**Safety Data Sheet**

|  |
| --- |
| **SECTION 1. Identification of the substance/mixture and of the company/undertaking** |

|  |  |
| --- | --- |
| **1.1. Product identifier** | |
| Product name | **RADEX 701 Polyurethane Sealant (various colors)** |
|  |  |

|  |  |
| --- | --- |
| **1.2. Relevant identified uses of the substance or mixture and uses advised against** | |
| Intended use | **One-component elastic adhesive/sealant particularly suitable for automotive.** |

|  |  |  |  |
| --- | --- | --- | --- |
| Identified Uses | Industrial | Professional | Consumer |
| SEALANTS AND ADHESIVES FORMULATIONS IN INDUSTRY |

SU: 10.

ERC: 2.

PROC: 3, 4, 5, 8a, 8b, 9.

|  |  |  |
| --- | --- | --- |
| PC: 1. | - | - |
| INDUSTRIAL APPLICATIONS OF SEALANTS AND ADHESIVES |

SU: 17, 19.

ERC: 5, 8b.

PROC: 10, 8a, 8b.

|  |
| --- |
| PC: 1. |

SU: 17, 19.

ERC: 5, 8b.

PROC: 10, 8a, 8b.

|  |  |
| --- | --- |
| PC: 1. | - |
| CHEMICAL SUBSTANCE USE IN LABORATORY, INDUSTRIAL |

PROC: 15.

|  |  |  |
| --- | --- | --- |
| PC: 1, 21. | - | - |

|  |  |
| --- | --- |
| **1.3. Details of the supplier of the safety data sheet** | |
| RADEX-Europe SIA |  |
| Uriekstes 3, Riga, Latvija |  |
|  |  |
|  |  |
|  |  |
|  |  |
| info@radex-europe.lv |  |
| +371 67387778 |  |
|  |  |

|  |  |
| --- | --- |
| **1.4. Emergency telephone number** | |
| For urgent inquiries refer to +371 67387778 |  |

|  |
| --- |
| **SECTION 2. Hazards identification** |

**2.1. Classification of the substance or mixture**

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

|  |  |  |
| --- | --- | --- |
| Respiratory sensitization, category 1 | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
|  |  |  |

**2.2. Label elements**

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Hazard pictograms: | |  | | | | | | |
|  |  | |  |  |  |  |  |

|  |  |
| --- | --- |
| Signal words: | Danger |

Hazard statements:

|  |  |
| --- | --- |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| **EUH204** | Contains isocyanates. May produce an allergic reaction. |

Precautionary statements:

|  |  |
| --- | --- |
| **P342+P311** | If experiencing respiratory symptoms: call a POISON CENTER / doctor / . . . |
| **P304+P340** | IF INHALED: remove person to fresh air and keep comfortable for breathing. |
| **P284** | [In case of inadequate ventilation] wear respiratory protection. |
|  |  |
| **Contains:** | DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES. |

**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

|  |
| --- |
| **SECTION 3. Composition/information on ingredients** |

|  |
| --- |
| **3.2. Mixtures** |

Contains:

|  |  |  |  |
| --- | --- | --- | --- |
| **Identification** | **x = Conc. %** | **Classification 1272/2008 (CLP)** |  |
| **XYLENE (\*)** |  |  |  |
| CAS 1330-20-7 | 8 ≤ x < 8,4 | Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note according to Annex VI to the CLP Regulation: C |  |
| EC 215-535-7 |  |  |  |
| INDEX 601-022-00-9 |  |  |  |
| Reg. no. 01-2119488216-32-XXXX |  |  |  |
| **ETHYL ACETATE** |  |  |  |
| CAS 141-78-6 | 1 ≤ x < 1,5 | Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066 |  |
| EC 205-500-4 |  |  |  |
| INDEX 607-022-00-5 |  |  |  |
| Reg. no. 01-2119475103-46 |  |  |  |
| **DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.** |  |  |  |
| CAS 9016-87-9 | 0,8 ≤ x < 0,9 | Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317 |  |
| EC |  |  |  |
| INDEX - |  |  |  |
| **DIPHENYLMETHANE-4,4'-DIISOCYANATE** |  |  |  |
| CAS 101-68-8 | 0,6 ≤ x < 0,7 | Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Classification note according to Annex VI to the CLP Regulation: 2 C |  |
| EC 202-966-0 |  |  |  |
| INDEX 615-005-00-9 |  |  |  |
| Reg. no. 01-2119457014-47-XXXX |  |  |  |
| **PHOSPHORIC ACID** |  |  |  |
| CAS 7664-38-2 | 0 ≤ x < 0,05 | Skin Corr. 1B H314, Eye Dam. 1 H318, Classification note according to Annex VI to the CLP Regulation: B |  |
| EC 231-633-2 |  |  |  |
| INDEX 015-011-00-6 |  |  |  |
| Reg. no. 01-2119485924-24 |  |  |  |

