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L                               |
| xylene                                       | CAS: 1330-20-7<br>- EINECS: 215-535-7 - INDEX: 601-022-00-9 | a) Aquatic acute toxicity : LC50 Fish freshwater fish = 2.6 mg/L 96h OECD 203<br><br>b) Aquatic chronic toxicity : NOEC Fish freshwater fish = 1.3 mg/L - 56days<br>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1 mg/L 24h OECD 202<br><br>b) Aquatic chronic toxicity : NOEC Daphnia Ceriodaphnia dubia = 0.96 mg/L - 7days<br><br>a) Aquatic acute toxicity : EC50 Algae freshwater algae = 1.3 mg/L 48h OECD 201<br><br>a) Aquatic acute toxicity : EC50 microorganisms = 96 mg/L OECD 301F  |

|                |   |   |
|----------------|---|---|
|                |   | d) Terrestrial toxicity : NOEC Worm earthworms = 16 mg/kg - 14days                                    |
|                |   | e) Plant toxicity : LC50 terrestrial plants = 1 mg/kg - 14days  |
| ethyl acrylate | CAS: 140-88-5 -<br>EINECS: 205-797.1400<br>438-8 - INDEX:<br>607-032-00-X | a) Aquatic acute toxicity : LC50 Fish Salmo gairdneri = 4.6 mg/L 96h EPA OTS 797.1300                 |
|                |   | a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 7.9 mg/L 48h EPA OTS 797.1300                |
|                |   | b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 0.19 mg/L EPA OTS 797.1330                 |
|                |   | a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 4.5 mg/L 72h OECD TG 201           |
|                |   | a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L                                   |
| methanol       | CAS: 67-56-1 -<br>EINECS: 200-659-6 - INDEX:<br>603-001-00-X              | a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 15400 mg/L 96h                            |
|                |   | b) Aquatic chronic toxicity : NOEC Fish = 450 mg/L  |
|                |   | a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 22200 mg/L 48h                               |
|                |   | b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 208 mg/L                                   |
|                |   | a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 22000 mg/L 96h OECD 201 Guideline. |
|                |   | d) Terrestrial toxicity : NOEC Worm Eisenia andrei = 10000 mg/kg                                      |
|                |   | d) Terrestrial toxicity : NOEC Folsomia candida = 1000 mg/kg OECD Guideline 232                       |

## 12.2. Persistence and degradability

| Component                                    | Persistence/Degradability: | Test                      | Value                     | Notes:   |
|--|----------------------------|---------------------------|---------------------------|--|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane      | Non-readily biodegradable  | Oxygen consumption        |                           | OECD Guideline 301 F<br>(Ready Biodegradability:<br>Manometric Respirometry<br>Test) |
| p-tert-butylphenyl 1-(2,3-epoxy)propyl ether | Non-readily biodegradable  | Oxygen consumption        | 28days                    |  |
| Cashew, nutshell liq.                        | Readily biodegradable      | Oxygen consumption        | 83.800 %; EU Method C.4-D |  |
| xylene                                       | Readily biodegradable      |                           |                           |  |
| ethyl acrylate                               | Readily biodegradable      | Biochemical oxygen demand | 100.000                   |  |
| methanol                                     | Readily biodegradable      |                           |                           |  |

## 12.3. Bioaccumulative potential

| Component                               | Bioaccumulation     | Test                          | Value  | Notes: |
|---|---------------------|-------------------------------|--------|--------|
| bis-[4-(2,3-epoxipropoxy)phenyl]propane | Bioaccumulative     | BCF - Bioconcentration factor | 31.000 |        |
| xylene                                  | Bioaccumulative     | BCF - Bioconcentration factor | 25.900 |        |
| ethyl acrylate                          | Bioaccumulative     | BCF - Bioconcentration factor | 2.000  |        |
| methanol                                | Not bioaccumulative | BCF - Bioconcentration factor | < 10   |        |

## 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

## 12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

## 12.7. Other adverse effects

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force. Disposal through discharge into wastewater is not permitted

A waste code according to the European List of Wastes (LoW) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

The product disposed of as such, pursuant to Regulation (EU) 1357/2014, must be classified as hazardous waste

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## SECTION 14: Transport information

### 14.1. UN number or ID number

3077

### 14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis-[4-(2,3-epoxipropoxi)phenyl]propane - p-tert-butylphenyl 1-(2,3-epoxy)propyl ether)

IATA-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis-[4-(2,3-epoxipropoxi)phenyl]propane - p-tert-butylphenyl 1-(2,3-epoxy)propyl ether)

IMDG-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (bis-[4-(2,3-epoxipropoxi)phenyl]propane - p-tert-butylphenyl 1-(2,3-epoxy)propyl ether)

### 14.3. Transport hazard class(es)

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

Most important toxic component: bis-[4-(2,3-epoxipropoxi)phenyl]propane

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-F

### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 9

ADR - Hazard identification number: 90

ADR-Special Provisions: 274 335 375 601

ADR-Transport category (Tunnel restriction code): 3 (-)

ADR Limited Quantities: 5 kg

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 956

IATA-Cargo Aircraft: 956

IATA-Label: 9

IATA-Subsidiary hazards: -

IATA-Erg: 9L

IATA-Special Provisions: A97 A158 A179 A197 A215

Sea (IMDG):

IMDG-Stowage and handling: Category A SW23

IMDG-Segregation: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 274 335 966 967 969

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

N.A.

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## SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013  
Regulation (EU) n. 286/2011 (ATP 2 CLP)  
Regulation (EU) n. 618/2012 (ATP 3 CLP)  
Regulation (EU) n. 487/2013 (ATP 4 CLP)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)  
Regulation (EU) n. 2015/1221 (ATP 7 CLP)  
Regulation (EU) n. 2016/918 (ATP 8 CLP)  
Regulation (EU) n. 2016/1179 (ATP 9 CLP)  
Regulation (EU) n. 2017/776 (ATP 10 CLP)  
Regulation (EU) n. 2018/669 (ATP 11 CLP)  
Regulation (EU) n. 2018/1480 (ATP 13 CLP)  
Regulation (EU) n. 2019/521 (ATP 12 CLP)  
Regulation (EU) n. 2020/217 (ATP 14 CLP)  
Regulation (EU) n. 2020/1182 (ATP 15 CLP)  
Regulation (EU) n. 2021/643 (ATP 16 CLP)  
Regulation (EU) n. 2021/849 (ATP 17 CLP)  
Regulation (EU) n. 2022/692 (ATP 18 CLP)  
Regulation (EU) n. 2023/707  
Regulation (EU) n. 2023/1434 (ATP 19 CLP)  
Regulation (EU) n. 2023/1435 (ATP 20 CLP)  
Regulation (EU) n. 2024/197 (ATP 21 CLP)  
Regulation (EU) n. 2020/878  
Regulation (EC) nr 648/2004 (Detergents).

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: None.

Restrictions related to the substances contained: 40, 69, 75

Provisions related to directive EU 2012/18 (Seveso III):

| <b>Seveso III category according to Annex 1, part 1</b> | <b>Lower-tier threshold (tonnes)</b> | <b>Upper-tier threshold (tonnes)</b> |
|---|--------------------------------------|--------------------------------------|
|---|--------------------------------------|--------------------------------------|

|                                 |     |     |
|---------------------------------|-----|-----|
| Product belongs to category: E2 | 200 | 500 |
|---------------------------------|-----|-----|

#### **Explosives precursors – Regulation 2019/1148**

No substances listed

#### **Regulation (EU) No 649/2012 (PIC regulation)**

No substances listed

#### **German Water Hazard Class.**

3: Severe hazard to waters

#### **German Lagerklasse according to TRGS 510:**

LGK 11

SVHC Substances:

No SVHC substances present in concentration  $\geq 0.1\%$

#### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for the mixture.

#### **Substances for which a Chemical Safety Assessment has been carried out:**

bis-[4-(2,3-epoxipropoxi)phenyl]propane

Cashew, nutshell liq.

