# SAFETY DATA SHEET

according to Commission Regulation (EU) 2020/878 as amended

## EXPERT LINE EXPRESS 60 SECOND RAPID POLYURETHANE ADHESIVE

| | | | |
|---|---|---|---|
| Creation date | 16th May 2024 | | |
| Revision date | | Version | 1.0 |

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

**1.1. Product identifier** — EXPERT LINE EXPRESS 60 SECOND RAPID POLYURETHANE ADHESIVE

| | |
|---|---|
| Substance / mixture | mixture |
| UFI | AUR3-Y9DF-T001-E6V7 |

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

**Mixture's intended use**

In the construction - fast-drying polyurethane adhesive in the gun version for fixing finishing materials (including gypsum and fiber-cement boards, OSB boards), cork, EPS and XPS boards at thermal insulation (such as garages).

**Main intended use**

| | |
|---|---|
| PC-ADH-2 | Adhesives and sealants - building and construction works (except cement based adhesives) |

**Mixture uses advised against**

The product should not be used in ways other than those referred in Section 1.

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

**Distributor**

| | |
|---|---|
| Name or trade name | RYTM TRADE Sp. z o.o. |
| Address | Strefowa 14, Tychy, 43-100 Poland |
| Phone | (+48 32) 324 00 60 |
| Web address | www.rytmtrade.com |

**Manufacturer**

| | |
|---|---|
| Name or trade name | Rytm-L Sp. z o.o. |
| Address | Strefowa 14, Tychy, 43-100 Poland |
| Phone | +48 32 324 00 00 |
| E-mail | rytm@rytm-l.pl |

**Competent person responsible for the safety data sheet**

| | |
|---|---|
| Name | Rytm-L Sp. z o.o. |
| E-mail | chb_karty@rytm-l.pl |

**1.4. Emergency telephone number**

European emergency number: 112

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**SECTION 2: Hazards identification**

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

**Classification of the mixture in accordance with Regulation (EC) No 1272/2008**

The mixture is classified as dangerous.

Aerosol 1, H229, H222
Skin Irrit. 2, H315
Skin Sens. 1B, H317
Eye Irrit. 2, H319
Acute Tox. 4, H332
Resp. Sens. 1, H334
STOT SE 3, H335
Carc. 2, H351
Lact., H362
STOT RE 2, H373 (respiratory tract) (inhalation)
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

### 2.2. Label elements

**Hazard pictogram**

**Signal word**

Danger

**Hazardous substances**

Polymeric diphenylmethane diisocyanate, Polymeric MDI
tris(2-chloro-1-methylethyl) phosphate
alkanes, C14-17, chloro

**Hazard statements**

| | |
|---|---|
| H222 | Extremely flammable aerosol. |
| H229 | Pressurised container: May burst if heated. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H362 | May cause harm to breast-fed children. |
| H373 | May cause damage to the respiratory tract through prolonged or repeated exposure if inhaled. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P251 | Do not pierce or burn, even after use. |
| P260 | Do not breathe gazu/par. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P410+P412 | Protect from sunlight. Do no expose to temperatures exceeding 50 °C. |
| P501 | Dispose of contents/container to according to applicable regulations. |

**Supplemental information**

| | |
|---|---|
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
| | Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used. |
| | As from 24 August 2023 adequate training is required before industrial or professional use. |

**Requirements for child-resistant fastenings and tactile warning of danger**

Container must carry a tactile warning of danger.

**2.3. Other hazards**

Mixture contains substances meeting the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

## SECTION 3: Composition/information on ingredients

**3.2. Mixtures**

**Chemical characterization**

Mixture.

**Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment**

| Identification numbers | Substance name | Content in % weight | Classification according to Regulation (EC) No 1272/2008 | Note |
|---|---|---|---|---|
| CAS: 9016-87-9 | Polymeric diphenylmethane diisocyanate, Polymeric MDI | 45-50 | Skin Irrit. 2, H315<br>Skin Sens. 1B, H317<br>Eye Irrit. 2, H319<br>Resp. Sens. 1, H334<br>STOT SE 3, H335<br>Carc. 2, H351<br>STOT RE 2, H373 (respiratory tract (inhalation))<br>Specific concentration limit:<br>Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335: C ≥ 5 %<br>Resp. Sens. 1, H334: C ≥ 0.1 % | |
| Index: 603-019-00-8<br>CAS: 115-10-6<br>EC: 204-065-8<br>Registration number: 01-2119472128-37-xxxx | dimethyl ether | <12 | Flam. Gas 1, H220<br>Press. Gas (liquefied gas), H280 | 2, 3 |
| CAS: 13674-84-5<br>EC: 237-158-7<br>Registration number: 01-2119486772-26-xxxx | tris(2-chloro-1-methylethyl) phosphate | <9 | Acute Tox. 4, H302 | |
| Index: 601-004-00-0<br>CAS: 106-97-8<br>EC: 203-448-7<br>Registration number: 01-2119474691-32-xxxx | butane | <4 | Flam. Gas 1, H220<br>Press. Gas (liquefied gas), H280 | 1, 2 |
| Index: 601-003-00-5<br>CAS: 74-98-6<br>EC: 200-827-9<br>Registration number: 01-2119486944-21-xxxx | propane | <3 | Flam. Gas 1, H220<br>Press. Gas (liquefied gas), H280 | 2 |
| Index: 601-004-00-0<br>CAS: 75-28-5<br>EC: 200-857-2<br>Registration number: 01-2119485395-27-xxxx | isobutane | <3 | Flam. Gas 1, H220<br>Press. Gas (liquefied gas), H280 | 1, 2 |

| Identification numbers | Substance name | Content in % weight | Classification according to Regulation (EC) No 1272/2008 | Note |
|---|---|---|---|---|
| Index: 602-095-00-X<br>CAS: 85535-85-9<br>EC: 287-477-0<br>Registration number: 01-2119519269-33-xxxx | alkanes, C14-17, chloro | <3 | Lact., H362<br>Aquatic Acute 1, H400 (M=100)<br>Aquatic Chronic 1, H410 (M=10)<br>EUH066 | 4, 5 |

**Notes**

1 Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

2 Note U (Table 3): When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned:

Press. Gas (Comp.)
Press. Gas (Liq.)
Press. Gas (Ref. Liq.)
Press. Gas (Diss.)

Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2).

3 A substance for which exposure limits are set.

4 Substance of very high concern - SVHC.

5 Persistent, bioaccumulative and toxic or very persistent and very bioaccumulative

Full text of all classifications and hazard statements is given in the section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

**If inhaled**

Remove person to fresh air and keep comfortable for breathing. In the event of issues, find medical advice.

**If on skin**

Remove contaminated clothes immediately. Wash with plenty of soap and water. Provide medical treatment if skin irritation persists.

**If in eyes**

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed). Rinsing should continue at least for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Provide medical treatment, specialized if possible.

**If swallowed**

DO NOT INDUCE VOMITING! Rinse out the mouth with clean water. Provide medical treatment.

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

**If inhaled**

May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**If on skin**

May cause an allergic skin reaction. Possible irritation.

**If in eyes**

Causes serious eye irritation. Temporary feeling of burning and redness.

**If swallowed**

Not expected.

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

Symptomatic treatment.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Carbon dioxide, powder, water spray jet, water mist. Accommodate extinguishing components to the location of fire.

**Unsuitable extinguishing media**

Water - full jet.

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

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Trace amounts of cyanide may be formed. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

**5.3. Advice for firefighters**

Use a self-contained breathing apparatus and full-body protective clothing. Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

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**SECTION 6: Accidental release measures**

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

Do not inhale gases and vapours. Use personal protective equipment for work. Remove all ignition sources; provide sufficient ventilation. Follow the instructions in the Sections 7 and 8.

**6.2. Environmental precautions**

Do not allow to enter drains. Prevent contamination of the soil and entering surface or ground water.

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

Uncured foam can be removed with a cloth and solvents, e.g. acetone. Collect in a waste container. Ventilate the room. Remove hardened foam mechanically. Hardening of the foam occurs when exposed to humidity. Dispose of the collected material according to the instructions in the section 13.

**6.4. Reference to other sections**

For information on safe handling, see section 7.
For information on personal protective equipment, see section 8.
For information on disposal, see section 13.

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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Use personal protective equipment as per Section 8. Do not get in eyes, on skin. Do not inhale gases and vapours. Use only outdoors or in a well-ventilated area. Protect against sources of heating and ignition or direct sunlight. Do not eat, drink or smoke when using this product. Do not pierce or burn, even after use. Wash hands and exposed parts of the body thoroughly after handling.