The full wording of hazard (H) phrases is given in section 16 of the sheet.

(\*) UVCB substance, for which the following product identifiers are also valid: REACTION MASS OF ETHYLBENZENE AND XYLENE (CE number 905-588-0; REACH number 01-2119486136-34/01-2119488216-32); REACTION MASS OF ETHYLBENZENE AND m-XYLENE AND p-XYLENE (CE number 905-562-9; REACH number 01-2119488216-32/01-2119555267-33)

|  |
| --- |
| **SECTION 4. First aid measures** |

**4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

|  |
| --- |
| **SECTION 5. Firefighting measures** |

**5.1. Extinguishing media**

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

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

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

**5.3. Advice for firefighters**

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

|  |
| --- |
| **SECTION 6. Accidental release measures** |

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

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

|  |
| --- |
| **SECTION 7. Handling and storage** |

**7.1. Precautions for safe handling**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

Storage class TRGS 510 (Germany):

10

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

Information not available

|  |
| --- |
| **SECTION 8. Exposure controls/personal protection** |

|  |
| --- |
| **8.1. Control parameters** |

Regulatory References:

|  |  |  |
| --- | --- | --- |
| CZE | Česká Republika | Nařízení vlády č. 246/2018 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů |
| DEU | Deutschland | TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte |
| ESP | España | LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST) |
| FRA | France | Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS |
| GBR | United Kingdom | EH40/2005 Workplace exposure limits (Third edition,published 2018) |
| GRC | Ελλάδα | ΕΦΗΜΕΡΙ∆Α ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ - ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 152 - 21 Αυγούστου 2018 |
| HRV | Hrvatska | Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/18) |
| ITA | Italia | DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017 |
| NLD | Nederland | Regeling van de Staatssecretaris van Sociale Zaken en Werkgelegenheid van 13 juli 2018, 2018-0000118517 tot wijziging van de Arbeidsomstandighedenregeling in verband met de implementatie van Richtlijn 2017/164 in Bijlage XIII |
| POL | Polska | ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r |
| PRT | Portugal | Ministério da Economia e do Emprego Consolida as prescrições mínimas em matéria de protecção dos trabalhadores contra os riscos para a segurança e a saúde devido à exposição a agentes químicos no trabalho - Diário da República, 1.ª série - N.º 111 - 11 de junho de 2018 |
| SVN | Slovenija | Uradni list Republike Slovenije 04.12.2018 - Uradnem listu RS št. 78 -PRAVILNIK o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu |
| SWE | Sverige | Hygieniska gränsvärden, AFS 2018:1 |
| EU | OEL EU | Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC. |
|  | TLV-ACGIH | ACGIH 2019 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **XYLENE (\*)** | | | | | | | | | | | | |
| **Threshold Limit Value** | | | | | | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min | |  | | |  | |  | |
|  |  | mg/m3 | ppm | mg/m3 | | ppm | | |  | |  | |
| TLV | CZE | 200 |  | 400 | |  | | | SKIN | |  | |
| AGW | DEU | 440 | 100 | 880 | | 200 | | | SKIN | |  | |
| MAK | DEU | 440 | 100 | 880 | | 200 | | | SKIN | |  | |
| VLA | ESP | 221 | 50 | 442 | | 100 | | | SKIN | |  | |
| VLEP | FRA | 221 | 50 | 442 | | 100 | | | SKIN | |  | |
| WEL | GBR | 220 | 50 | 441 | | 100 | | |  | |  | |
| TLV | GRC | 435 | 100 | 650 | | 150 | | |  | |  | |