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### **SECTION 16: Other information**

| <b>Code</b> | <b>Description</b>                            |
|-------------|---|
| H225        | Highly flammable liquid and vapour.           |
| H226        | Flammable liquid and vapour.                  |
| H301        | Toxic if swallowed.                           |
| H302        | Harmful if swallowed.                         |
| H304        | May be fatal if swallowed and enters airways. |
| H311        | Toxic in contact with skin.                   |
| H312        | Harmful in contact with skin.                 |

|      |  |
|------|--|
| H315 | Causes skin irritation.  |
| H317 | May cause an allergic skin reaction.                               |
| H318 | Causes serious eye damage.   |
| H319 | Causes serious eye irritation.                                     |
| H331 | Toxic if inhaled.  |
| H332 | Harmful if inhaled.  |
| H335 | May cause respiratory irritation.                                  |
| H370 | Causes damage to organs.   |
| H372 | Causes damage to organs through prolonged or repeated exposure.    |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H411 | Toxic to aquatic life with long lasting effects.                   |
| H412 | Harmful to aquatic life with long lasting effects.                 |

| <b>Code</b>  | <b>Hazard class and hazard category</b> | <b>Description</b>   |
|--------------|---|--|
| 2.6/2        | Flam. Liq. 2                            | Flammable liquid, Category 2                                   |
| 2.6/3        | Flam. Liq. 3                            | Flammable liquid, Category 3                                   |
| 3.1/3/Dermal | Acute Tox. 3                            | Acute toxicity (dermal), Category 3                            |
| 3.1/3/Inhal  | Acute Tox. 3                            | Acute toxicity (inhalation), Category 3                        |
| 3.1/3/Oral   | Acute Tox. 3                            | Acute toxicity (oral), Category 3                              |
| 3.1/4/Dermal | Acute Tox. 4                            | Acute toxicity (dermal), Category 4                            |
| 3.1/4/Inhal  | Acute Tox. 4                            | Acute toxicity (inhalation), Category 4                        |
| 3.1/4/Oral   | Acute Tox. 4                            | Acute toxicity (oral), Category 4                              |
| 3.10/1       | Asp. Tox. 1                             | Aspiration hazard, Category 1                                  |
| 3.2/2        | Skin Irrit. 2                           | Skin irritation, Category 2                                    |
| 3.3/1        | Eye Dam. 1                              | Serious eye damage, Category 1                                 |
| 3.3/2        | Eye Irrit. 2                            | Eye irritation, Category 2                                     |
| 3.4.2/1      | Skin Sens. 1                            | Skin Sensitisation, Category 1                                 |
| 3.4.2/1A     | Skin Sens. 1A                           | Skin Sensitisation, Category 1A                                |
| 3.8/1        | STOT SE 1                               | Specific target organ toxicity — single exposure, Category 1   |
| 3.8/3        | STOT SE 3                               | Specific target organ toxicity — single exposure, Category 3   |
| 3.9/1        | STOT RE 1                               | Specific target organ toxicity — repeated exposure, Category 1 |
| 3.9/2        | STOT RE 2                               | Specific target organ toxicity — repeated exposure, Category 2 |
| 4.1/C2       | Aquatic Chronic 2                       | Chronic (long term) aquatic hazard, category 2                 |
| 4.1/C3       | Aquatic Chronic 3                       | Chronic (long term) aquatic hazard, category 3                 |

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

| <b>Classification according to Regulation (EC) Nr. 1272/2008</b> | <b>Classification procedure</b> |
|--|---------------------------------|
| Skin Irrit. 2, H315  | Calculation method              |
| Eye Irrit. 2, H319   | Calculation method              |
| Skin Sens. 1A, H317  | Calculation method              |
| Aquatic Chronic 2, H411  | Calculation method              |

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index  
BOD: Biochemical Oxygen Demand  
CAS: Chemical Abstracts Service (division of the American Chemical Society).  
CAV: Poison Center  
CE: European Community  
CLP: Classification, Labeling, Packaging.  
CMR: Carcinogenic, Mutagenic and Reprotoxic  
COD: Chemical Oxygen Demand  
COV: Volatile Organic Compound  
CSA: Chemical Safety Assessment  
CSR: Chemical Safety Report  
DMEL: Derived Minimal Effect Level  
DNEL: Derived No Effect Level.  
DPD: Dangerous Preparations Directive  
DSD: Dangerous Substances Directive  
EC50: Half Maximal Effective Concentration  
ECHA: European Chemicals Agency  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
ES: Exposure Scenario  
GefStoffVO: Ordinance on Hazardous Substances, Germany.  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association.  
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
IC50: half maximal inhibitory concentration  
ICAO: International Civil Aviation Organization.  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
IMDG: International Maritime Code for Dangerous Goods.  
INCI: International Nomenclature of Cosmetic Ingredients.  
IRCCS: Scientific Institute for Research, Hospitalization and Health Care  
KAFH: Keep Away From Heat  
KSt: Explosion coefficient.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
LDLo: Leathal Dose Low  
N.A.: Not Applicable  
N/A: Not Applicable  
N/D: Not defined/ Not available  
NA: Not available  
NIOSH: National Institute for Occupational Safety and Health  
NOAEL: No Observed Adverse Effect Level  
OSHA: Occupational Safety and Health Administration  
PBT: Persistent, Bioaccumulative and Toxic  
PGK: Packaging Instruction  
PNEC: Predicted No Effect Concentration.  
PSG: Passengers  
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
vPvB: Very Persistent, Very Bioaccumulative.  
WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information

- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information

# Exposure Scenario

## bis-[4-(2,3-epoxipropoxy)phenyl]propane

### Exposure Scenario, 07/06/2021

| Substance identity  |   |
|---------------------|---|
|                     | bis-[4-(2,3-epoxipropoxy)phenyl]propane |
| CAS No.             | 1675-54-3                               |
| INDEX No.           | 603-073-00-2                            |
| EINECS No.          | 216-823-5                               |
| Registration number | 01-2119456619-26                        |

### Table of contents

1. **ES 1** Widespread use by professional workers; ESC2\_0000001

# 1. ES 1 Widespread use by professional workers; ESC2\_0000001

## 1.1 TITLE SECTION

|                        |  |
|------------------------|--|
| Exposure Scenario name | Professional application of coatings and inks - Etching agent - Resins (prepolymers) - Adhesion promotor |
| Date - Version         | 27/05/2021 - 1.0   |
| Life Cycle Stage       | Widespread use by professional workers   |
| Main user group        | Professional uses  |
| Sector(s) of use       | Professional uses (SU22)   |
| Product Categories     | ESC2_0000001   |
| Article Category(ies)  | Other articles made of stone, plaster, cement, glass or ceramic (AC4g)                                   |

## Environment Contributing Scenario

|     |               |
|-----|---------------|
| CS1 | ERC8c - ERC8f |
|-----|---------------|

## Worker Contributing Scenario

|  |        |
|--|--------|
| CS2 Material transfers                 | PROC8a |
| CS3 Rolling, Brushing                  | PROC10 |
| CS4 Roller, spreader, flow application | PROC11 |
| CS5 Mixing operations - Manual         | PROC19 |

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

|                                  |   |
|----------------------------------|---|
| Environmental release categories | Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f) |
|----------------------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

### Amount used, frequency and duration of use (or from service life)

#### Amounts used:

Daily amount per site = 175 kg/day

#### Release type:

Continuous release

#### Emission days:

365 days per year

### Technical and organisational conditions and measures

#### Control measures to prevent releases

Provide onsite wastewater removal efficiency of <sup>3</sup> (%):

### Conditions and measures related to sewage treatment plant

#### STP type:

Municipal Sewage Treatment Plant

#### STP effluent (m<sup>3</sup>/day):

2

### Conditions and measures related to treatment of waste (including article waste)

#### Waste treatment

Dispose of waste cans and containers according to local regulations.

### Other conditions affecting environmental exposure

**Local marine water dilution factor:** 100  
**Local freshwater dilution factor:** 10  
**Receiving surface water flow:** 18000 m<sup>3</sup>/day  
Covers indoor and outdoor use

## 1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

|                    |  |
|--------------------|--|
| Process Categories | Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a) |
|--------------------|--|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers daily exposures up to 8 hours

### Technical and organisational conditions and measures

#### Technical and organisational measures

Avoid carrying out activities involving exposure for more than 4 hours per day.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

#### Other conditions affecting worker exposure

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

|                    |   |
|--------------------|---|
| Process Categories | Roller application or brushing (PROC10) |
|--------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers daily exposures up to 8 hours

### Technical and organisational conditions and measures

#### Technical and organisational measures

Avoid carrying out activities involving exposure for more than 4 hours per day.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

#### Other conditions affecting worker exposure

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

|                    |                                  |
|--------------------|----------------------------------|
| Process Categories | Non industrial spraying (PROC11) |
|--------------------|----------------------------------|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

**Amount used, frequency and duration of use/exposure****Duration:**

Covers daily exposures up to 8 hours

**Technical and organisational conditions and measures****Technical and organisational measures**

Avoid carrying out activities involving exposure for more than 4 hours per day.

**Conditions and measures related to personal protection, hygiene and health evaluation****Personal protection**

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

Wear suitable face shield.

Wear an impervious suit.

Wear a respirator conforming to EN140.

**Other conditions affecting worker exposure**

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

**1.2. CS5: Worker Contributing Scenario: Mixing operations - Manual (PROC19)**

|                    |   |
|--------------------|---|
| Process Categories | Manual activities involving hand contact (PROC19) |
|--------------------|---|

**Product (article) characteristics****Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

**Amount used, frequency and duration of use/exposure****Duration:**

Covers daily exposures up to 8 hours

**Technical and organisational conditions and measures****Technical and organisational measures**

Avoid carrying out activities involving exposure for more than 1 hour per day.