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

Store in originally closed containers in an upright position, in cold, dry and well ventilated areas designated for this purpose. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not expose to sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Recommended storage temperature is from +5 °C to +30 °C (optimally +20 °C). Protect against frost. Do not store together with food, drink and animal feed. Keep out of reach of children.

| Content | Packaging type | Material of package |
|---|---|---|
| 750 g | can / tin | FE |

| | |
|---|---|
| Storage class | 2B - Aerosols |
| Storage temperature | +5 - +30 °C |

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

not available

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**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

The mixture contains substances for which occupational exposure limits are set.

**European Union** **Commission Directive 2000/39/EC**

| Substance name (component) | Type | Value |
|---|---|---|
| dimethyl ether (CAS: 115-10-6) | OEL 8 hours | 1920 mg/m³ |
| | OEL 8 hours | 1000 ppm |

**DNEL**

| **alkanes, C14-17, chloro** | | | | | |
|---|---|---|---|---|---|
| Workers / consumers | Route of exposure | Value | Effect | Value determination | Source |
| Consumers (0) | Oral | 0.58 mg/kg bw/day | Chronic effects systemic | | |
| Consumers (0) | Dermal | 28.75 mg/kg bw/day | Chronic effects systemic | | |
| Workers (0) | Dermal | 47.9 mg/kg bw/day | Chronic effects systemic | | |
| Consumers (0) | Inhalation | 2 mg/m³ | Chronic effects systemic | | |
| Workers (0) | Inhalation | 6.7 mg/m³ | Chronic effects systemic | | |

| **Polymeric diphenylmethane diisocyanate, Polymeric MDI** | | | | | |
|---|---|---|---|---|---|
| Workers / consumers | Route of exposure | Value | Effect | Value determination | Source |
| Workers (0) | Inhalation | 0.1 mg/m³ | Acute effects local | | |
| Workers (0) | Inhalation | 0.05 mg/m³ | Chronic effects local | | |
| Consumers (0) | Inhalation | 0.05 mg/m³ | Acute effects local | | |
| Consumers (0) | Inhalation | 0.025 mg/m³ | Chronic effects local | | |

| **tris(2-chloro-1-methylethyl) phosphate** | | | | | |
|---|---|---|---|---|---|
| Workers / consumers | Route of exposure | Value | Effect | Value determination | Source |
| Consumers (0) | Dermal | 4 mg/kg | Acute effects systemic | | |
| Consumers (0) | Inhalation | 43 mg/m³ | Acute effects systemic | | |
| Consumers (0) | Dermal | 1.04 mg/kg bw/day | Chronic effects systemic | | |
| Consumers (0) | Inhalation | 0.52 mg/m³ | Chronic effects systemic | | |
| Consumers (0) | Oral | 0.52 mg/kg bw/day | Chronic effects systemic | | |

**PNEC**

| **alkanes, C14-17, chloro** | | | |
|---|---|---|---|
| Route of exposure | Value | Value determination | Source |
| Drinking water | 0.001 mg/l | | |
| Marine water | 0.0002 mg/l | | |
| Microorganisms in sewage treatment | 80 mg/l | | |
| Freshwater sediment | 13 mg/kg of dry substance of sediment | | |

| **alkanes, C14-17, chloro** | | | |
|---|---|---|---|
| Route of exposure | Value | Value determination | Source |
| Sea sediments | 2.6 mg/kg of dry substance of sediment | | |
| Soil (agricultural) | 11.9 mg/kg of dry substance of soil | | |
| Oral | 10 mg/kg of food | | |

| **Polymeric diphenylmethane diisocyanate, Polymeric MDI** | | | |
|---|---|---|---|
| Route of exposure | Value | Value determination | Source |
| Drinking water | 3.7 µg/l | | |
| Marine water | 0.37 µg/l | | |
| Freshwater sediment | 11.7 mg/kg of dry substance of sediment | | |
| Sea sediments | 1.17 mg/kg of dry substance of sediment | | |
| Soil (agricultural) | 2.33 mg/kg of dry substance of soil | | |
| Water (intermittent release) | 37 µg/l | | |

| **tris(2-chloro-1-methylethyl) phosphate** | | | |
|---|---|---|---|
| Route of exposure | Value | Value determination | Source |
| Water (intermittent release) | 0.51 mg/l | | |
| Drinking water | 0.64 mg/l | | |
| Marine water | 0.064 mg/l | | |
| Soil (agricultural) | 1.7 mg/kg of dry substance of soil | | |
| Freshwater sediment | 13.4 mg/kg of dry substance of sediment | | |
| Sea sediments | 1.34 mg/kg of dry substance of sediment | | |
| Microorganisms in sewage treatment | 7.84 mg/l | | |
| Oral | <11.6 mg/kg of food | | |

**8.2. Exposure controls**

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

**Eye/face protection**

EN166 - Personal Eye Protection Standard. Protective goggles.