| GVI/KGVI | HRV | 221 | 50 | 442 | | 100 | | | SKIN | |  | |
| VLEP | ITA | 221 | 50 | 442 | | 100 | | | SKIN | |  | |
| TGG | NLD | 210 |  | 442 | |  | | | SKIN | |  | |
| NDS/NDSCh | POL | 100 |  |  | |  | | |  | |  | |
| MV | SVN | 221 | 50 |  | |  | | | SKIN | |  | |
| NGV/KGV | SWE | 221 | 50 | 442 | | 100 | | | SKIN | |  | |
| OEL | EU | 221 | 50 | 442 | | 100 | | | SKIN | |  | |
| TLV-ACGIH |  | 434 | 100 | 651 | | 150 | | |  | |  | |
| Predicted no-effect concentration - PNEC | | | |  | | |  | | | |  | |
| Normal value in fresh water | | | | 0,32 | | | mg/l | | | |  | |
| Normal value in marine water | | | | 0,32 | | | mg/l | | | |  | |
| Normal value for fresh water sediment | | | | 12,46 | | | mg/kg | | | |  | |
| Normal value for marine water sediment | | | | 12,46 | | | mg/kg | | | |  | |
| Normal value for water, intermittent release | | | | 0,32 | | | mg/l | | | |  | |
| Normal value of STP microorganisms | | | | 6,58 | | | mg/l | | | |  | |
| Normal value for the terrestrial compartment | | | | 2,31 | | | mg/kg | | | |  | |
| **Health - Derived no-effect level - DNEL / DMEL** | | | | | | | | | | | | |
|  | Effects on consumers |  |  |  | Effects on workers | | |  | |  | |  |
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | | | Acute systemic | | Chronic local | | Chronic systemic |
| Oral |  |  |  | 12,5 mg/kg/d |  | | |  | |  | |  |
| Inhalation |  |  |  | 65,3 mg/m3 | 442 mg/kg | | |  | |  | | 221 mg/m3 |
| Skin |  |  |  | 125 mg/kg/d |  | | | 212 mg/kg/d | |  | |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ETHYL ACETATE** | | | | | | | | | | | | |
| **Threshold Limit Value** | | | | | | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min | |  | | |  | |  | |
|  |  | mg/m3 | ppm | mg/m3 | | ppm | | |  | |  | |
| TLV | CZE | 700 | 194,6 | 900 | | 250,2 | | |  | |  | |
| AGW | DEU | 730 | 200 | 1460 | | 400 | | |  | |  | |
| MAK | DEU | 750 | 200 | 1500 | | 400 | | |  | |  | |
| VLA | ESP | 734 | 200 | 1468 | | 400 | | |  | |  | |
| VLEP | FRA | 1400 | 400 |  | |  | | |  | |  | |
| WEL | GBR | 734 | 200 | 1468 | | 400 | | |  | |  | |
| TLV | GRC | 734 | 200 | 1468 | | 400 | | |  | |  | |
| GVI/KGVI | HRV | 734 | 200 | 1468 | | 400 | | |  | |  | |
| VLEP | ITA | 734 | 200 | 1468 | | 400 | | |  | |  | |
| TGG | NLD | 734 |  | 1468 | |  | | |  | |  | |
| NDS/NDSCh | POL | 734 |  | 1468 | |  | | |  | |  | |
| VLE | PRT | 734 | 200 | 1468 | | 400 | | |  | |  | |
| MV | SVN | 734 | 200 | 1468 | | 400 | | |  | |  | |
| NGV/KGV | SWE | 550 | 150 | 1100 | | 300 | | |  | |  | |
| OEL | EU | 734 | 200 | 1468 | | 400 | | |  | |  | |
| TLV-ACGIH |  | 1441 | 400 |  | |  | | |  | |  | |
| Predicted no-effect concentration - PNEC | | | |  | | |  | | | |  | |
| Normal value in fresh water | | | | 0,26 | | | mg/l | | | |  | |
| Normal value in marine water | | | | 0,026 | | | mg/l | | | |  | |
| Normal value for fresh water sediment | | | | 1,25 | | | mg/kg | | | |  | |
| Normal value for marine water sediment | | | | 0,125 | | | mg/kg | | | |  | |
| Normal value for water, intermittent release | | | | 1,65 | | | mg/l | | | |  | |
| Normal value of STP microorganisms | | | | 650 | | | mg/l | | | |  | |
| Normal value for the terrestrial compartment | | | | 0,24 | | | mg/kg | | | |  | |
| **Health - Derived no-effect level - DNEL / DMEL** | | | | | | | | | | | | |
|  | Effects on consumers |  |  |  | Effects on workers | | |  | |  | |  |
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | | | Acute systemic | | Chronic local | | Chronic systemic |
| Oral |  |  | VND | 4,5 mg/kg |  | | |  | |  | |  |
| Inhalation | 734 mg/m3 | 734 mg/m3 | 367 mg/m3 | 367 mg/m3 | 1468 mg/m3 | | | 1468 mg/m3 | | 734 mg/m3 | | 734 mg/m3 |
| Skin |  |  | VND | 37 mg/kg |  | | |  | | VND | | 63 mg/kg |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.** | | | | | | | |