**Conditions and measures related to personal protection, hygiene and health evaluation****Personal protection**

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

**Other conditions affecting worker exposure**

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)**

| protection target   | Exposure level             | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------|----------------------------|--------------------|-----------------------------------|
| freshwater          | = 0.0022 mg/L              | EUSES              | = 0.00022                         |
| marine sediment     | = 0.00127 mg/L             | EUSES              | = 0.0128                          |
| freshwater sediment | = 0.012 mg/L               | EUSES              | = 0.0369                          |
| marine water        | = 2.34E-05 mg/L            | EUSES              | = 0.029                           |
| soil                | = 0.00142 mg/kg dry weight | EUSES              | = 0.00722                         |

### 1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

| Exposure route, Health effect, Exposure indicator | Exposure level           | Calculation method     | Risk Characterization Ratio (RCR) |
|---|--------------------------|------------------------|-----------------------------------|
| inhalative, systemic, long-term                   | = 0.84 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.07                              |
| dermal, systemic, long-term                       | = 0.2742 mg/kg bw/day    | ECETOC TRA worker v2.0 | = 0.03                            |

### 1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level            | Calculation method     | Risk Characterization Ratio (RCR) |
|---|---------------------------|------------------------|-----------------------------------|
| inhalative, systemic, long-term                   | = 5E-07 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |
| dermal, systemic, long-term                       | = 2.743 mg/kg bw/day      | ECETOC TRA worker v2.0 | = 0.33                            |

### 1.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

| Exposure route, Health effect, Exposure indicator | Exposure level           | Calculation method     | Risk Characterization Ratio (RCR) |
|---|--------------------------|------------------------|-----------------------------------|
| inhalative, systemic, long-term                   | = 0.36 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.03                              |
| dermal, systemic, long-term                       | = 2.68 mg/kg bw/day      | ECETOC TRA worker v2.0 | = 0.32                            |

### 1.3. CS5: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

| Exposure route, Health effect, Exposure indicator | Exposure level            | Calculation method     | Risk Characterization Ratio (RCR) |
|---|---------------------------|------------------------|-----------------------------------|
| inhalative, systemic, long-term                   | = 2E-07 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |
| dermal, systemic, long-term                       | = 1.414 mg/kg bw/day      | ECETOC TRA worker v3   | < 0.42                            |
| combined routes, systemic, long-term              | N/A                       | ECETOC TRA worker v3   | = 0.42                            |

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario

## Cashew, nutshell liq.

### Exposure Scenario, 08/06/2021

| Substance identity  | Cashew, nutshell liq. |
|---------------------|-----------------------|
| CAS No.             | 8007-24-7             |
| EINECS No.          | 232-355-4             |
| Registration number | 01-2119502450-57      |

### Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9b, PC9a, PC1)

1. ES 1

Widespread use by professional workers; Various products (PC9b, PC9a, PC1)

**1.1 TITLE SECTION**

|                        |   |
|------------------------|---|
| Exposure Scenario name | Dye - Professional application of coatings and inks by brush or roller - Use in rigid foams, coatings, adhesives and sealants                                   |
| Date - Version         | 21/05/2021 - 1.0  |
| Life Cycle Stage       | Widespread use by professional workers  |
| Main user group        | Professional uses   |
| Sector(s) of use       | Professional uses (SU22)  |
| Product Categories     | Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1)                            |
| Article Category(ies)  | Stone, plaster, cement, glass and ceramic articles: Large surface area articles (AC4a) - Other articles made of stone, plaster, cement, glass or ceramic (AC4g) |

**Environment Contributing Scenario**

|     |               |
|-----|---------------|
| CS1 | ERC8c - ERC8f |
|-----|---------------|

**Worker Contributing Scenario**

|   |        |
|---|--------|
| CS2 Mixing operations   | PROC19 |
| CS3 Equipment cleaning and maintenance - (aqueous) - Material transfers   | PROC8b |
| CS4 Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) | PROC10 |

**1.2 Conditions of use affecting exposure****1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)**

|                                  |   |
|----------------------------------|---|
| Environmental release categories | Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f) |
|----------------------------------|---|

**Product (article) characteristics****Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 1 %.

**Amount used, frequency and duration of use (or from service life)****Amounts used:**

< 50 t(tonnes)/year  
< 167 kg/day

**Release type:** Intermittent release**Emission days:** 365 days per year**Conditions and measures related to sewage treatment plant****STP type:**

Municipal Sewage Treatment Plant  
Water - minimum efficiency of: = 93.2 %

**Conditions and measures related to treatment of waste (including article waste)****Waste treatment**

Residues which cannot be recycled are disposed off as chemical waste

**Other conditions affecting environmental exposure****Local marine water dilution factor:** 100**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 18000 m<sup>3</sup>/day

Covers indoor and outdoor use

## 1.2. CS2: Worker Contributing Scenario: Mixing operations (PROC19)

**Process Categories** Manual activities involving hand contact (PROC19)

### Product (article) characteristics

#### Physical form of product:

Liquid

#### Concentration of substance in product:

Covers percentage substance in the product up to 1 %.

### Amount used, frequency and duration of use/exposure

#### Amounts used:

< 50 t(tonnes)/year

#### Duration:

Covers daily exposures up to 8 hours

### Technical and organisational conditions and measures

#### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Avoid direct eye contact with product, also via contamination on hands.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

Wear suitable coveralls to prevent exposure to the skin.

Use eye protection according to EN 166.

Wear a respirator conforming to EN140.

### Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

**Temperature:** Covers use at ambient temperatures.

## 1.2. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - (aqueous) - Material transfers (PROC8b)

**Process Categories** Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers daily exposures up to 8 hours

#### Frequency:

Avoid using product more than .... = 4 h/event

### Technical and organisational conditions and measures

#### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Avoid direct eye contact with product, also via contamination on hands.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

### Other conditions affecting worker exposure

Indoor use

Professional use

**Temperature:** Covers use at ambient temperatures.

## 1.2. CS4: Worker Contributing Scenario: Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) (PROC10)

|                    |   |
|--------------------|---|
| Process Categories | Roller application or brushing (PROC10) |
|--------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers daily exposures up to 8 hours

#### Frequency:

Avoid using product more than .... = 4 h/event

### Technical and organisational conditions and measures

#### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Provide extract ventilation to points where emissions occur.

Avoid direct eye contact with product, also via contamination on hands.

Use long handled brushes and rollers.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

Wear a respirator conforming to EN140.

#### Other conditions affecting worker exposure

Indoor use

Professional use

**Temperature:** Covers use at ambient temperatures.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

| protection target | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|-------------------|----------------|--------------------|-----------------------------------|
| N/A               | N/A            | N/A                | < 1                               |

### 1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC19)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---|----------------|------------------------|-----------------------------------|
| inhalative  | N/A            | ECETOC TRA worker v2.0 | < 1                               |
| dermal  | N/A            | ECETOC TRA worker v2.0 | < 1                               |

### 1.3. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - (aqueous) - Material transfers (PROC8b)

| Exposure route, Health effect, Exposure indicator | Exposure level           | Calculation method     | Risk Characterization Ratio (RCR) |
|---|--------------------------|------------------------|-----------------------------------|
| inhalative, systemic, long-term                   | = 7.75 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.562                           |

|                             |                           |                        |         |
|-----------------------------|---------------------------|------------------------|---------|
| dermal, systemic, long-term | = 0.014 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.004 |
|-----------------------------|---------------------------|------------------------|---------|

### 1.3. CS4: Worker Contributing Scenario: Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level            | Calculation method     | Risk Characterization Ratio (RCR) |
|---|---------------------------|------------------------|-----------------------------------|
| inhalative, local, short-term                     | = 2.325 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.168                           |
| dermal, systemic, long-term                       | = 0.137 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.035                           |

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

### AQUASTOP NANOGLUM (B)

Date of first edition: 3/7/2022

Safety Data Sheet dated 19/05/2025

version 8

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

### 1.1. Product identifier

Mixture identification:

Trade name: AQUASTOP NANOGLUM (B)

Trade code: S100B0009 60

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

Recommended use: hardener

Uses advised against: All uses other than recommended ones

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

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

Ireland Emergency medical information: (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland.

Members of the public Number (8 am-10 pm): +353 (0)1 809 2166

Healthcare professional telephone Number (24hrs): +353 (0)1 809 2566

Malta In case of emergency call: +356 2395 2000 (24h)

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## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Acute Tox. 4 Harmful if swallowed.

Acute Tox. 4 Harmful if inhaled.

Skin Corr. 1B Causes severe skin burns and eye damage.

Eye Dam. 1 Causes serious eye damage.

Skin Sens. 1A May cause an allergic skin reaction.

Aquatic Chronic 2 Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

#### Regulation (EC) No 1272/2008 (CLP):

##### Hazard pictograms and Signal Word



Danger

##### Hazard statements

H302+H332 Harmful if swallowed or if inhaled

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

## Precautionary statements

P260 Do not breathe vapours.  
P280 Wear protective gloves and eye protection.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P305+P351+P33 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER if you feel unwell.

## Contains

Cashew, nutshell liq.  
M-phenylenebis(methylamine)  
Polyoxpropylenediamine  
amines, polyethylenepoly-; HEPA

## Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

### 2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: No other hazards

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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: AQUASTOP NANOGLUM (B)

#### Hazardous components within the meaning of the CLP regulation and related classification:

| Qty       | Name                            | Ident. Numbr.  | Classification   | Registration Number |
|-----------|---------------------------------|--|--|---------------------|
| ≥20-<50 % | M-phenylenebis(methylamine)     | CAS:1477-55-0<br>EC:216-032-5                        | Acute Tox. 4, H302; Acute Tox. 4, H332; Aquatic Chronic 3, H412; Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1B, H314, EUH071 | 01-2119480150-50    |
| ≥20-<50 % | Cashew, nutshell liq.           | CAS:8007-24-7<br>EC:700-991-6                        | Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317                                 | 01-2119502450-57    |
| ≥20-<50 % | Polyoxpropylenediamine          | CAS:9046-10-0<br>EC:618-561-0                        | Skin Corr. 1C, H314; Eye Dam. 1, H318; Aquatic Chronic 3, H412   | 01-2119557899-12    |
| ≥5-<10 %  | amines, polyethylenepoly-; HEPA | CAS:68131-73-7<br>EC:268-626-9<br>Index:612-121-00-1 | Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312, M-Chronic:1              | 01-2119485823-28    |

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAINT IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediatley and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Give nothing to eat or drink.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

### 4.2. Most important symptoms and effects, both acute and delayed

Eye irritation  
Eye damages  
Skin Irritation  
Erythema

#### **4.3. Indication of any immediate medical attention and special treatment needed**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media:

Water.  
Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

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

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

#### **5.3. Advice for firefighters**

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

---

### **SECTION 6: Accidental release measures**

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

##### **For non emergency personnel:**

Wear personal protection equipment.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Provide adequate ventilation.  
Use appropriate respiratory protection.  
See protective measures under point 7 and 8.