**Skin protection**

Hand protection: Protective gloves resistant to the product according to EN ISO 374-1. Use gloves of PVC or rubber (type of gloves to protect against chemicals should chosen depending on the concentration and quantity of the hazardous substance). For special applications, we recommend contacting the manufacturer of protective gloves in order to explain the resistance of the aforementioned gloves for chemicals. Contaminated skin should be washed thoroughly with water and soap.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Use a mask with a gas filter in a poorly ventilated environment (e.g. type A1 according to EN 14387).

**Thermal hazard**

not available

**Environmental exposure controls**

Observe usual measures for protection of the environment, see Section 6.2.

**More information**

Personal protective equipment should be selected in accordance with the relevant EN standards and in agreement with their supplier.

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| Physical state | liquid |
| Colour | yellow |
| color intensity | light |
| Odour | characteristic |
| Melting point/freezing point | not determined |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | <0 °C (DIN 51556) |
| Boiling point or initial boiling point and boiling range | -42 °C |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | >300 °C |
| Flammability | inflammable |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | non-inflammable |
| Lower and upper explosion limit | |
| bottom | 1.5 % |
| upper | 10.9 % |
| Flash point | -80 °C |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | >200 °C |
| Auto-ignition temperature | not applicable |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | >600 °C (EU Method A.15) |
| Decomposition temperature | data not available |
| pH | data not available |
| Kinematic viscosity | data not available |
| Solubility in water | insoluble |
| Partition coefficient n-octanol/water (log value) | data not available |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | reaguje z wodą |
| Vapour pressure | 1200-7500 hPa at 20 °C |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | <0.00001 mm Hg at 25 °C (Literatura) |
| Density and/or relative density | |
| Density | 1.2 g/cm³ at 20 °C |
| Polymeric diphenylmethane diisocyanate, Polymeric MDI (CAS: 9016-87-9) | 1.23 g/cm³ at 25 °C (Literatura) |
| Relative vapour density | data not available |
| Particle characteristics | data not available |
| Form | liquid, spray |

### 9.2. Other information

not available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

When used and stored in the standard way, the mixture is not reactive.

**10.2. Chemical stability**

The product is stable under normal conditions.

**10.3. Possibility of hazardous reactions**

Reacts with substances containing an active hydrogen atom (amines, alcohols), reacts with water. Avoid strong acids and alkalis.

**10.4. Conditions to avoid**

Pressurised container: May burst if heated. Protect against flames, sparks, overheating and against frost.

**10.5. Incompatible materials**

Protect against strong acids, bases and oxidizing agents.

**10.6. Hazardous decomposition products**

Not developed under normal uses.

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**SECTION 11: Toxicological information**

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

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the mixture.

**Acute toxicity**

Based on available data the classification criteria are not met.

| **alkanes, C14-17, chloro** | | | | | | |
|---|---|---|---|---|---|---|
| Route of exposure | Parameter | Method | Value | Exposure time | Species | Sex |
| Oral | LD50 | | >4000 mg/kg | | Rat | |

| **butane** | | | | | | |
|---|---|---|---|---|---|---|
| Route of exposure | Parameter | Method | Value | Exposure time | Species | Sex |
| Inhalation | LC50 | | 658 mg/l | 4 hours | Rat | |

| **Polymeric diphenylmethane diisocyanate, Polymeric MDI** | | | | | | |
|---|---|---|---|---|---|---|
| Route of exposure | Parameter | Method | Value | Exposure time | Species | Sex |
| Oral | LD50 | | >2000 mg/kg | | Rat (Rattus norvegicus) | F/M |
| Inhalation | LC50 | OECD 403 | 431 mg/m³ of air | 4 hours | Rat (Rattus norvegicus) | F/M |
| Dermal | LD50 | OECD 402 | >9400 mg/kg | 24 hours | Rabbit | F/M |

| **tris(2-chloro-1-methylethyl) phosphate** | | | | | | |
|---|---|---|---|---|---|---|
| Route of exposure | Parameter | Method | Value | Exposure time | Species | Sex |
| Oral | LD50 | | 630-2000 mg/kg | | Rat | |
| Oral | LD50 | | >2000 mg/kg | | Rabbit | |
| Dermal | LD50 | | >2000 mg/kg | | Rat | |
| Inhalation | LC50 | | >7 mg/l | 4 hours | Rat | |