| **Threshold Limit Value** | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min |  |  |  |
|  |  | mg/m3 | ppm | mg/m3 | ppm |  |  |
| TLV-ACGIH |  |  | 0,005 |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **DIPHENYLMETHANE-4,4'-DIISOCYANATE** | | | | | | | | | | | | |
| **Threshold Limit Value** | | | | | | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min | |  | | |  | |  | |
|  |  | mg/m3 | ppm | mg/m3 | | ppm | | |  | |  | |
| TLV | CZE | 0,05 |  | 0,1 | |  | | |  | |  | |
| AGW | DEU | 0,05 |  | 0,05 | |  | | |  | |  | |
| MAK | DEU | 0,05 |  | 0,05 | |  | | | INHAL | |  | |
| MAK | DEU | 0,05 |  | 0,05 | |  | | | SKIN | |  | |
| VLA | ESP | 0,052 | 0,005 |  | |  | | |  | |  | |
| VLEP | FRA | 0,1 | 0,01 | 0,2 | | 0,02 | | |  | |  | |
| TLV | GRC | 0,2 |  | 0,2 | |  | | |  | |  | |
| NDS/NDSCh | POL | 0,05 |  | 0,2 | |  | | |  | |  | |
| NGV/KGV | SWE | 0,03 | 0,002 | 0,05 (C) | | 0,005 (C) | | |  | |  | |
| TLV-ACGIH |  | 0,051 | 0,005 |  | |  | | |  | |  | |
| Predicted no-effect concentration - PNEC | | | |  | | |  | | | |  | |
| Normal value in fresh water | | | | 1 | | | mg/l | | | |  | |
| Normal value in marine water | | | | 0,1 | | | mg/l | | | |  | |
| Normal value for water, intermittent release | | | | 10 | | | mg/l | | | |  | |
| Normal value of STP microorganisms | | | | 1 | | | mg/l | | | |  | |
| Normal value for the terrestrial compartment | | | | 1 | | | mg/kg | | | |  | |
| **Health - Derived no-effect level - DNEL / DMEL** | | | | | | | | | | | | |
|  | Effects on consumers |  |  |  | Effects on workers | | |  | |  | |  |
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | | | Acute systemic | | Chronic local | | Chronic systemic |
| Inhalation | 0,05 mg/m3 | 0,05 | 0,025 mg/m3 | 0,025 | 0,1 mg/m3 | | |  | | 0,05 mg/m3 | |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2,2 - DIMORPHOLINODIETHYL ETHER** | | | | | | | | | | |
| Predicted no-effect concentration - PNEC | | | |  | |  | | |  | |
| Normal value in fresh water | | | | 0,1 | | mg/l | | |  | |
| Normal value in marine water | | | | 0,01 | | mg/l | | |  | |
| Normal value for fresh water sediment | | | | 8,2 | | mg/kg | | |  | |
| Normal value for marine water sediment | | | | 0,82 | | mg/kg | | |  | |
| Normal value for water, intermittent release | | | | 1 | | mg/l | | |  | |
| Normal value of STP microorganisms | | | | 100 | | mg/l | | |  | |
| Normal value for the terrestrial compartment | | | | 1,58 | | mg/kg | | |  | |
| **Health - Derived no-effect level - DNEL / DMEL** | | | | | | | | | | |
|  | Effects on consumers |  |  |  | Effects on workers | |  |  | |  |
| Route of exposure | Acute local | Acute systemic | Chronic local | Chronic systemic | Acute local | | Acute systemic | Chronic local | | Chronic systemic |
| Oral |  |  | VND | 0,5 mg/kg/d |  | |  |  | |  |
| Inhalation |  |  | VND | 1,8 mg/m3 |  | |  | VND | | 7,28 mg/m3 |
| Skin |  |  | VND | 0,5 mg/kg/d |  | |  | VND | | 1 mg/kg/d |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PHOSPHORIC ACID** | | | | | | | |
| **Threshold Limit Value** | | | | | | | |
| Type | Country | TWA/8h |  | STEL/15min |  |  |  |
|  |  | mg/m3 | ppm | mg/m3 | ppm |  |  |
| TLV | CZE | 1 |  | 2 |  |  |  |
| AGW | DEU | 2 |  | 4 (C) |  | INHAL |  |
| MAK | DEU | 2 |  | 4 |  | INHAL |  |
| VLA | ESP | 1 |  | 2 |  |  |  |
| VLEP | FRA | 1 | 0,2 | 2 | 0,5 |  |  |
| WEL | GBR | 1 |  | 2 |  |  |  |
| TLV | GRC | 1 |  | 3 |  |  |  |
| GVI/KGVI | HRV | 1 |  | 2 |  |  |  |
| VLEP | ITA | 1 |  | 2 |  |  |  |
| TGG | NLD | 1 |  | 2 |  |  |  |
| NDS/NDSCh | POL | 1 |  | 2 |  |  |  |
| VLE | PRT | 1 |  | 2 |  |  |  |
| MV | SVN | 1 |  | 2 |  |  |  |
| NGV/KGV | SWE | 1 |  | 2 |  |  |  |
| OEL | EU | 1 |  | 2 |  |  |  |
| TLV-ACGIH |  | 1 |  | 3 |  |  |  |