##### **For emergency responders:**

Wear personal protection equipment.

#### **6.2. Environmental precautions**

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand

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

Suitable material for taking up: absorbing material, organic, sand  
Wash with plenty of water.

#### **6.4. Reference to other sections**

See also section 8 and 13

---

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Avoid contact with skin and eyes, inhalation of vapours and mists.  
Use localized ventilation system.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

##### **Advice on general occupational hygiene:**

#### **7.2. Conditions for safe storage, including any incompatibilities**

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

#### **7.3. Specific end use(s)**

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

|   | OEL Type | Country     | Occupational Exposure Limit  |
|---|----------|-------------|--|
| M-phenylenebis(methylamine)<br>CAS: 1477-55-0 | ACGIH    |             | Short Term: Ceiling - 0.018 ppm<br>Skin - Eye, skin, and GI irr  |
|   | NATIONAL | BELGIUM     | Short Term: 0.1 mg/m <sup>3</sup><br>D, M<br>Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1            |
|   | NATIONAL | IRELAND     | Long Term: 0.1 mg/m <sup>3</sup><br>Source: 2021 Code of Practice  |
|   | NATIONAL | AUSTRIA     | Long Term: 0.1 mg/m <sup>3</sup> ; Short Term: Ceiling - 0.1 mg/m <sup>3</sup><br>Mow, MAK<br>Source: GKV, BGBI. II Nr. 156/2021 |
|   | NATIONAL | DENMARK     | Short Term: Ceiling - 0.1 mg/m <sup>3</sup> - 0.02 ppm<br>LH<br>Source: BEK nr 2203 af 29/11/2021                                |
|   | NATIONAL | FINLAND     | Short Term: Ceiling - 0.1 mg/m <sup>3</sup><br>kattoarvo, iho<br>Source: HTP-ARVOT 2020  |
|   | NATIONAL | FRANCE      | Short Term: 0.1 mg/m <sup>3</sup><br>Source: INRS outil65  |
|   | NATIONAL | NORWAY      | Short Term: Ceiling - 0.1 mg/m <sup>3</sup><br>T<br>Source: FOR-2021-06-28-2248  |
|   | SUVA     | SWITZERLAND | Long Term: 0.1 mg/m <sup>3</sup><br>D R/H, S, TGI Peau Yeux / GIT Haut Auge<br>Source: suva.ch/valeurs-limites                   |

#### Predicted No Effect Concentration (PNEC) values

M-phenylenebis(methylamine)  
CAS: 1477-55-0

Exposure Route: Fresh Water; PNEC Limit: 94 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 152 µg/l  
Exposure Route: Marine water; PNEC Limit: 9.4 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 430 µg/kg

Exposure Route: Marine water sediments; PNEC Limit: 43 µg/kg

Exposure Route: Soil; PNEC Limit: 45 µg/kg

Cashew, nutshell liq.  
CAS: 8007-24-7

Exposure Route: Fresh Water; PNEC Limit: 0.003 mg/l

Exposure Route: Marine water sediments; PNEC Limit: 0.088 mg/kg

Exposure Route: Freshwater sediments; PNEC Limit: 0.97 mg/kg

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.03 mg/l

Exposure Route: Soil; PNEC Limit: 6.71 mg/kg

Polyoxpropylenediamine  
CAS: 9046-10-0

Exposure Route: Fresh Water; PNEC Limit: 15 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 150 µg/l

Exposure Route: Marine water; PNEC Limit: 14.2 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 7.5 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 132 µg/kg

Exposure Route: Marine water sediments; PNEC Limit: 125 µg/kg

Exposure Route: Soil; PNEC Limit: 17.6 µg/kg

Exposure Route: Secondary poisoning; PNEC Limit: 6.93 mg/kg

Exposure Route: Fresh Water; PNEC Limit: 1.6 µg/l

amines,  
polyethylenepoly-; HEPA  
CAS: 68131-73-7

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 16 µg/l

Exposure Route: Marine water; PNEC Limit: 1.6 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.19 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 0.14 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.14 mg/kg

Exposure Route: Soil; PNEC Limit: 10 mg/kg

#### Derived No Effect Level (DNEL) values

M-  
phenylenebis  
(methylamine)  
CAS: 1477-55-0

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 1.2 mg/m<sup>3</sup>

Cashew, nutshell liq.  
CAS: 8007-24-7

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 200 µg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 330 µg/kg

Polyoxpropylenediamine  
CAS: 9046-10-0

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects  
Worker Professional: 0.5 mg/kg; Consumer: 0.25 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 0.88 mg/m<sup>3</sup>; Consumer: 0.2 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects  
Consumer: 0.25 mg/kg

amines,  
polyethylenepoly-; HEPA  
CAS: 68131-73-7

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 1.36 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 2.5 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 1.59 mg/m<sup>3</sup>; Consumer: 0.46 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.65 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 32 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 0.91 mg/m<sup>3</sup>; Consumer: 0.4 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects  
Worker Professional: 0.044 mg/cm<sup>2</sup>; Consumer: 0.68 mg/cm<sup>2</sup>

Exposure Route: Human Dermal; Exposure Frequency: Short Term (acute)  
Consumer: 1.59 mg/cm<sup>2</sup>

## 8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing.

Protection for hands:

Protection for hands:

Suitable materials for safety gloves; EN 374:

Nitrile rubber - NBR: thickness ≥0,35mm; breakthrough time ≥480min.

Respiratory protection:

Particle filter P2 .

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: Light yellow

Odour: Like: Amines

Odour threshold: N.A.

pH: Not Relevant

Kinematic viscosity: N.A.

Melting point/freezing point: N.A.

Boiling point or initial boiling point and boiling range: 247 °C (477 °F)

Flash point: 66 °C (151 °F)

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density: 0.93 g/cm<sup>3</sup>

Solubility in water: Miscible

Solubility in oil: N.A.

Partition coefficient n-octanol/water (log value): N.A.

Auto-ignition temperature: 435.00 °C

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 0 % ; 0 g/l

#### Particle characteristics:

Particle size: N.A.

### 9.2. Other information

No other relevant information

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

None in particular.

### 10.6. Hazardous decomposition products

None.

---

## SECTION 11: Toxicological information

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

#### Toxicological Information of the Preparation

|                                      |   |
|--------------------------------------|---|
| a) acute toxicity                    | The product is classified: Acute Tox. 4(H302), Acute Tox. 4(H332) |
| b) skin corrosion/irritation         | The product is classified: Skin Corr. 1B(H314)                    |
| c) serious eye damage/irritation     | The product is classified: Eye Dam. 1(H318)                       |
| d) respiratory or skin sensitisation | The product is classified: Skin Sens. 1A(H317)                    |
| e) germ cell mutagenicity            | Not classified  |
|                                      | Based on available data, the classification criteria are not met  |
| f) carcinogenicity                   | Not classified  |
|                                      | Based on available data, the classification criteria are not met  |
| g) reproductive toxicity             | Not classified  |
|                                      | Based on available data, the classification criteria are not met  |

|                           |  |
|---------------------------|--|
| h) STOT-single exposure   | Not classified   |
| i) STOT-repeated exposure | Based on available data, the classification criteria are not met |
| j) aspiration hazard      | Not classified   |