**Skin corrosion/irritation**
Causes skin irritation.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | |
|---|---|---|---|---|
| Route of exposure | Result | Method | Exposure time | Species |
| Dermal | Irritating | OECD 404 | | Rabbit |

**Serious eye damage/irritation**
Causes serious eye irritation.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | |
|---|---|---|---|---|
| Route of exposure | Result | Method | Exposure time | Species |
| Eye | No effect | OECD 405 | | Rabbit |

**Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | |
|---|---|---|---|---|---|
| Route of exposure | Result | Method | Exposure time | Species | Sex |
| Skin | Sensitizing | OECD 429 | | Guinea-pig | |
| Inhalation | Sensitizing | | | Rat | |

**Germ cell mutagenicity**
Based on available data the classification criteria are not met.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | |
|---|---|---|---|---|---|
| Result | Method | Exposure time | Specific target organ | Species | Sex |
| Negative | EU B.13/14 | | | Bacteria (Salmonella typhimurium) | |
| Negative | OECD 474 | 3 weeks (1 hour/day, 1 days/week) | | Rat | M |

**Carcinogenicity**
Suspected of causing cancer.

**Reproductive toxicity**
May cause harm to breast-fed children.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | | | |
|---|---|---|---|---|---|---|---|
| Effect | Parameter | Method | Value | Exposure time | Result | Species | Sex |
| | NOAEC | OECD 414 | 4 mg/m³ of air | 10 days (6 hour/day) | Maternal toxicity | Rat | F |

**Toxicity for specific target organ - single exposure**
May cause respiratory irritation.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | |
|---|---|---|---|---|---|
| Route of exposure | Parameter | Value | Result | Species | Sex |
| Inhalation | | | Irritating | | |

**Toxicity for specific target organ - repeated exposure**

May cause damage to the respiratory tract through prolonged or repeated exposure if inhaled.

| **Polymeric diphenylmethane diisocyanate, Polymeric MDI** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Route of exposure | Parameter | Method | Value | Exposure time | Specific target organ | Result | Species | Sex |
| Inhalation (aerosols) | | OECD 453 | 0.23 mg/m³ of air | 2 years (17 hour/day, 5 days/week) | Lungs | | Rat | F |

**Aspiration hazard**

Based on available data the classification criteria are not met.

| **Polymeric diphenylmethane diisocyanate, Polymeric MDI** | | | | | |
|---|---|---|---|---|---|
| Route of exposure | Result | Exposure time | Species | Sex | Value determination |
| | | | | | Insufficient data |

### 11.2. Information on other hazards

Endocrine disrupting properties: Based on available data, the criteria for classification are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Toxic to aquatic life with long lasting effects.

**Acute toxicity**

| **alkanes, C14-17, chloro** | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment |
| EC50 | OECD 202 | 0.006 mg/l | 48 hours | Daphnia (Daphnia magna) | |
| LC50 | OECD 203 | >5000 mg/l | 96 hours | Fish | |
| EC50 | OECD 201 | >3.2 mg/l | 72 hours | Algae | |

| **Polymeric diphenylmethane diisocyanate, Polymeric MDI** | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment |
| LC50 | OECD 203 | >1000 mg/l | 96 hours | Fish (Danio rerio) | Fresh water |
| EC50 | OECD 202 | 3.7 mg/l | 48 hours | Daphnia (Daphnia magna) | Fresh water |
| EC50 | OECD 201 | >100 mg/l | 72 hours | Algae (Desmodesmus subspicatus) | Fresh water |
| EC50 | OECD 209 | >100 mg/l | 3 hours | Microorganisms | Activated sludge |
| LC50 | OECD 207 | >1000 mg/kg of dry substance of soil | 14 days | Invertebrates (Eisenia fetida) | |
| EC50 | OECD 208 | >1000 mg/kg of dry substance of soil | 14 days | Higher plants (Avena sativa) | |
| EC50 | OECD 208 | >1000 mg/kg of dry substance of soil | 14 days | Higher plants (Lactuca sativa) | |