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

|  |
| --- |
| **8.2. Exposure controls** |

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

HAND PROTECTION

Protect your hands with work gloves, category III (ref. standard EN 374). For the final choice of material you need to assess the type of use. In case of contact for the short term or as protection against splashes, use gloves made ​​of nitrile (0.3mm thickness, permeation time >480 min.). In the event of continued exposure use butyl rubber gloves (0.4mm thickness, permeation time> 480 min.). Contaminated gloves should be removed.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

In case of exceeding the threshold value (eg, TLV-TWA) of the substance or one or more of the substances present in the product, it is advisable to wear a mask with filter type A for organic vapors, the class (1, 2 or 3) must be chosen according to the limit concentration of use (1000, 5000 or 10000 ppm) (ref. standard EN 14387).

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

|  |
| --- |
| **SECTION 9. Physical and chemical properties** |

|  |
| --- |
| **9.1. Information on basic physical and chemical properties** |

|  |  |  |
| --- | --- | --- |
| Appearance | paste |  |
| Colour | various |  |
| Odour | typical |  |
| Odour threshold | Not available |  |
| pH | Not available |  |
| Melting point / freezing point | Not available |  |
| Initial boiling point | Not available |  |
| Boiling range | Not available |  |
| Flash point | Not applicable |  |
| Evaporation rate | Not available |  |
| Flammability (solid, gas) | not flammable |  |
| Lower inflammability limit | Not available |  |
| Upper inflammability limit | Not available |  |
| Lower explosive limit | Not available |  |
| Upper explosive limit | Not available |  |
| Vapour pressure | Not available |  |
| Vapour density | Not available |  |
| Relative density | 1,27 |  |
| Solubility | Not available |  |
| Partition coefficient: n-octanol/water | Not available |  |
| Auto-ignition temperature | Not available |  |
| Decomposition temperature | Not available |  |
| Viscosity | 60000 - 150000 cps |  |
| Explosive properties | Not available |  |
| Oxidising properties | Not available |  |