**Toxicological information on main components of the mixture:**

|                                 |                                      |  |
|---------------------------------|--------------------------------------|--|
| M-phenylenebis(methylamine)     | a) acute toxicity                    | LD50 Oral Rat = 1001 mg/kg                           |
|                                 |                                      | LC50 Inhalation Mist Rat = 1.34 mg/l 4h              |
|                                 |                                      | LD50 Skin Rat > 3100 mg/kg                           |
|                                 | b) skin corrosion/irritation         | Skin Irritant Rat Positive 4h                        |
|                                 | d) respiratory or skin sensitisation | Skin Sensitization Positive                          |
|                                 | f) carcinogenicity                   | Genotoxicity Negative                                |
|                                 | g) reproductive toxicity             | No Observed Effect Level Oral Rat = 450 mg/kg        |
| Cashew, nutshell liq.           | a) acute toxicity                    | LD50 Oral Rat = 2000 mg/kg                           |
|                                 |                                      | LD50 Skin Rat > 2000 mg/kg 24h                       |
|                                 | b) skin corrosion/irritation         | Skin Irritant Rabbit Positive                        |
|                                 | c) serious eye damage/irritation     | Eye Irritant Rabbit Yes                              |
|                                 | d) respiratory or skin sensitisation | Skin Sensitization Positive                          |
| Polyoxpropylenediamine          | a) acute toxicity                    | LD50 Oral Rat = 2885 mg/kg                           |
|                                 |                                      | LC50 Inhalation Vapour Rat > 0.74 mg/l 8h            |
|                                 |                                      | LD50 Skin Rabbit = 2980 mg/kg 24h                    |
|                                 | b) skin corrosion/irritation         | Skin Corrosive Rabbit Positive 4h                    |
|                                 | c) serious eye damage/irritation     | Eye Corrosive Rabbit Positive                        |
|                                 | f) carcinogenicity                   | Genotoxicity Negative                                |
|                                 | g) reproductive toxicity             | No Observed Adverse Effect Level Skin Rat = 30 mg/kg |
| amines, polyethylenepoly-; HEPA | a) acute toxicity                    | LD50 Oral Rat = 1716.2 mg/kg                         |
|                                 |                                      | LD50 Skin Rabbit = 1465.4 mg/kg 24h                  |
|                                 | b) skin corrosion/irritation         | Skin Corrosive Rabbit Positive                       |
|                                 | c) serious eye damage/irritation     | Eye Irritant Rabbit Yes                              |
|                                 | d) respiratory or skin sensitisation | Skin Sensitization Guineapig Positive                |
|                                 | f) carcinogenicity                   | Genotoxicity Negative                                |
|                                 |                                      | Mouse intraperitoneal route                          |

**11.2. Information on other hazards**

**Endocrine disrupting properties:**

No endocrine disruptor substances present in concentration >= 0.1%

**SECTION 12: Ecological information**

**12.1. Toxicity**

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

#### List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

#### List of Eco-Toxicological properties of the components

| Component                       | Ident. Numb.   | Ecotox Data  |
|---------------------------------|--|--|
| M-phenylenebis(methylamine)     | CAS: 1477-55-0<br>- EINECS: 216- 032-5                     | a) Aquatic acute toxicity : LC50 Fish Oryzias latipes = 87.6 mg/L 96h OECD<br>a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 15.2 mg/L 48h OECD 202<br>b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 4.7 mg/L OECD 211 - 21days<br>a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 32.1 mg/L 72h OECD 201<br>a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000 mg/L OECD 209   |
| Cashew, nutshell liq.           | CAS: 8007-24-7<br>- EINECS: 700- 991-6                     | a) Aquatic acute toxicity : LC50 Fish Cyprinodon variegatus = 1000 mg/L 96h „OECD Guideline 203 (Fish, Acute Toxicity Test)<br>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 40.46 mg/L 48h „EPA OPPTS 850.1010 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)<br>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 1300 mg/L 72h „OECD Guideline 201 (Alga, Growth Inhibition Test)<br>a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L   |
| Polyoxpropylenediamine          | CAS: 9046-10-0<br>- EINECS: 618- 561-0                     | a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss > 15 mg/L 96h OECD Guideline 203<br>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 80 mg/L 48h OECD Guideline 202<br>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 15 mg/L 72h OECD Guideline 201<br>a) Aquatic acute toxicity : NOEC Algae Pseudokirchneriella subcapitata = 1.4 mg/L 72h OECD Guideline 201<br>a) Aquatic acute toxicity : EC50 Sludge Activated Sludge = 750 mg/L 3h OECD Guideline 209<br>a) Aquatic acute toxicity : NOEC Sludge Activated Sludge = 310 mg/L 3h OECD Guideline 209 |
| amines, polyethylenepoly-; HEPA | CAS: 68131-73-7 - EINECS: 268-626-9 - INDEX: 612- 121-00-1 | a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 100 mg/L 96h EU Method C.1 (Acute Toxicity for Fish)<br>a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 2.2 mg/L 48h EU Method C.2 (Acute Toxicity for Daphnia)<br>a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 0.23 mg/L 72h OECD TG 201<br>c) Bacteria toxicity : EC50 nitrifying bacteria = 319.3 mg/L - 2h<br>d) Terrestrial toxicity : NOEC Worm Eisenia fetida = 1000 mg/kg OECD Guideline 222 (Earthworm Reproduction Test (Eisenia fetida/Eisenia andrei)) - 56days                                 |

#### 12.2. Persistence and degradability

| Component                   | Persistence/Degradability: | Test               | Value                        | Notes:    |
|-----------------------------|----------------------------|--------------------|------------------------------|-----------|
| M-phenylenebis(methylamine) | Non-readily biodegradable  | Oxygen consumption |                              | OECD 301B |
| Cashew, nutshell liq.       | Readily biodegradable      | Oxygen consumption | 83.800 %; EU Method C.4-D    |           |
| Polyoxpropylenediamine      | Non-readily biodegradable  | CO2 production     | 9.800 %; OECD Guideline 301B |           |

amines, polyethylenepoly-; HEPA Non-readily biodegradable

Oxygen consumption

OECD 301D

### 12.3. Bioaccumulative potential

| Component                   | Bioaccumulation     | Test                          | Notes:   |
|-----------------------------|---------------------|-------------------------------|--|
| M-phenylenebis(methylamine) | Not bioaccumulative | BCF - Bioconcentration factor | OECD Guideline 305<br>(Bioconcentration: Flow-through Fish Test) |

### 12.4. Mobility in soil

N.A.

### 12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

### 12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

### 12.7. Other adverse effects

N.A.

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

A waste code according to the European List of Wastes (LoW) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

The product disposed of as such, pursuant to Regulation (EU) 1357/2014, must be classified as hazardous waste

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## SECTION 14: Transport information

### 14.1. UN number or ID number

2735

### 14.2. UN proper shipping name

ADR-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (M-phenylenebis(methylamine) - Polyoxpropylenediamine)

IATA-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (M-phenylenebis(methylamine) - Polyoxpropylenediamine)

IMDG-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (M-phenylenebis(methylamine) - Polyoxpropylenediamine)

### 14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

Most important toxic component: amines, polyethylenepoly-; HEPA

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-B

### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 274

ADR-Transport category (Tunnel restriction code): 3 (E)

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 852

IATA-Cargo Aircraft: 856

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage and handling: Category A

IMDG-Segregation: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 223 274

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

N.A.

---

## SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Regulation (EU) n. 2023/707

Regulation (EU) n. 2023/1434 (ATP 19 CLP)

Regulation (EU) n. 2023/1435 (ATP 20 CLP)

Regulation (EU) n. 2024/197 (ATP 21 CLP)

Regulation (EU) n. 2020/878

Regulation (EC) nr 648/2004 (Detergents).

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

| <b>Seveso III category according to Annex 1, part 1</b> | <b>Lower-tier threshold (tonnes)</b> | <b>Upper-tier threshold (tonnes)</b> |
|---|--------------------------------------|--------------------------------------|
|---|--------------------------------------|--------------------------------------|

|                                 |     |     |
|---------------------------------|-----|-----|
| Product belongs to category: E2 | 200 | 500 |
|---------------------------------|-----|-----|

### Explosives precursors – Regulation 2019/1148

No substances listed

### Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

### German Water Hazard Class.

3: Severe hazard to waters

### German Lagerklasse according to TRGS 510:

LGK 8A

### SVHC Substances:

No SVHC substances present in concentration >= 0.1%

### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

### Substances for which a Chemical Safety Assessment has been carried out:

Cashew, nutshell liq.

Polyoxpropylenediamine

amines, polyethylenepoly-; HEPA

## SECTION 16: Other information

| Code   | Description   |
|--------|---|
| EUH071 | Corrosive to the respiratory tract.                   |
| H302   | Harmful if swallowed.                                 |
| H312   | Harmful in contact with skin.                         |
| H314   | Causes severe skin burns and eye damage.              |
| H315   | Causes skin irritation.                               |
| H317   | May cause an allergic skin reaction.                  |
| H318   | Causes serious eye damage.                            |
| H332   | Harmful if inhaled.                                   |
| H410   | Very toxic to aquatic life with long lasting effects. |
| H411   | Toxic to aquatic life with long lasting effects.      |
| H412   | Harmful to aquatic life with long lasting effects.    |

| Code         | Hazard class and hazard category | Description                                    |
|--------------|----------------------------------|--|
| 3.1/4/Dermal | Acute Tox. 4                     | Acute toxicity (dermal), Category 4            |
| 3.1/4/Inhal  | Acute Tox. 4                     | Acute toxicity (inhalation), Category 4        |
| 3.1/4/Oral   | Acute Tox. 4                     | Acute toxicity (oral), Category 4              |
| 3.2/1B       | Skin Corr. 1B                    | Skin corrosion, Category 1B                    |
| 3.2/1C       | Skin Corr. 1C                    | Skin corrosion, Category 1C                    |
| 3.2/2        | Skin Irrit. 2                    | Skin irritation, Category 2                    |
| 3.3/1        | Eye Dam. 1                       | Serious eye damage, Category 1                 |
| 3.4.2/1      | Skin Sens. 1                     | Skin Sensitisation, Category 1                 |
| 3.4.2/1A     | Skin Sens. 1A                    | Skin Sensitisation, Category 1A                |
| 4.1/C1       | Aquatic Chronic 1                | Chronic (long term) aquatic hazard, category 1 |
| 4.1/C2       | Aquatic Chronic 2                | Chronic (long term) aquatic hazard, category 2 |
| 4.1/C3       | Aquatic Chronic 3                | Chronic (long term) aquatic hazard, category 3 |

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

| Classification according to Regulation (EC) Nr. 1272/2008 | Classification procedure |
|---|--------------------------|
| Acute Tox. 4, H302  | Calculation method       |
| Acute Tox. 4, H332  | Calculation method       |
| Skin Corr. 1B, H314                                       | Calculation method       |
| Eye Dam. 1, H318  | Calculation method       |
| Skin Sens. 1A, H317                                       | Calculation method       |
| Aquatic Chronic 2, H411                                   | Calculation method       |

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community  
CLP: Classification, Labeling, Packaging.  
CMR: Carcinogenic, Mutagenic and Reprotoxic  
COD: Chemical Oxygen Demand  
COV: Volatile Organic Compound  
CSA: Chemical Safety Assessment  
CSR: Chemical Safety Report  
DMEL: Derived Minimal Effect Level  
DNEL: Derived No Effect Level.  
DPD: Dangerous Preparations Directive  
DSD: Dangerous Substances Directive  
EC50: Half Maximal Effective Concentration  
ECHA: European Chemicals Agency  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
ES: Exposure Scenario  
GefStoffVO: Ordinance on Hazardous Substances, Germany.  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association.  
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
IC50: half maximal inhibitory concentration  
ICAO: International Civil Aviation Organization.  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
IMDG: International Maritime Code for Dangerous Goods.  
INCI: International Nomenclature of Cosmetic Ingredients.  
IRCCS: Scientific Institute for Research, Hospitalization and Health Care  
KAFH: Keep Away From Heat  
KSt: Explosion coefficient.  
LC50: Lethal concentration, for 50 percent of test population.  
LD50: Lethal dose, for 50 percent of test population.  
LDLo: Leathal Dose Low  
N.A.: Not Applicable  
N/A: Not Applicable  
N/D: Not defined/ Not available  
NA: Not available  
NIOSH: National Institute for Occupational Safety and Health  
NOAEL: No Observed Adverse Effect Level  
OSHA: Occupational Safety and Health Administration  
PBT: Persistent, Bioaccumulative and Toxic  
PGK: Packaging Instruction  
PNEC: Predicted No Effect Concentration.  
PSG: Passengers  
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
STEL: Short Term Exposure limit.  
STOT: Specific Target Organ Toxicity.  
TLV: Threshold Limiting Value.  
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
vPvB: Very Persistent, Very Bioaccumulative.  
WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 4: First aid measures
- SECTION 6: Accidental release measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information

- SECTION 15: Regulatory information
- SECTION 16: Other information

# Exposure Scenario

## Amines, polyethylenepoly-; hepa

### Exposure Scenario, 10/08/2021

| Substance identity  |                                 |
|---------------------|---------------------------------|
|                     | Amines, polyethylenepoly-; hepa |
| CAS No.             | 68131-73-7                      |
| INDEX No.           | 612-121-00-1                    |
| EINECS No.          | 268-626-9                       |
| Registration number | 01-2119485823-28                |

### Table of contents

1. **ES 1** Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)
2. **ES 2** Widespread use by professional workers; Adhesives, sealants (PC1)

## 1. ES 1

Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

### 1.1 TITLE SECTION

|                        |  |
|------------------------|--|
| Exposure Scenario name | Professional application of coatings and inks        |
| Date - Version         | 10/08/2021 - 1.0                                     |
| Life Cycle Stage       | Widespread use by professional workers               |
| Main user group        | Professional uses                                    |
| Sector(s) of use       | Professional uses (SU22)                             |
| Product Categories     | Coatings and paints, thinners, paint removers (PC9a) |

### Environment Contributing Scenario

|     |               |
|-----|---------------|
| CS1 | ERC8c - ERC8f |
|-----|---------------|

### Worker Contributing Scenario

|   |        |
|---|--------|
| CS2 Material transfers                    | PROC8a |
| CS3 Rolling, Brushing                     | PROC10 |
| CS4 Roller, spreader, flow application    | PROC11 |
| CS5 Handling and dilution of concentrates | PROC19 |

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

|                                  |   |
|----------------------------------|---|
| Environmental release categories | Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f) |
|----------------------------------|---|

#### Product (article) characteristics

##### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

##### Concentration of substance in product:

Covers concentrations up to 25 %

#### Amount used, frequency and duration of use (or from service life)

##### Amounts used:

Daily amount per site = 2114 kg/day

##### Release type:

Continuous release

##### Emission days:

220 days per year

#### Other conditions affecting environmental exposure

##### Local freshwater dilution factor:

### 1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

|                    |  |
|--------------------|--|
| Process Categories | Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a) |
|--------------------|--|

#### Product (article) characteristics

##### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

##### Concentration of substance in product:

Covers concentrations up to 25 %

#### Amount used, frequency and duration of use/exposure

**Duration:**

Covers use up to > 15 min

**Conditions and measures related to personal protection, hygiene and health evaluation****Personal protection**

Wear suitable respiratory protection.  
Wear suitable gloves tested to EN374.

Inhalation - minimum efficiency of: 95 %

**1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)**

**Process Categories** Roller application or brushing (PROC10)

**Product (article) characteristics****Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers concentrations up to 15 %

**Amount used, frequency and duration of use/exposure****Duration:**

Covers use up to 60 min

**Technical and organisational conditions and measures****Technical and organisational measures**

Provide extract ventilation to points where emissions occur.

Inhalation - minimum efficiency of: 90 %

**Conditions and measures related to personal protection, hygiene and health evaluation****Personal protection**

Wear suitable gloves tested to EN374.

**1.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)**

**Process Categories** Non industrial spraying (PROC11)

**Product (article) characteristics****Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers concentrations up to 15 %

**Amount used, frequency and duration of use/exposure****Duration:**

Covers use up to 60 min

**Technical and organisational conditions and measures****Technical and organisational measures**

Provide extract ventilation to points where emissions occur.

Inhalation - minimum efficiency of: 90 %

**Conditions and measures related to personal protection, hygiene and health evaluation****Personal protection**

Wear suitable gloves tested to EN374.

**1.2. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)**

|                    |   |
|--------------------|---|
| Process Categories | Manual activities involving hand contact (PROC19) |
|--------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers concentrations up to 5 %

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers use up to 8 h

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

| protection target   | Exposure level           | Calculation method | Risk Characterization Ratio (RCR) |
|---------------------|--------------------------|--------------------|-----------------------------------|
| freshwater          | 7.92E-05 mg/L            | EUSES              | 0.05                              |
| marine water        | 7.9E-06 mg/L             | EUSES              | 0.005                             |
| freshwater sediment | 0.0795 mg/kg dry weight  | EUSES              | 0.568                             |
| marine sediment     | 0.00792 mg/kg dry weight | EUSES              | 0.057                             |
| soil                | 0.0118 mg/kg dry weight  | EUSES              | 0.001                             |

### 1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

| Exposure route, Health effect, Exposure indicator | Exposure level          | Calculation method     | Risk Characterization Ratio (RCR) |
|---|-------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.068 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.12                              |
| inhalative, systemic, long-term                   | 0.456 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.457                             |
| combined routes                                   | N/A                     | N/A                    | 0.577                             |
| inhalative, local, short-term                     | 0.913 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

### 1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level          | Calculation method     | Risk Characterization Ratio (RCR) |
|---|-------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.082 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.144                             |
| inhalative, systemic, long-term                   | 0.457 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.229                             |
| combined routes                                   | N/A                     | N/A                    | 0.373                             |
| inhalative, local, short-term                     | 0.914 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

### 1.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

| Exposure route, Health effect, Exposure indicator | Exposure level          | Calculation method     | Risk Characterization Ratio (RCR) |
|---|-------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.214 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.376                             |
| inhalative, systemic, long-term                   | 0.121 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.122                             |
| combined routes                                   | N/A                     | N/A                    | 0.498                             |
| inhalative, local, short-term                     | 0.243 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

### 1.3. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)

| Exposure route, Health effect, Exposure indicator | Exposure level         | Calculation method     | Risk Characterization Ratio (RCR) |
|---|------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.14 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.248                             |
| inhalative, systemic, long-term                   | 0.76 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.076                             |
| combined routes                                   | N/A                    | N/A                    | 0.324                             |
| inhalative, local, short-term                     | 1.52 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

2. ES 2

## Widespread use by professional workers; Adhesives, sealants (PC1)

### 2.1 TITLE SECTION

|                        |  |
|------------------------|--|
| Exposure Scenario name | Use in rigid foams, coatings, adhesives and sealants |
| Date - Version         | 10/08/2021 - 1.0                                     |
| Life Cycle Stage       | Widespread use by professional workers               |
| Main user group        | Professional uses                                    |
| Sector(s) of use       | Professional uses (SU22)                             |
| Product Categories     | Adhesives, sealants (PC1)                            |

### Environment Contributing Scenario

|     |               |
|-----|---------------|
| CS1 | ERC8a - ERC8d |
|-----|---------------|

### Worker Contributing Scenario

|   |        |
|---|--------|
| CS2 Material transfers                    | PROC8a |
| CS3 Rolling, Brushing                     | PROC10 |
| CS4 Roller, spreader, flow application    | PROC11 |
| CS5 Handling and dilution of concentrates | PROC19 |

### 2.2 Conditions of use affecting exposure

#### 2.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

|                                  |   |
|----------------------------------|---|
| Environmental release categories | Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d) |
|----------------------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers concentrations up to 25 %

### Amount used, frequency and duration of use (or from service life)

#### Amounts used:

Daily amount per site = 15500 kg/day

#### Release type:

Continuous release

#### Emission days:

300 days per year

### Technical and organisational conditions and measures

#### Control measures to prevent releases

|  |                                       |
|--|---------------------------------------|
| Pre-treatment of waste water by neutralization | Water - minimum efficiency of: 53.1 % |
|--|---------------------------------------|

### Conditions and measures related to sewage treatment plant

#### STP type:

Municipal Sewage Treatment Plant

#### STP effluent (m<sup>3</sup>/day):

2000

## Other conditions affecting environmental exposure

Local freshwater dilution factor: 1000

### 2.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

|                    |  |
|--------------------|--|
| Process Categories | Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a) |
|--------------------|--|

#### Product (article) characteristics

##### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

##### Concentration of substance in product:

Covers concentrations up to 25 %

#### Amount used, frequency and duration of use/exposure

##### Duration:

Covers use up to > 15 min

#### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

|  |                                      |
|--|--------------------------------------|
| Wear suitable respiratory protection.<br>Wear suitable gloves tested to EN374. | Dermal - minimum efficiency of: 95 % |
|--|--------------------------------------|

### 2.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

|                    |   |
|--------------------|---|
| Process Categories | Roller application or brushing (PROC10) |
|--------------------|---|

#### Product (article) characteristics

##### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

##### Concentration of substance in product:

Covers concentrations up to 15 %

#### Amount used, frequency and duration of use/exposure

##### Duration:

Covers use up to 60 min

#### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

|                                       |                                      |
|---------------------------------------|--------------------------------------|
| Wear suitable gloves tested to EN374. | Dermal - minimum efficiency of: 95 % |
|---------------------------------------|--------------------------------------|

### 2.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

|                    |                                  |
|--------------------|----------------------------------|
| Process Categories | Non industrial spraying (PROC11) |
|--------------------|----------------------------------|

#### Product (article) characteristics

##### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

##### Concentration of substance in product:

Covers concentrations up to 15 %

#### Amount used, frequency and duration of use/exposure

##### Duration:

Covers use up to 60 min

## Technical and organisational conditions and measures

### Technical and organisational measures

|  |  |
|--|--|
| Provide extract ventilation to points where emissions occur. | Inhalation - minimum efficiency of: 90 % |
|--|--|

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

### 2.2. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)

|                    |   |
|--------------------|---|
| Process Categories | Manual activities involving hand contact (PROC19) |
|--------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers concentrations up to 5 %

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers use up to 8 h

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

### 2.3 Exposure estimation and reference to its source

### 2.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

| protection target   | Exposure level           | Calculation method  | Risk Characterization Ratio (RCR) |
|---------------------|--------------------------|---------------------|-----------------------------------|
| freshwater          | 6.74E-05 mg/L            | Other measured data | 0.042                             |
| marine water        | 6.7E-06 mg/L             | Other measured data | 0.004                             |
| freshwater sediment | 0.0677 mg/kg dry weight  | Other measured data | 0.483                             |
| marine sediment     | 0.00674 mg/kg dry weight | Other measured data | 0.048                             |
| soil                | 0.0118 mg/kg dry weight  | Other measured data | 0.001                             |

### 2.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

| Exposure route, Health effect, Exposure indicator | Exposure level          | Calculation method     | Risk Characterization Ratio (RCR) |
|---|-------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.068 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.12                              |
| inhalative, systemic, long-term                   | 0.456 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.457                             |
| combined routes                                   | N/A                     | N/A                    | 0.577                             |
| inhalative, local, short-term                     | 0.913 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

### 2.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level          | Calculation method     | Risk Characterization Ratio (RCR) |
|---|-------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.082 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.144                             |
| inhalative, systemic, long-term                   | 0.457 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.229                             |
| combined routes                                   | N/A                     | N/A                    | 0.373                             |
| inhalative, local, short-term                     | 0.914 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

### 2.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

| Exposure route, Health effect, Exposure indicator | Exposure level          | Calculation method     | Risk Characterization Ratio (RCR) |
|---|-------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.214 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.376                             |
| inhalative, systemic, long-term                   | 0.121 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.122                             |
| combined routes                                   | N/A                     | N/A                    | 0.498                             |
| inhalative, local, short-term                     | 0.243 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

### 2.3. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)

| Exposure route, Health effect, Exposure indicator | Exposure level         | Calculation method     | Risk Characterization Ratio (RCR) |
|---|------------------------|------------------------|-----------------------------------|
| dermal, systemic, long-term                       | 0.14 mg/kg bw/day      | ECETOC TRA worker v2.0 | 0.248                             |
| inhalative, systemic, long-term                   | 0.76 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | 0.076                             |
| combined routes                                   | N/A                    | N/A                    | 0.324                             |
| inhalative, local, short-term                     | 1.52 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | < 0.001                           |

## 2.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario

## Cashew, nutshell liq.

### Exposure Scenario, 08/06/2021

| Substance identity  | Cashew, nutshell liq. |
|---------------------|-----------------------|
| CAS No.             | 8007-24-7             |
| EINECS No.          | 232-355-4             |
| Registration number | 01-2119502450-57      |

### Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9b, PC9a, PC1)

1. ES 1

Widespread use by professional workers; Various products (PC9b, PC9a, PC1)

**1.1 TITLE SECTION**

|                        |   |
|------------------------|---|
| Exposure Scenario name | Dye - Professional application of coatings and inks by brush or roller - Use in rigid foams, coatings, adhesives and sealants                                   |
| Date - Version         | 21/05/2021 - 1.0  |
| Life Cycle Stage       | Widespread use by professional workers  |
| Main user group        | Professional uses   |
| Sector(s) of use       | Professional uses (SU22)  |
| Product Categories     | Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1)                            |
| Article Category(ies)  | Stone, plaster, cement, glass and ceramic articles: Large surface area articles (AC4a) - Other articles made of stone, plaster, cement, glass or ceramic (AC4g) |

**Environment Contributing Scenario**

|     |               |
|-----|---------------|
| CS1 | ERC8c - ERC8f |
|-----|---------------|

**Worker Contributing Scenario**

|   |        |
|---|--------|
| CS2 Mixing operations   | PROC19 |
| CS3 Equipment cleaning and maintenance - (aqueous) - Material transfers   | PROC8b |
| CS4 Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) | PROC10 |

**1.2 Conditions of use affecting exposure****1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)**

|                                  |   |
|----------------------------------|---|
| Environmental release categories | Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f) |
|----------------------------------|---|

**Product (article) characteristics****Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 1 %.

**Amount used, frequency and duration of use (or from service life)****Amounts used:**

< 50 t(tonnes)/year  
< 167 kg/day

**Release type:** Intermittent release**Emission days:** 365 days per year**Conditions and measures related to sewage treatment plant****STP type:**

Municipal Sewage Treatment Plant  
Water - minimum efficiency of: = 93.2 %

**Conditions and measures related to treatment of waste (including article waste)****Waste treatment**

Residues which cannot be recycled are disposed off as chemical waste

**Other conditions affecting environmental exposure****Local marine water dilution factor:** 100**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 18000 m<sup>3</sup>/day

Covers indoor and outdoor use

## 1.2. CS2: Worker Contributing Scenario: Mixing operations (PROC19)

**Process Categories** Manual activities involving hand contact (PROC19)

### Product (article) characteristics

#### Physical form of product:

Liquid

#### Concentration of substance in product:

Covers percentage substance in the product up to 1 %.

### Amount used, frequency and duration of use/exposure

#### Amounts used:

< 50 t(tonnes)/year

#### Duration:

Covers daily exposures up to 8 hours

### Technical and organisational conditions and measures

#### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Avoid direct eye contact with product, also via contamination on hands.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

Wear suitable coveralls to prevent exposure to the skin.

Use eye protection according to EN 166.

Wear a respirator conforming to EN140.

### Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

**Temperature:** Covers use at ambient temperatures.

## 1.2. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - (aqueous) - Material transfers (PROC8b)

**Process Categories** Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers daily exposures up to 8 hours

#### Frequency:

Avoid using product more than .... = 4 h/event

### Technical and organisational conditions and measures

#### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Avoid direct eye contact with product, also via contamination on hands.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

### Other conditions affecting worker exposure

Indoor use

Professional use

**Temperature:** Covers use at ambient temperatures.

## 1.2. CS4: Worker Contributing Scenario: Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) (PROC10)

|                    |   |
|--------------------|---|
| Process Categories | Roller application or brushing (PROC10) |
|--------------------|---|

### Product (article) characteristics

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

### Amount used, frequency and duration of use/exposure

#### Duration:

Covers daily exposures up to 8 hours

#### Frequency:

Avoid using product more than .... = 4 h/event

### Technical and organisational conditions and measures

#### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Provide extract ventilation to points where emissions occur.

Avoid direct eye contact with product, also via contamination on hands.

Use long handled brushes and rollers.

### Conditions and measures related to personal protection, hygiene and health evaluation

#### Personal protection

Wear suitable gloves tested to EN374.

Wear a respirator conforming to EN140.

#### Other conditions affecting worker exposure

Indoor use

Professional use

**Temperature:** Covers use at ambient temperatures.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

| protection target | Exposure level | Calculation method | Risk Characterization Ratio (RCR) |
|-------------------|----------------|--------------------|-----------------------------------|
| N/A               | N/A            | N/A                | < 1                               |

### 1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC19)

| Exposure route, Health effect, Exposure indicator | Exposure level | Calculation method     | Risk Characterization Ratio (RCR) |
|---|----------------|------------------------|-----------------------------------|
| inhalative  | N/A            | ECETOC TRA worker v2.0 | < 1                               |
| dermal  | N/A            | ECETOC TRA worker v2.0 | < 1                               |

### 1.3. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - (aqueous) - Material transfers (PROC8b)

| Exposure route, Health effect, Exposure indicator | Exposure level           | Calculation method     | Risk Characterization Ratio (RCR) |
|---|--------------------------|------------------------|-----------------------------------|
| inhalative, systemic, long-term                   | = 7.75 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.562                           |

|                             |                           |                        |         |
|-----------------------------|---------------------------|------------------------|---------|
| dermal, systemic, long-term | = 0.014 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.004 |
|-----------------------------|---------------------------|------------------------|---------|

### 1.3. CS4: Worker Contributing Scenario: Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level            | Calculation method     | Risk Characterization Ratio (RCR) |
|---|---------------------------|------------------------|-----------------------------------|
| inhalative, local, short-term                     | = 2.325 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.168                           |
| dermal, systemic, long-term                       | = 0.137 mg/m <sup>3</sup> | ECETOC TRA worker v2.0 | = 0.035                           |

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario

## Polyoxpropylenediamine

### Exposure Scenario, 17/06/2021

| Substance identity  | Polyoxpropylenediamine |
|---------------------|------------------------|
| CAS No.             | 9046-10-0              |
| EINECS No.          | 618-561-0              |
| Registration number | 01-2119557899-12       |

### Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9b, PC32)

1. ES 1

Widespread use by professional workers; Various products (PC9b, PC32)

**1.1 TITLE SECTION**

|                        |   |
|------------------------|---|
| Exposure Scenario name | Use in coatings - Use in rigid foams, coatings, adhesives and sealants - Waterproofing agent  |
| Date - Version         | 17/06/2021 - 1.0  |
| Life Cycle Stage       | Widespread use by professional workers  |
| Main user group        | Professional uses   |
| Sector(s) of use       | Professional uses (SU22)  |
| Product Categories     | Fillers, putties, plasters, modelling clay (PC9b) - Polymer preparations and compounds (PC32) |

**Environment Contributing Scenario**

|     |       |
|-----|-------|
| CS1 | ERC8c |
|-----|-------|

**Worker Contributing Scenario**

|                                |        |
|--------------------------------|--------|
| CS2 Rolling, Brushing          | PROC10 |
| CS3 Mixing operations - Manual | PROC19 |

**1.2 Conditions of use affecting exposure****1.2. CS1: Environment Contributing Scenario (ERC8c)**

|                                  |  |
|----------------------------------|--|
| Environmental release categories | Widespread use leading to inclusion into/onto article (indoor) (ERC8c) |
|----------------------------------|--|

**Product (article) characteristics****Physical form of product:**

Liquid

**Vapour pressure:**

= 90 Pa

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

**Amount used, frequency and duration of use (or from service life)****Emission days:** 365 days per year**Technical and organisational conditions and measures****Control measures to prevent releases**

|  |  |
|--|--|
| Municipal sewage treatment plant is assumed. | Water - minimum efficiency of: = 1.5 % |
|--|--|

**Conditions and measures related to sewage treatment plant****STP type:**

Municipal Sewage Treatment Plant

**STP effluent (m<sup>3</sup>/day):** 2000**Other conditions affecting environmental exposure****Local marine water dilution factor:** 100**Local freshwater dilution factor:** 10**Receiving surface water flow:** 18000 m<sup>3</sup>/day

Indoor use

**1.2. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)**

|  |   |  |  |
|--|---|--|--|
| Process Categories   | Roller application or brushing (PROC10)           |  |  |
| <b>Product (article) characteristics</b>   |   |  |  |
| <b>Physical form of product:</b><br>Liquid   |   |  |  |
| <b>Vapour pressure:</b><br>= 90 Pa   |   |  |  |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 25 %.  |   |  |  |
| <b>Amount used, frequency and duration of use/exposure</b>   |   |  |  |
| <b>Duration:</b><br>Covers use up to = 480 min   |   |  |  |
| <b>Frequency:</b><br>Covers use up to = 5 days per week  |   |  |  |
| <b>Technical and organisational conditions and measures</b>  |   |  |  |
| <b>Technical and organisational measures</b><br>Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.<br>Avoid direct eye contact with product, also via contamination on hands.  |   |  |  |
| <b>Conditions and measures related to personal protection, hygiene and health evaluation</b>   |   |  |  |
| <b>Personal protection</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">           Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.<br/>           Wear respiratory protection when its use is identified for certain contributing scenarios.<br/>           Wear suitable respiratory protection.<br/>           Wear suitable face shield.         </td> <td style="padding: 5px; vertical-align: top;">           Dermal - minimum efficiency of: = 90 %         </td> </tr> </table> |   | Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.<br>Wear respiratory protection when its use is identified for certain contributing scenarios.<br>Wear suitable respiratory protection.<br>Wear suitable face shield. | Dermal - minimum efficiency of: = 90 % |
| Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.<br>Wear respiratory protection when its use is identified for certain contributing scenarios.<br>Wear suitable respiratory protection.<br>Wear suitable face shield.   | Dermal - minimum efficiency of: = 90 %            |  |  |
| <b>Other conditions affecting worker exposure</b>  |   |  |  |
| Indoor use<br>Professional use<br><b>Temperature:</b> Assumes use at not more than 20 °C above ambient temperature.  |   |  |  |
| <b>1.2. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)</b>   |   |  |  |
| Process Categories   | Manual activities involving hand contact (PROC19) |  |  |
| <b>Product (article) characteristics</b>   |   |  |  |
| <b>Physical form of product:</b><br>Liquid   |   |  |  |
| <b>Vapour pressure:</b><br>= 90 Pa   |   |  |  |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 25 %.  |   |  |  |
| <b>Amount used, frequency and duration of use/exposure</b>   |   |  |  |
| <b>Duration:</b><br>Covers use up to = 240 min   |   |  |  |
| <b>Frequency:</b><br>Covers use up to = 5 days per week  |   |  |  |
| <b>Technical and organisational conditions and measures</b>  |   |  |  |
| <b>Technical and organisational measures</b><br>Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.<br>Avoid direct eye contact with product, also via contamination on hands.  |   |  |  |
| <b>Conditions and measures related to personal protection, hygiene and health evaluation</b>   |   |  |  |

## Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.  
Wear respiratory protection when its use is identified for certain contributing scenarios.  
Wear suitable respiratory protection.  
Wear suitable face shield.

Dermal - minimum efficiency of: = 95 %

## Other conditions affecting worker exposure

Indoor use

Professional use

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)

| Exposure route, Health effect, Exposure indicator | Exposure level        | Calculation method   | Risk Characterization Ratio (RCR) |
|---|-----------------------|----------------------|-----------------------------------|
| dermal, systemic, long-term                       | = 0.6857 mg/kg bw/day | ECETOC TRA worker v3 | = 0.274286                        |

### 1.3. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

| Exposure route, Health effect, Exposure indicator | Exposure level        | Calculation method   | Risk Characterization Ratio (RCR) |
|---|-----------------------|----------------------|-----------------------------------|
| dermal, systemic, long-term                       | = 1.7697 mg/kg bw/day | ECETOC TRA worker v3 | = 0.707143                        |

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario

## Polyoxpropylenediamine

### Exposure Scenario, 17/06/2021

| Substance identity  | Polyoxpropylenediamine |
|---------------------|------------------------|
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**Environment Contributing Scenario**

|     |       |
|-----|-------|
| CS1 | ERC8c |
|-----|-------|

**Worker Contributing Scenario**

|                                |        |
|--------------------------------|--------|
| CS2 Rolling, Brushing          | PROC10 |
| CS3 Mixing operations - Manual | PROC19 |

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|                                  |  |
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**Product (article) characteristics****Physical form of product:**

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**Vapour pressure:**

= 90 Pa

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

**Amount used, frequency and duration of use (or from service life)****Emission days:** 365 days per year**Technical and organisational conditions and measures****Control measures to prevent releases**

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**STP effluent (m<sup>3</sup>/day):** 2000**Other conditions affecting environmental exposure****Local marine water dilution factor:** 100**Local freshwater dilution factor:** 10**Receiving surface water flow:** 18000 m<sup>3</sup>/day

Indoor use

**1.2. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)**

|  |   |  |  |
|--|---|--|--|
| Process Categories   | Roller application or brushing (PROC10)           |  |  |
| <b>Product (article) characteristics</b>   |   |  |  |
| <b>Physical form of product:</b><br>Liquid   |   |  |  |
| <b>Vapour pressure:</b><br>= 90 Pa   |   |  |  |
| <b>Concentration of substance in product:</b><br>Covers percentage substance in the product up to 25 %.  |   |  |  |
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| <b>Duration:</b><br>Covers use up to = 480 min   |   |  |  |
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| <b>Technical and organisational conditions and measures</b>  |   |  |  |
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Professional use

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