| tris(2-chloro-1-methylethyl) phosphate | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment |
| LC50 | | 56.2 mg/l | 96 hours | Fish | Fresh water |
| EC50 | | 131 mg/l | 48 hours | Daphnia (Daphnia magna) | Fresh water |
| EC50 | | 47 mg/l | 96 hours | Algae | Fresh water |
| EC50 | | 82 mg/l | 72 hours | Algae | Fresh water |

**Chronic toxicity**

| alkanes, C14-17, chloro | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment |
| NOEC | OECD 212 | 3.4 mg/l | | Fish | |
| NOEC | OECD 202 | 0.01 mg/l | 21 days | Daphnia (Daphnia magna) | |

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment |
| NOEC | OECD 211 | ≥10 mg/l | 21 days | Daphnia (Daphnia magna) | Fresh water |

| tris(2-chloro-1-methylethyl) phosphate | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment |
| NOEC | | 32 mg/l | | Daphnia (Daphnia magna) | Fresh water |

**12.2. Persistence and degradability**

not available

**Half-life time**

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | |
|---|---|---|---|
| Route of exposure | Value | Value determination | Source |
| Air | 8 hours | | |
| Drinking water | 5 minutes | | |
| Soil (agricultural) | 24 hours | | |

**Biodegradability**

| alkanes, C14-17, chloro | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Environment | Result |
| | OECD 301D | 13-66 % | 28 days | | |

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | |
|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Environment | Result |
| | OECD 302C | 0 % | 28 hours | | Not biodegradable, Persistent |

**12.3. Bioaccumulative potential**

Data not available.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | | | | |
|---|---|---|---|---|---|---|
| Parameter | Method | Value | Exposure time | Species | Environment | Temperature [°C] |
| BCF | OECD 305 | 200 | 28 days | Fish (Cyprinus carpio) | Fresh water | |

**12.4. Mobility in soil**

Data not available.

| Polymeric diphenylmethane diisocyanate, Polymeric MDI | | | |
|---|---|---|---|
| Parameter | Value | Environment | Temperature |
| Log Koc | 4.5 | | 20°C |

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

PBT:
alkanes, C14-C17, chloro [CAS: 85535-85-9]
vPvB:
alkanes, C14-C17, chloro [CAS: 85535-85-9]

**12.6. Endocrine disrupting properties**

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

**12.7. Other adverse effects**

The isocyanate reacts with water in the boundary layer to form CO and the solid, insoluble product with high melting point (polyurea). This reaction is strong intensifying in the presence of surface-active agents (e.g., liquid soaps) or water-soluble solvents. According to the experience so far the polyurea is not reactive and does not decompose. The impact of MDI on global warming, reducing the thickness of the layer ozonosphere in the stratosphere or in the accumulation of ozone in the troposphere is not expected.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

**Waste management legislation**

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

**Waste type code**

16 05 04* gases in pressure containers (including halons) containing hazardous substances
08 04 09* waste adhesives and sealants containing organic solvents or other hazardous substances

**Packaging waste type code**

15 01 01 paper and cardboard packaging
15 01 10* packaging containing residues of or contaminated by hazardous substances

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

## SECTION 14: Transport information

**14.1. UN number or ID number**

UN 1950

**14.2. UN proper shipping name**

AEROSOLS

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

2 Gases

**14.4. Packing group**

not relevant

**14.5. Environmental hazards**

No

**14.6. Special precautions for user**

Always transport closed containers in an upright position, protected against accidental displacement. Do not transport or store in the passenger compartment. Do not leave it in a hot vehicle (risk of explosion). Reference in the Sections 4 to 8.