|  |
| --- |
| **9.2. Other information** |

|  |  |  |
| --- | --- | --- |
| VOC (Directive 2010/75/EC) : | 9,71 % - 123,32 g/litre |  |

|  |
| --- |
| **SECTION 10. Stability and reactivity** |

**10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

PHOSPHORIC ACID

Decomposes at temperatures above 200°C/392°F.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

PHOSPHORIC ACID

Risk of explosion on contact with: nitromethane.May react dangerously with: alkalis,sodium borohydride.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

ETHYL ACETATE

Avoid exposure to: light,sources of heat,naked flames.

**10.5. Incompatible materials**

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

PHOSPHORIC ACID

Incompatible with: metals,strong alkalis,aldehydes,organic sulphides,peroxides.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

PHOSPHORIC ACID

May develop: phosphoryl oxides.

|  |
| --- |
| **SECTION 11. Toxicological information** |

**11.1. Information on toxicological effects**

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:

> 20 mg/l

LD50 (Oral) of the mixture:

Not classified (no significant component)

LD50 (Dermal) of the mixture:

>2000 mg/kg

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.

LD50 (Oral) > 10000 mg/kg Rattus sp.

LD50 (Dermal) > 9400 mg/kg Oryctolagus sp.

LC50 (Inhalation) 1,5 mg/l/4h Rattus sp.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

LD50 (Oral) > 2000 mg/kg Rattus sp.

LD50 (Dermal) > 9400 mg/kg Oryctolagus sp.

LC50 (Inhalation) 1,5 mg/l/4h Rattus sp.

PHOSPHORIC ACID

LD50 (Oral) 1530 mg/kg Rattus sp.

LD50 (Dermal) 2740 mg/kg Oryctolagus sp.

LC50 (Inhalation) > 0,85 mg/l/1h Rattus sp.

ETHYL ACETATE

LD50 (Oral) 5620 mg/kg Rattus sp.

LD50 (Dermal) > 20000 mg/kg Oryctolagus sp.

LC50 (Inhalation) 1600 mg/kg Oryctolagus sp.

XYLENE (\*)

LD50 (Oral) 5627 mg/kg Mus sp.

LD50 (Dermal) > 5000 mg/kg Oryctolagus sp.

LC50 (Inhalation) 6700 ppm/4h Rattus sp.

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the respiratory system

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

|  |
| --- |
| **SECTION 12. Ecological information** |

**12.1. Toxicity**

|  |  |  |
| --- | --- | --- |
| DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES. |  |  |
| LC50 - for Fish |  | > 1000 mg/l/96h Danio rerio |
| EC50 - for Algae / Aquatic Plants |  | > 1640 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea |  | > 10 mg/l Daphnia magna |

|  |  |  |
| --- | --- | --- |
| DIPHENYLMETHANE-4,4'-DIISOCYANATE |  |  |
| LC50 - for Fish |  | > 1000 mg/l/96h Danio rerio |
| EC50 - for Algae / Aquatic Plants |  | > 1640 mg/l/72h Scenedesmus subspicatus |
| Chronic NOEC for Crustacea |  | > 10 mg/l Daphnia magna |
| Chronic NOEC for Algae / Aquatic Plants |  | 1640 mg/l Desmodesmus subspicatus |

|  |  |  |
| --- | --- | --- |
| ETHYL ACETATE |  |  |
| LC50 - for Fish |  | > 212 mg/l/96h |
| EC50 - for Crustacea |  | 260 mg/l/48h Daphnia pulex |

|  |  |  |
| --- | --- | --- |
| XYLENE (\*) |  |  |
| LC50 - for Fish |  | 2,6 mg/l/96h Oncorhynchus mykiss |
| EC50 - for Algae / Aquatic Plants |  | 4,36 mg/l/72h Pseudokirchneriella subcapitata |
| Chronic NOEC for Fish |  | > 1,3 mg/l Oncorhynchus mykiss |
| Chronic NOEC for Crustacea |  | 1,57 mg/l Daphnia magna |

**12.2. Persistence and degradability**

|  |  |  |
| --- | --- | --- |
| DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES. |  |  |

NOT rapidly degradable

|  |  |  |
| --- | --- | --- |
| PHOSPHORIC ACID |  |  |
| Solubility in water |  | > 850000 mg/l |

Degradability: information not available

|  |  |  |
| --- | --- | --- |
| ETHYL ACETATE |  |  |
| Solubility in water |  | > 10000 mg/l |

Rapidly degradable

|  |  |  |
| --- | --- | --- |
| XYLENE (\*) |  |  |

Rapidly degradable

**12.3. Bioaccumulative potential**

|  |  |  |
| --- | --- | --- |
| ETHYL ACETATE |  |  |
| Partition coefficient: n-octanol/water |  | 0,68 |
| BCF |  | 30 |

**12.4. Mobility in soil**

Information not available

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects**

Information not available

|  |
| --- |
| **SECTION 13. Disposal considerations** |

**13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

|  |
| --- |
| **SECTION 14. Transport information** |

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

**14.1. UN number**

Not applicable

**14.2. UN proper shipping name**

Not applicable

**14.3. Transport hazard class(es)**

Not applicable

**14.4. Packing group**

Not applicable

**14.5. Environmental hazards**

Not applicable

**14.6. Special precautions for user**

Not applicable

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Information not relevant

|  |
| --- |
| **SECTION 15. Regulatory information** |

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

Seveso Category - Directive 2012/18/EC: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

|  |  |  |
| --- | --- | --- |
| Point | 3 - 40 |  |

Contained substance

|  |  |  |
| --- | --- | --- |
| Point | 56 | DIPHENYLMETHANE-4,4'-DIISOCYANATE Reg. no.: 01-2119457014-47-XXXX |

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

|  |
| --- |
| **15.2. Chemical safety assessment** |

A chemical safety assessment has been performed for the following contained substances

XYLENE (\*)

ETHYL ACETATE

DIPHENYLMETHANE DIISOCYANATE, ISOMERS AND HOMOLOGUES.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

|  |
| --- |
| **SECTION 16. Other information** |

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

|  |  |  |
| --- | --- | --- |
| **Flam. Liq. 2** | Flammable liquid, category 2 |  |
| **Flam. Liq. 3** | Flammable liquid, category 3 |  |
| **Carc. 2** | Carcinogenicity, category 2 |  |
| **Acute Tox. 4** | Acute toxicity, category 4 |  |
| **Asp. Tox. 1** | Aspiration hazard, category 1 |  |
| **STOT RE 2** | Specific target organ toxicity - repeated exposure, category 2 |  |
| **Skin Corr. 1B** | Skin corrosion, category 1B |  |
| **Eye Irrit. 2** | Eye irritation, category 2 |  |
| **Skin Irrit. 2** | Skin irritation, category 2 |  |
| **STOT SE 3** | Specific target organ toxicity - single exposure, category 3 |  |
| **Resp. Sens. 1** | Respiratory sensitization, category 1 |  |
| **Skin Sens. 1** | Skin sensitization, category 1 |  |
| **Aquatic Chronic 3** | Hazardous to the aquatic environment, chronic toxicity, category 3 |  |
| **H225** | Highly flammable liquid and vapour. |  |
| **H226** | Flammable liquid and vapour. |  |
| **H351** | Suspected of causing cancer. |  |
| **H312** | Harmful in contact with skin. |  |
| **H332** | Harmful if inhaled. |  |
| **H304** | May be fatal if swallowed and enters airways. |  |
| **H373** | May cause damage to organs through prolonged or repeated exposure. |  |
| **H314** | Causes severe skin burns and eye damage. |  |
| **H319** | Causes serious eye irritation. |  |
| **H315** | Causes skin irritation. |  |
| **H335** | May cause respiratory irritation. |  |
| **H334** | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |  |
| **H317** | May cause an allergic skin reaction. |  |
| **H336** | May cause drowsiness or dizziness. |  |
| **H412** | Harmful to aquatic life with long lasting effects. |  |
| **EUH066** | Repeated exposure may cause skin dryness or cracking. |  |
| **EUH204** | Contains isocyanates. May produce an allergic reaction. |  |

Use descriptor system:

|  |  |  |
| --- | --- | --- |
| **ERC** | **2** | Formulation into mixture |
| **ERC** | **5** | Use at industrial site leading to inclusion into/onto article |
| **ERC** | **8b** | Widespread use of reactive processing aid (no inclusion into or onto article, indoor) |
| **PC** | **1** | Adhesives, sealants |
| **PC** | **21** | Laboratory chemicals |
| **PROC** | **10** | Roller application or brushing |
| **PROC** | **15** | Use as laboratory reagent |
| **PROC** | **3** | Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition |
| **PROC** | **4** | Chemical production where opportunity for exposure arises |
| **PROC** | **5** | Mixing or blending in batch processes |
| **PROC** | **8a** | Transfer of substance or mixture (charging and discharging) at non- dedicated facilities |
| **PROC** | **8b** | Transfer of substance or mixture (charging and discharging) at dedicated facilities |
| **PROC** | **9** | Transfer of substance or mixture into small containers (dedicated filling line, including weighing) |
| **SU** | **10** | Formulation [mixing] of preparations and/or re-packaging (excluding alloys) |
| **SU** | **17** | General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment |
| **SU** | **19** | Building and construction work |

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road

- CAS NUMBER: Chemical Abstract Service Number

- CE50: Effective concentration (required to induce a 50% effect)

- CE NUMBER: Identifier in ESIS (European archive of existing substances)

- CLP: EC Regulation 1272/2008

- DNEL: Derived No Effect Level

- EmS: Emergency Schedule

- GHS: Globally Harmonized System of classification and labeling of chemicals

- IATA DGR: International Air Transport Association Dangerous Goods Regulation

- IC50: Immobilization Concentration 50%

- IMDG: International Maritime Code for dangerous goods

- IMO: International Maritime Organization

- INDEX NUMBER: Identifier in Annex VI of CLP

- LC50: Lethal Concentration 50%

- LD50: Lethal dose 50%

- OEL: Occupational Exposure Level

- PBT: Persistent bioaccumulative and toxic as REACH Regulation

- PEC: Predicted environmental Concentration

- PEL: Predicted exposure level

- PNEC: Predicted no effect concentration

- REACH: EC Regulation 1907/2006

- RID: Regulation concerning the international transport of dangerous goods by train

- TLV: Threshold Limit Value

- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.

- TWA STEL: Short-term exposure limit

- TWA: Time-weighted average exposure limit

- VOC: Volatile organic Compounds

- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation

- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament

2. Regulation (EC) 1272/2008 (CLP) of the European Parliament

3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament

4. Regulation (EU) 2015/830 of the European Parliament

5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament

6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament

7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament

8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament

9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament

10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament

11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament

12. Regulation (EU) 2016/1179 (IX Atp. CLP)

13. Regulation (EU) 2017/776 (X Atp. CLP)

14. Regulation (EU) 2018/669 (XI Atp. CLP)

15. Regulation (EU) 2018/1480 (XIII Atp. CLP)

16. Regulation (EU) 2019/521 (XII Atp. CLP)

- The Merck Index. - 10th Edition

- Handling Chemical Safety

- INRS - Fiche Toxicologique (toxicological sheet)

- Patty - Industrial Hygiene and Toxicology

- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition

- IFA GESTIS website

- ECHA website

- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Product`s classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 05 / 07 / 08 / 09 / 10 / 11 / 12 / 14 / 15 / 16.