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

non-applicable

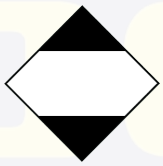
**Additional information**

Disable LQ.

| | |
|---|---|
| Hazard identification No. | |
| UN number | 1950 |
| Classification code | 5F |
| Safety signs | 2.1+hazardous for the environment |


**Road transport - ADR**

| | |
|---|---|
| Limited quantities | 1 L |
| Sign | |



| | |
|---|---|
| Tunnel restriction code | (D) |

**Air transport - ICAO/IATA**

| | |
|---|---|
| Packaging instructions passenger | 203 |
| Cargo packaging instructions | 203 |

**Marine transport - IMDG**

| | |
|---|---|
| EmS (emergency plan) | F-D, S-U |
| MFAG | 620 |

## SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

## SECTION 16: Other information

**A list of standard risk phrases used in the safety data sheet**

| | |
|---|---|
| H220 | Extremely flammable gas. |
| H222 | Extremely flammable aerosol. |

| | |
|---|---|
| H229 | Pressurised container: May burst if heated. |
| H280 | Contains gas under pressure; may explode if heated. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H351 | Suspected of causing cancer. |
| H362 | May cause harm to breast-fed children. |
| H373 | May cause damage to the respiratory tract through prolonged or repeated exposure if inhaled. |
| H373 | May cause damage to the respiratory tract (inhalation) through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Guidelines for safe handling used in the safety data sheet**

| | |
|---|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P211 | Do not spray on an open flame or other ignition source. |
| P251 | Do not pierce or burn, even after use. |
| P260 | Do not breathe gazu/par. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of water and soap. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P410+P412 | Protect from sunlight. Do no expose to temperatures exceeding 50 °C. |
| P501 | Dispose of contents/container to according to applicable regulations. |

**A list of additional standard phrases used in the safety data sheet**

| | |
|---|---|
| EUH204 | Contains isocyanates. May produce an allergic reaction. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |

**Other important information about human health protection**

The user is responsible for adherence to all related health protection regulations.

**Key to abbreviations and acronyms used in the safety data sheet**

| | |
|---|---|
| ADR | European agreement concerning the international carriage of dangerous goods by road |
| BCF | Bioconcentration Factor |
| CAS | Chemical Abstracts Service |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures |
| EC | Identification code for each substance listed in EINECS |
| EC50 | Concentration of a substance when it is affected 50% of the population |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| EmS | Emergency plan |
| EU | European Union |
| EuPCS | European Product Categorisation System |
| IATA | International Air Transport Association |
| IBC | International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals |
| ICAO | International Civil Aviation Organization |

| | |
|---|---|
| IMDG | International Maritime Dangerous Goods |
| IMO | International Maritime Organization |
| INCI | International Nomenclature of Cosmetic Ingredients |
| ISO | International Organization for Standardization |
| IUPAC | International Union of Pure and Applied Chemistry |
| LC50 | Lethal concentration of a substance in which it can be expected death of 50% of the population |
| LD50 | Lethal dose of a substance in which it can be expected death of 50% of the population |
| log Kow | Octanol-water partition coefficient |
| NOAEC | No observed adverse effect concentration |
| NOEC | No observed effect concentration |
| OEL | Occupational Exposure Limits |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | Parts per million |
| Press. Gas (Comp.) | Gas under pressure: compressed gas |
| Press. Gas (Diss.) | Gas under pressure: dissolved gas |
| Press. Gas (Liq.) | Gas under pressure: liquefied gas |
| Press. Gas (Ref. Liq.) | Gas under pressure: refrigerated liquefied gas |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Agreement on the transport of dangerous goods by rail |
| UN | Four-figure identification number of the substance or article taken from the UN Model Regulations |
| UVCB | Substances of unknown or variable composition, complex reaction products or biological materials |
| VOC | Volatile organic compounds |
| vPvB | Very Persistent and very Bioaccumulative |

| | |
|---|---|
| Acute Tox. | Acute toxicity |
| Aerosol | Aerosol |
| Aquatic Acute | Hazardous to the aquatic environment |
| Aquatic Chronic | Hazardous to the aquatic environment (chronic) |
| Carc. | Carcinogenicity |
| Eye Irrit. | Eye irritation |
| Flam. Gas | Flammable gas |
| Lact. | Lactation |
| Press. Gas | Gases under pressure |
| Resp. Sens. | Respiratory sensitization |
| Skin Irrit. | Skin irritation |
| Skin Sens. | Skin sensitization |
| STOT RE | Specific target organ toxicity - repeated exposure |
| STOT SE | Specific target organ toxicity - single exposure |

**Training guidelines**

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

**Recommended restrictions of use**

not available

**Information about data sources used to compile the Safety Data Sheet**

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

**More information**

Classification procedure - calculation method.

**Statement**

The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application. The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection.