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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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PDF print date: 26.11.2024

TTP90 – Component A

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

#### 1.1 Product identifier : TTP90 Micro Emissions

#### TTP90 - Component A

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

##### Relevant identified uses of the substance or mixture:

Adhesive

##### Uses advised against:

No information available at present.

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

TTP HARD drills Limited

Brunel House, 9 Penrod Way,

Heysham, Lancashire

LA3 2UZ

Tel : 0161 327 2741

Email : sales@ttp-hard-drills.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

#### 1.4 Emergency telephone number

##### Emergency information services / official advisory body:

---

##### Telephone number of the company in case of emergencies:

+44 161 327 2741(9:00 - 17:00)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) 1272/2008 (CLP)

| Hazard class | Hazard category | Hazard statement                                                                |
|--------------|-----------------|---------------------------------------------------------------------------------|
| Acute Tox.   | 4               | H332-Harmful if inhaled.                                                        |
| STOT RE      | 2               | H373-May cause damage to organs through prolonged or repeated exposure.         |
| Eye Irrit.   | 2               | H319-Causes serious eye irritation.                                             |
| STOT SE      | 3               | H335-May cause respiratory irritation.                                          |
| Skin Irrit.  | 2               | H315-Causes skin irritation.                                                    |
| Resp. Sens.  | 1               | H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin Sens.   | 1               | H317-May cause an allergic skin reaction.                                       |
| Carc.        | 2               | H351-Suspected of causing cancer.                                               |

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2.2 Label elements  
 Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H332-Harmful if inhaled. H373-May cause damage to organs through prolonged or repeated exposure. H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317-May cause an allergic skin reaction. H351-Suspected of causing cancer.

P201-Obtain special instructions before use. P260-Do not breathe vapours or spray. P280-Wear protective gloves / protective clothing / eye protection / face protection.  
 P304+P340-IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313-IF exposed or concerned: Get medical advice / attention.  
 EUH204-Contains isocyanates. May produce an allergic reaction.

As from 24 August 2023 adequate training is required before industrial or professional use.  
 Diphenylmethanediisocyanate, isomeres and homologues  
 Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate  
 Methylenediphenyl diisocyanate, modified  
 4,4'-methylenediphenyl diisocyanate, oligomeric reaction products with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)  
 Methylene diphenyl diisocyanate, modified

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).  
 The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).  
 The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a.

3.2 Mixtures

| Diphenylmethanediisocyanate, isomeres and homologues                   |                                                                                                                                                                     |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Registration number (REACH)                                            | ---                                                                                                                                                                 |
| Index                                                                  | ---                                                                                                                                                                 |
| EINECS, ELINCS, NLP, REACH-IT List-No.                                 | ---                                                                                                                                                                 |
| CAS                                                                    | 9016-87-9                                                                                                                                                           |
| content %                                                              | 25-<40                                                                                                                                                              |
| Classification according to Regulation (EC) 1272/2008 (CLP), M-factors | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Resp. Sens. 1, H334<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 |

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|                                              |                                                                                                                                                                                                                                      |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Specific Concentration Limits and ATE</b> | Skin Irrit. 2, H315: $\geq 5$ %<br>Eye Irrit. 2, H319: $\geq 5$ %<br>Resp. Sens. 1, H334: $\geq 0,1$ %<br>STOT SE 3, H335: $\geq 5$ %<br>ATE (as inhalation, Dusts or mist): 1,5 mg/l/4h<br>ATE (as inhalation, Vapours): 11 mg/l/4h |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                               |                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methylenediphenyl diisocyanate, modified</b>                               |                                                                                                                                                                                                                                      |
| <b>Registration number (REACH)</b>                                            | 01-2119457013-49-XXXX                                                                                                                                                                                                                |
| <b>Index</b>                                                                  | ---                                                                                                                                                                                                                                  |
| <b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>                                 | 500-040-3                                                                                                                                                                                                                            |
| <b>CAS</b>                                                                    | 25686-28-6                                                                                                                                                                                                                           |
| <b>content %</b>                                                              | 10-<20                                                                                                                                                                                                                               |
| <b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b> | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Resp. Sens. 1, H334<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 (respiratory system) (as inhalation)                             |
| <b>Specific Concentration Limits and ATE</b>                                  | Skin Irrit. 2, H315: $\geq 5$ %<br>Eye Irrit. 2, H319: $\geq 5$ %<br>Resp. Sens. 1, H334: $\geq 0,1$ %<br>STOT SE 3, H335: $\geq 5$ %<br>ATE (as inhalation, Dusts or mist): 1,5 mg/l/4h<br>ATE (as inhalation, Vapours): 11 mg/l/4h |

|                                                                               |                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methylene diphenyl diisocyanate, modified</b>                              |                                                                                                                                                                                                          |
| <b>Registration number (REACH)</b>                                            | ---                                                                                                                                                                                                      |
| <b>Index</b>                                                                  | ---                                                                                                                                                                                                      |
| <b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>                                 | ---                                                                                                                                                                                                      |
| <b>CAS</b>                                                                    | 53862-89-8                                                                                                                                                                                               |
| <b>content %</b>                                                              | 10-<20                                                                                                                                                                                                   |
| <b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b> | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Resp. Sens. 1, H334<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 (respiratory system) (as inhalation) |
| <b>Specific Concentration Limits and ATE</b>                                  | Skin Irrit. 2, H315: $\geq 5$ %<br>Eye Irrit. 2, H319: $\geq 5$ %<br>Resp. Sens. 1, H334: $\geq 0,1$ %<br>STOT SE 3, H335: $\geq 5$ %                                                                    |

|                                                                                                                                     |           |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>4,4'-methylenediphenyl diisocyanate, oligomeric reaction products with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)</b> |           |
| <b>Registration number (REACH)</b>                                                                                                  | ---       |
| <b>Index</b>                                                                                                                        | ---       |
| <b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>                                                                                       | 500-028-8 |
| <b>CAS</b>                                                                                                                          | 9048-57-1 |
| <b>content %</b>                                                                                                                    | 5-<10     |

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|                                                                               |                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b> | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Resp. Sens. 1, H334<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 (respiratory system) (as inhalation) |
| <b>Specific Concentration Limits and ATE</b>                                  | ATE (as inhalation, Vapours): 11 mg/l/4h<br>ATE (as inhalation, Dusts or mist): 2,24 mg/l/4h                                                                                                             |

|                                                                                                         |                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate</b> |                                                                                                                                                                                                                  |
| <b>Registration number (REACH)</b>                                                                      | 01-2119457015-45-XXXX                                                                                                                                                                                            |
| <b>Index</b>                                                                                            | ---                                                                                                                                                                                                              |
| <b>EINECS, ELINCS, NLP, REACH-IT List-No.</b>                                                           | 905-806-4                                                                                                                                                                                                        |
| <b>CAS</b>                                                                                              | ---                                                                                                                                                                                                              |
| <b>content %</b>                                                                                        | 1-<2,5                                                                                                                                                                                                           |
| <b>Classification according to Regulation (EC) 1272/2008 (CLP), M-factors</b>                           | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Resp. Sens. 1, H334<br>Carc. 2, H351<br>STOT SE 3, H335<br>STOT RE 2, H373 (respiratory system) (as inhalation)         |
| <b>Specific Concentration Limits and ATE</b>                                                            | Skin Irrit. 2, H315: >=5 %<br>Eye Irrit. 2, H319: >=5 %<br>Resp. Sens. 1, H334: >=0,1 %<br>STOT SE 3, H335: >=5 %<br>ATE (as inhalation, Dusts or mist): 1,5 mg/l/4h<br>ATE (as inhalation, Vapours): 11 mg/l/4h |

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.

Give copious water to drink - consult doctor immediately.

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

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If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.  
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

eyes, reddened

watering eyes

reddening of the skin

Dermatitis (skin inflammation)

Allergic reaction

coughing

Irritant to mucosa of the nose and throat

headaches

pain in chest

breathing difficulties

oedema of the lungs

In case of sensitivity, concentrations below the limit value may already result in asthmatic symptoms.

May cause damage to organs.

#### **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**

Adapt to the nature and extent of fire.

Water jet spray/foam/CO<sub>2</sub>/dry extinguisher

##### **Unsuitable extinguishing media**

High volume water jet

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

In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Hydrocyanic acid (hydrogen cyanide)

Hydrocarbons

Toxic gases

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

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

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

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

##### **6.1.1 For non-emergency personnel**

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.

Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Keep unprotected persons away.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

##### **6.1.2 For emergency responders**

See section 8 for suitable protective equipment and material specifications.

#### **6.2 Environmental precautions**

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

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Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

If accidental entry into drainage system occurs, inform responsible authorities.

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

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.

Keep moist.

Allow to stand for a few days in an unclosed container until reaction no longer occurs.

CO<sub>2</sub> formation in closed tanks causes pressure to rise.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.

Avoid breathing vapours or spray.

Avoid contact with eyes or skin.

No contact with products of this type in case of allergies, asthma und chronic respiratory tract disorders.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

#### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

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

Keep out of access to unauthorised individuals.

Not to be stored in gangways or stair wells.

Store product closed and only in original packing.

Store in a well-ventilated place.

Store cool.

Store in a dry place.

### 7.3 Specific end use(s)

No information available at present.

Observe the instructions for good working practice and the recommendations for risk assessment.

Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries,

depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

Observe special requirements for isocyanates, also within the framework of the risk assessment and definition of protective measures.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| Chemical Name                                                                                                                                             |  | Diphenylmethanediisocyanate, isomeres and homologues                              |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-----|
| WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as - NCO)) (WEL-TWA), 10 µg/m3 (until 31.12.2028), 6 µg/m3 (from 01.01.2029) (measured as NCO, diisocyanates) (EU) |  | WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as - NCO)) (WEL-STEL)                     | --- |
| Monitoring procedures:                                                                                                                                    |  | ---                                                                               |     |
| BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure) (BMGV)                                             |  | Other information: Sen (Isocyanates, all) (WEL) / (13), (15) (diisocyanates) (EU) |     |
| Chemical Name                                                                                                                                             |  | Methylenediphenyl diisocyanate, modified                                          |     |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------|
| <p>WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as - NCO)) (WEL-TWA), 10 µg/m3 (until 31.12.2028), 6 µg/m3 (from 01.01.2029) (measured as NCO, diisocyanates) (EU)</p> <p>WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as - NCO)) (WEL-STEL)</p> <p>---</p>                                                                                                                                                                                                                                                                     |  |                                                                                          |
| <p>Monitoring procedures:</p> <ul style="list-style-type: none"> <li>ISO 16702 (Workplace air quality – determination of total isocyanate groups in air using 2-(1-methoxyphenyl) piperazine and liquid chromatography) - 2007</li> <li>MDHS 25/4 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1-methoxyphenyl) piperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) - 2015</li> </ul> |  |                                                                                          |
| <p>BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure) (BMGV)</p>                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p>Other information: (13), (15) (diisocyanates) (EU)</p>                                |
| <p><b>Chemical Name</b> Methylene diphenyl diisocyanate, modified</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                          |
| <p>WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as - NCO)) (WEL-TWA), 10 µg/m3 (until 31.12.2028), 6 µg/m3 (from 01.01.2029) (measured as NCO, diisocyanates) (EU)</p> <p>WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as - NCO)) (WEL-STEL)</p> <p>---</p>                                                                                                                                                                                                                                                                     |  |                                                                                          |
| <p>Monitoring procedures:</p> <ul style="list-style-type: none"> <li>ISO 16702 (Workplace air quality – determination of total isocyanate groups in air using 2-(1-methoxyphenyl) piperazine and liquid chromatography) - 2007</li> <li>MDHS 25/4 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1-methoxyphenyl) piperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) - 2015</li> </ul> |  |                                                                                          |
| <p>BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure) (BMGV)</p>                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p>Other information: (13), (15) (diisocyanates) (EU)</p>                                |
| <p><b>Chemical Name</b> 4,4'-methylenediphenyl diisocyanate, oligomeric reaction products with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)</p>                                                                                                                                                                                                                                                                                                                                                             |  |                                                                                          |
| <p>WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as - NCO))</p> <p>WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as - NCO))</p> <p>---</p>                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                                                          |
| <p>Monitoring procedures:</p> <ul style="list-style-type: none"> <li>ISO 16702 (Workplace air quality – determination of total isocyanate groups in air using 2-(1-methoxyphenyl) piperazine and liquid chromatography) - 2007</li> <li>MDHS 25/4 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1-methoxyphenyl) piperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) - 2015</li> </ul> |  |                                                                                          |
| <p>BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure)</p>                                                                                                                                                                                                                                                                                                                                                                                                        |  | <p>Other information: Sen (Isocyanates, all)</p>                                         |
| <p><b>Chemical Name</b> Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate</p>                                                                                                                                                                                                                                                                                                                                                                                         |  |                                                                                          |
| <p>WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as - NCO)) (WEL-TWA), 10 µg/m3 (until 31.12.2028), 6 µg/m3 (from 01.01.2029) (measured as NCO, diisocyanates) (EU)</p> <p>WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as - NCO)) (WEL-STEL)</p> <p>---</p>                                                                                                                                                                                                                                                                     |  |                                                                                          |
| <p>Monitoring procedures: ---</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                          |
| <p>BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure) (BMGV)</p>                                                                                                                                                                                                                                                                                                                                                                                                 |  | <p>Other information: Sen (Isocyanates, all) (WEL) / (13), (15) (diisocyanates) (EU)</p> |
| <p><b>Chemical Name</b> Talc</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                          |
| <p>WEL-TWA: 1 mg/m3 (res. dust)</p> <p>WEL-STEL: ---</p> <p>---</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                                                          |
| <p>Monitoring procedures: ---</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |                                                                                          |
| <p>BMGV: ---</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | <p>Other information: ---</p>                                                            |
| <p><b>Chemical Name</b> 4,4'-methylenediphenyl diisocyanate</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                          |
| <p>WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as - NCO)) (WEL-TWA), 10 µg/m3 (until 31.12.2028), 6 µg/m3 (from 01.01.2029) (measured as NCO, diisocyanates) (EU)</p> <p>WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as - NCO)) (WEL-STEL)</p> <p>---</p>                                                                                                                                                                                                                                                                     |  |                                                                                          |
| <p>Monitoring procedures:</p> <ul style="list-style-type: none"> <li>ISO 16702 (Workplace air quality – determination of total isocyanate groups in air using 2-(1-methoxyphenyl) piperazine and liquid chromatography) - 2007</li> </ul>                                                                                                                                                                                                                                                                            |  |                                                                                          |

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MDHS 25/4 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1-methoxyphenyl)piperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) - 2015 - EU project BC/CEN/ENTR/000/2002-16 card 7-4 (2004)

- NIOSH 5521 (ISOCYANATES, MONOMERIC) - 1994
- NIOSH 5522 (ISOCYANATES) - 1998
- NIOSH 5525 (ISOCYANATES, TOTAL (MAP)) - 2003
- OSHA 18 (Diisocyanates 2,4-TDI and MDI) - 1980
- OSHA 47 (Methylene Bisphenyl Isocyanate (MDI)) - 1984

BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure) (BMGV) Other information: Sen (Isocyanates, all (WEL) / (13), (15) (diisocyanates) (EU)

#### Diphenylmethanediisocyanate, isomeres and homologues

| Area of application | Exposure route / Environmental compartment           | Effect on health             | Descriptor | Value | Unit       | Note |
|---------------------|------------------------------------------------------|------------------------------|------------|-------|------------|------|
|                     | Environment - freshwater                             |                              | PNEC       | 1     | mg/l       |      |
|                     | Environment - marine                                 |                              | PNEC       | 0,1   | mg/l       |      |
|                     | Environment - water, sporadic (intermittent) release |                              | PNEC       | 10    | mg/l       |      |
|                     | Environment - sewage treatment plant                 |                              | PNEC       | 1     | mg/l       |      |
|                     | Environment - soil                                   |                              | PNEC       | 1     | mg/kg      |      |
| Consumer            | Human - oral                                         | Short term, local effects    | DNEL       | 20    | mg/kg bw/d |      |
| Consumer            | Human - inhalation                                   | Short term, local effects    | DNEL       | 0,05  | mg/m3      |      |
| Consumer            | Human - inhalation                                   | Short term, systemic effects | DNEL       | 0,05  | mg/m3      |      |
| Consumer            | Human - inhalation                                   | Long term, local effects     | DNEL       | 0,025 | mg/m3      |      |
| Consumer            | Human - inhalation                                   | Long term, systemic effects  | DNEL       | 0,025 | mg/m3      |      |
| Consumer            | Human - dermal                                       | Short term, local effects    | DNEL       | 17,2  | mg/cm2     |      |
| Consumer            | Human - dermal                                       | Short term, systemic effects | DNEL       | 25    | mg/kg bw/d |      |
| Workers / employees | Human - inhalation                                   | Short term, local effects    | DNEL       | 0,1   | mg/m3      |      |
| Workers / employees | Human - inhalation                                   | Short term, systemic effects | DNEL       | 0,1   | mg/m3      |      |
| Workers / employees | Human - inhalation                                   | Long term, local effects     | DNEL       | 0,05  | mg/m3      |      |
| Workers / employees | Human - inhalation                                   | Long term, systemic effects  | DNEL       | 0,05  | mg/m3      |      |
| Workers / employees | Human - dermal                                       | Short term, local effects    | DNEL       | 28,7  | mg/cm2     |      |
| Workers / employees | Human - dermal                                       | Short term, systemic effects | DNEL       | 50    | mg/kg bw/d |      |

#### Methylenediphenyl diisocyanate, modified

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value   | Unit | Note |
|---------------------|--------------------------------------------|------------------|------------|---------|------|------|
|                     | Environment - freshwater                   |                  | PNEC       | 0,0037  | mg/l |      |
|                     | Environment - marine                       |                  | PNEC       | 0,00037 | mg/l |      |

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|                     |                                                      |                           |      |       |                  |  |
|---------------------|------------------------------------------------------|---------------------------|------|-------|------------------|--|
|                     | Environment - sewage treatment plant                 |                           | PNEC | 1     | mg/l             |  |
|                     | Environment - soil                                   |                           | PNEC | 2,33  | mg/kg dry weight |  |
|                     | Environment - water, sporadic (intermittent) release |                           | PNEC | 37    | mg/l             |  |
|                     | Environment - sediment, freshwater                   |                           | PNEC | 11,7  | mg/kg dry weight |  |
|                     | Environment - sediment, marine                       |                           | PNEC | 1,17  | mg/kg dry weight |  |
| Consumer            | Human - inhalation                                   | Long term, local effects  | DNEL | 0,025 | mg/m3            |  |
| Consumer            | Human - inhalation                                   | Short term, local effects | DNEL | 0,05  | mg/m3            |  |
| Workers / employees | Human - inhalation                                   | Short term, local effects | DNEL | 0,1   | mg/m3            |  |
| Workers / employees | Human - inhalation                                   | Long term, local effects  | DNEL | 0,05  | mg/m3            |  |

#### Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

| Area of application | Exposure route / Environmental compartment           | Effect on health          | Descriptor | Value | Unit             | Note |
|---------------------|------------------------------------------------------|---------------------------|------------|-------|------------------|------|
|                     | Environment - freshwater                             |                           | PNEC       | 37    | µg/l             |      |
|                     | Environment - marine                                 |                           | PNEC       | 0,37  | µg/l             |      |
|                     | Environment - soil                                   |                           | PNEC       | 2,33  | mg/kg            |      |
|                     | Environment - sewage treatment plant                 |                           | PNEC       | 1     | mg/l             |      |
|                     | Environment - water, sporadic (intermittent) release |                           | PNEC       | 3,7   | µg/l             |      |
|                     | Environment - sediment, freshwater                   |                           | PNEC       | 11,7  | mg/kg dry weight |      |
|                     | Environment - sediment, marine                       |                           | PNEC       | 1,17  | mg/kg dry weight |      |
| Consumer            | Human - inhalation                                   | Long term, local effects  | DNEL       | 0,025 | mg/m3            |      |
| Consumer            | Human - inhalation                                   | Short term, local effects | DNEL       | 0,05  | mg/m3            |      |
| Workers / employees | Human - inhalation                                   | Short term, local effects | DNEL       | 0,1   | mg/m3            |      |
| Workers / employees | Human - inhalation                                   | Long term, local effects  | DNEL       | 0,05  | mg/m3            |      |

#### 4,4'-methylenediphenyl diisocyanate

| Area of application | Exposure route / Environmental compartment    | Effect on health | Descriptor | Value | Unit             | Note |
|---------------------|-----------------------------------------------|------------------|------------|-------|------------------|------|
|                     | Environment - freshwater                      |                  | PNEC       | 3,7   | µg/l             |      |
|                     | Environment - marine                          |                  | PNEC       | 0,37  | µg/l             |      |
|                     | Environment - sewage treatment plant          |                  | PNEC       | 1     | mg/l             |      |
|                     | Environment - soil                            |                  | PNEC       | 2,33  | mg/kg dw         |      |
|                     | Environment - sporadic (intermittent) release |                  | PNEC       | 37    | µg/l             |      |
|                     | Environment - sediment, freshwater            |                  | PNEC       | 11,7  | mg/kg dry weight |      |

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|                     |                                |                              |      |       |                  |  |
|---------------------|--------------------------------|------------------------------|------|-------|------------------|--|
|                     | Environment - sediment, marine |                              | PNEC | 1,17  | mg/kg dry weight |  |
| Consumer            | Human - oral                   | Short term, systemic effects | DNEL | 20    | mg/kg bw/day     |  |
| Consumer            | Human - dermal                 | Short term, local effects    | DNEL | 17,2  | mg/cm2           |  |
| Consumer            | Human - dermal                 | Short term, systemic effects | DNEL | 25    | mg/kg bw/day     |  |
| Consumer            | Human - inhalation             | Short term, local effects    | DNEL | 0,05  | mg/m3            |  |
| Consumer            | Human - inhalation             | Short term, systemic effects | DNEL | 0,05  | mg/m3            |  |
| Consumer            | Human - inhalation             | Long term, local effects     | DNEL | 0,025 | mg/m3            |  |
| Consumer            | Human - inhalation             | Long term, systemic effects  | DNEL | 0,025 | mg/m3            |  |
| Workers / employees | Human - dermal                 | Short term, local effects    | DNEL | 28,7  | mg/cm2           |  |
| Workers / employees | Human - dermal                 | Short term, systemic effects | DNEL | 50    | mg/kg bw/day     |  |
| Workers / employees | Human - inhalation             | Short term, local effects    | DNEL | 0,1   | mg/m3            |  |
| Workers / employees | Human - inhalation             | Short term, systemic effects | DNEL | 0,1   | mg/m3            |  |
| Workers / employees | Human - inhalation             | Long term, local effects     | DNEL | 0,05  | mg/m3            |  |
| Workers / employees | Human - inhalation             | Long term, systemic effects  | DNEL | 0,05  | mg/m3            |  |

® - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).  
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:  
 (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/EC). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/EC). |  
 | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).  
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:  
 (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |  
 | BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).  
 (EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |  
 | Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:  
 (13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/EC), (14) = The substance can cause sensitisation of the skin (2004/37/EC), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

## 8.2 Exposure controls

### 8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

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EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

## 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Chemical resistant protective gloves (EN ISO 374).

Recommended

Protective gloves in butyl rubber (EN ISO 374).

Minimum layer thickness in mm:

> 0,5

Permeation time (penetration time) in minutes:

480

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

If OES or MEL is exceeded.

Gas mask filter ABEK-P2 (EN 14387), code colour brown, grey, yellow, green, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

## 8.2.3 Environmental exposure controls

No information available at present.

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

Physical state:

Liquid, Viscous

Colour:

Beige

Odour:

Hydrocarbons

Melting point/freezing point:

There is no information available on this parameter.

Boiling point or initial boiling point and boiling range:

>200 °C

Flammability:

There is no information available on this parameter.

Lower explosion limit:

There is no information available on this parameter.

Upper explosion limit:

There is no information available on this parameter.

Flash point:

203 °C

Auto-ignition temperature:

There is no information available on this parameter.

Decomposition temperature:

There is no information available on this parameter.

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pH: Mixture is non-soluble (in water).  
Kinematic viscosity: ~20000 mPas (Dynamic viscosity )  
Solubility: Insoluble  
Partition coefficient n-octanol/water (log value): Does not apply to mixtures.  
Vapour pressure: <0,0133 hPa  
Density and/or relative density: 1,288 g/cm3  
Relative vapour density: >1  
Particle characteristics: Does not apply to liquids.

## 9.2 Other information

No information available at present.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

### 10.4 Conditions to avoid

Heating

Moisture

### 10.5 Incompatible materials

Alcohols

Amines

Ammonia

Alkalis

Acids

Water

Aluminium

Iron

Copper alloys

Zinc

### 10.6 Hazardous decomposition products

No decomposition when used as directed.

In case of contact with water:

Carbon dioxide

CO2 formation in closed tanks causes pressure to rise.

Pressure increase will result in danger of bursting.

## SECTION 11: Toxicological information

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

Possibly more information on health effects, see Section 2.1 (classification).

#### Pliogrip™ 7400 – Component A

| Toxicity / effect                  | Endpoint | Value | Unit | Organism | Test method | Notes                           |
|------------------------------------|----------|-------|------|----------|-------------|---------------------------------|
| Acute toxicity, by oral route:     |          |       |      |          |             | n.d.a.                          |
| Acute toxicity, by dermal route:   |          |       |      |          |             | n.d.a.                          |
| Acute toxicity, by inhalation:     | ATE      | 2,09  | mg/l |          |             | calculated value, Dusts or mist |
| Skin corrosion/irritation:         |          |       |      |          |             | n.d.a.                          |
| Serious eye damage/irritation:     |          |       |      |          |             | n.d.a.                          |
| Respiratory or skin sensitisation: |          |       |      |          |             | n.d.a.                          |
| Germ cell mutagenicity:            |          |       |      |          |             | n.d.a.                          |

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TTP90 – Component A

|                                                               |  |  |  |  |  |        |
|---------------------------------------------------------------|--|--|--|--|--|--------|
| Carcinogenicity:                                              |  |  |  |  |  | n.d.a. |
| Reproductive toxicity:                                        |  |  |  |  |  | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE):   |  |  |  |  |  | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): |  |  |  |  |  | n.d.a. |
| Aspiration hazard:                                            |  |  |  |  |  | n.d.a. |
| Symptoms:                                                     |  |  |  |  |  | n.d.a. |

| Diphenylmethanediisocyanate, isomeres and homologues        |          |        |         |                        |                                                                           |                                                   |
|-------------------------------------------------------------|----------|--------|---------|------------------------|---------------------------------------------------------------------------|---------------------------------------------------|
| Toxicity / effect                                           | Endpoint | Value  | Unit    | Organism               | Test method                                                               | Notes                                             |
| Acute toxicity, by oral route:                              | LD50     | >10000 | mg/kg   | Rat                    | OECD 401 (Acute Oral Toxicity)                                            |                                                   |
| Acute toxicity, by dermal route:                            | LD50     | >9400  | mg/kg   | Rabbit                 | OECD 402 (Acute Dermal Toxicity)                                          |                                                   |
| Acute toxicity, by inhalation:                              | LC50     | 0,49   | mg/l/4h | Rat                    | OECD 403 (Acute Inhalation Toxicity)                                      | Aerosol, Does not conform with EU classification. |
| Acute toxicity, by inhalation:                              | ATE      | 11     | mg/l/4h |                        |                                                                           | Vapours                                           |
| Acute toxicity, by inhalation:                              | ATE      | 1,5    | mg/l/4h |                        |                                                                           | Dusts or mist                                     |
| Skin corrosion/irritation:                                  |          |        |         | Rabbit                 | OECD 404 (Acute Dermal Irritation/Corrosion)                              | Skin Irrit. 2                                     |
| Serious eye damage/irritation:                              |          |        |         | Rabbit                 | OECD 405 (Acute Eye Irritation/Corrosion)                                 | Mild irritant                                     |
| Respiratory or skin sensitisation:                          |          |        |         | Guinea pig             | OECD 406 (Skin Sensitisation)                                             | Yes (skin contact)                                |
| Respiratory or skin sensitisation:                          |          |        |         | Rat                    |                                                                           | Yes (inhalation)                                  |
| Germ cell mutagenicity:                                     |          |        |         | Salmonella typhimurium | Regulation (EC) 440/2008 B.13/B.14 (REVERSE MUTATION TEST USING BACTERIA) | Analogous conclusion, Negative                    |
| Germ cell mutagenicity:                                     |          |        |         | Rat                    | OECD 474 (Mammalian Erythrocyte Micronucleus Test)                        | Negative, Analogous conclusion                    |
| Carcinogenicity:                                            |          | 1      | mg/m3   | Rat                    | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)              | Positive                                          |
| Reproductive toxicity:                                      | NOAEL    | 12     | mg/m3   | Rat                    | OECD 414 (Prenatal Developmental Toxicity Study)                          | Negative, Aerosol                                 |
| Reproductive toxicity (Developmental toxicity):             |          | 4      | mg/m3   | Rat                    | OECD 414 (Prenatal Developmental Toxicity Study)                          | Negative                                          |
| Reproductive toxicity (Effects on fertility):               |          |        |         | Rat                    | OECD 414 (Prenatal Developmental Toxicity Study)                          | Negative                                          |
| Specific target organ toxicity - single exposure (STOT-SE): |          |        |         |                        |                                                                           | Irritation of the respiratory tract               |

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|                                                                         |      |     |       |  |                                                              |                                                                                                                                  |
|-------------------------------------------------------------------------|------|-----|-------|--|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: |      |     |       |  |                                                              | Target organ(s): respiratory organs, May cause respiratory irritation.                                                           |
| Specific target organ toxicity - repeated exposure (STOT-RE):           | NOEC | 0,2 | mg/kg |  | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) |                                                                                                                                  |
| Aspiration hazard:                                                      |      |     |       |  |                                                              | No                                                                                                                               |
| Symptoms:                                                               |      |     |       |  |                                                              | fever, coughing, headaches, nausea and vomiting., dizziness, breathing difficulties, laryngeal oedema, abdominal pain, diarrhoea |

#### Methylenediphenyl diisocyanate, modified

| Toxicity / effect                                                       | Endpoint | Value | Unit    | Organism               | Test method                                                               | Notes                |
|-------------------------------------------------------------------------|----------|-------|---------|------------------------|---------------------------------------------------------------------------|----------------------|
| Acute toxicity, by oral route:                                          | LD50     | >2000 | mg/kg   | Rat                    | OECD 401 (Acute Oral Toxicity)                                            | Analogous conclusion |
| Acute toxicity, by inhalation:                                          | ATE      | 11    | mg/l/4h |                        |                                                                           | Vapours              |
| Acute toxicity, by inhalation:                                          | ATE      | 1,5   | mg/l/4h |                        |                                                                           | Dusts or mist        |
| Skin corrosion/irritation:                                              |          |       |         | Rabbit                 | OECD 404 (Acute Dermal Irritation/Corrosion)                              | Skin Irrit. 2        |
| Serious eye damage/irritation:                                          |          |       |         | Rabbit                 | OECD 405 (Acute Eye Irritation/Corrosion)                                 | Eye Irrit. 2         |
| Respiratory or skin sensitisation:                                      |          |       |         | Mouse                  |                                                                           | Yes (inhalation)     |
| Respiratory or skin sensitisation:                                      |          |       |         | Guinea pig             | OECD 406 (Skin Sensitisation)                                             | Yes (skin contact)   |
| Germ cell mutagenicity:                                                 |          |       |         | Salmonella typhimurium | Regulation (EC) 440/2008 B.13/B.14 (REVERSE MUTATION TEST USING BACTERIA) | Negative             |
| Germ cell mutagenicity:                                                 |          |       |         | Rat                    | OECD 474 (Mammalian Erythrocyte Micronucleus Test)                        | Negative             |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOEC     | 0,23  | mg/m3   | Rat                    | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)              |                      |

#### 4,4'-methylenediphenyl diisocyanate, oligomeric reaction products with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)

| Toxicity / effect                | Endpoint | Value | Unit  | Organism | Test method | Notes |
|----------------------------------|----------|-------|-------|----------|-------------|-------|
| Acute toxicity, by oral route:   | LD50     | 9200  | mg/kg | Rat      |             |       |
| Acute toxicity, by dermal route: | LD50     | >7900 | mg/kg | Rabbit   |             |       |

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|                                                             |      |       |         |     |                                      |                                           |
|-------------------------------------------------------------|------|-------|---------|-----|--------------------------------------|-------------------------------------------|
| Acute toxicity, by inhalation:                              | LC50 | >2,24 | mg/l/1h | Rat | OECD 403 (Acute Inhalation Toxicity) | Aerosol, Acute Tox. 4                     |
| Acute toxicity, by inhalation:                              | ATE  | 11    | mg/l/4h |     |                                      | Vapours                                   |
| Acute toxicity, by inhalation:                              | ATE  | 2,24  | mg/l/4h |     |                                      | Dusts or mist                             |
| Respiratory or skin sensitisation:                          |      |       |         |     |                                      | Sensitising (inhalation and skin contact) |
| Specific target organ toxicity - single exposure (STOT-SE): |      |       |         |     |                                      | May cause respiratory irritation.         |

**Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate**

| Toxicity / effect                  | Endpoint | Value   | Unit    | Organism               | Test method                                                               | Notes                                                 |
|------------------------------------|----------|---------|---------|------------------------|---------------------------------------------------------------------------|-------------------------------------------------------|
| Acute toxicity, by oral route:     | LD50     | > 10000 | mg/kg   | Rat                    |                                                                           |                                                       |
| Acute toxicity, by dermal route:   | LD50     | > 9400  | mg/kg   | Rabbit                 |                                                                           |                                                       |
| Acute toxicity, by inhalation:     | LC50     | 0,49    | mg/l/4h | Rat                    |                                                                           | Mist, Dust:, Does not conform with EU classification. |
| Acute toxicity, by inhalation:     | ATE      | 11      | mg/l/4h |                        |                                                                           | Vapours                                               |
| Acute toxicity, by inhalation:     | ATE      | 1,5     | mg/l/4h |                        |                                                                           | Dusts or mist                                         |
| Skin corrosion/irritation:         |          |         |         | Rabbit                 | OECD 404 (Acute Dermal Irritation/Corrosion)                              | Irritant                                              |
| Respiratory or skin sensitisation: |          |         |         | Guinea pig             | OECD 406 (Skin Sensitisation)                                             | Yes (inhalation and skin contact)                     |
| Germ cell mutagenicity:            |          |         |         | Salmonella typhimurium | Regulation (EC) 440/2008 B.13/B.14 (REVERSE MUTATION TEST USING BACTERIA) | Negative                                              |
| Germ cell mutagenicity:            |          |         |         | Rat                    | OECD 474 (Mammalian Erythrocyte Micronucleus Test)                        | Negative                                              |
| Carcinogenicity:                   |          |         |         | Rat                    | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)              | Carc. 2                                               |

**Talc**

| Toxicity / effect                  | Endpoint | Value | Unit  | Organism | Test method                                      | Notes           |
|------------------------------------|----------|-------|-------|----------|--------------------------------------------------|-----------------|
| Acute toxicity, by oral route:     | LD50     | >5000 | mg/kg | Rat      |                                                  |                 |
| Acute toxicity, by dermal route:   | LD50     | >2000 | mg/kg | Rat      |                                                  |                 |
| Skin corrosion/irritation:         |          |       |       | Rabbit   | OECD 404 (Acute Dermal Irritation/Corrosion)     | Not irritant    |
| Skin corrosion/irritation:         |          |       |       |          |                                                  | Not irritant    |
| Respiratory or skin sensitisation: |          |       |       |          |                                                  | Not sensitising |
| Germ cell mutagenicity:            |          |       |       |          | OECD 471 (Bacterial Reverse Mutation Test)       | Negative        |
| Carcinogenicity:                   |          |       |       |          |                                                  | Negative        |
| Reproductive toxicity:             |          |       |       | Rabbit   | OECD 414 (Prenatal Developmental Toxicity Study) | Negative        |

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TTP90 – Component A

|           |  |  |  |  |  |                            |
|-----------|--|--|--|--|--|----------------------------|
| Symptoms: |  |  |  |  |  | mucous membrane irritation |
|-----------|--|--|--|--|--|----------------------------|

| 4,4'-methylenediphenyl diisocyanate                                     |          |       |         |                        |                                                              |                                                                    |
|-------------------------------------------------------------------------|----------|-------|---------|------------------------|--------------------------------------------------------------|--------------------------------------------------------------------|
| Toxicity / effect                                                       | Endpoint | Value | Unit    | Organism               | Test method                                                  | Notes                                                              |
| Acute toxicity, by oral route:                                          | LD50     | >2000 | mg/kg   | Rat                    | Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY)           | Analogous conclusion                                               |
| Acute toxicity, by dermal route:                                        | LD50     | >9400 | mg/kg   | Rabbit                 | OECD 402 (Acute Dermal Toxicity)                             | Analogous conclusion                                               |
| Acute toxicity, by inhalation:                                          | ATE      | 11    | mg/l/4h |                        |                                                              | Vapours                                                            |
| Acute toxicity, by inhalation:                                          | ATE      | 1,5   | mg/l/4h |                        |                                                              | Aerosol                                                            |
| Acute toxicity, by inhalation:                                          | LC50     | 0,368 | mg/l/4h | Rat                    | OECD 403 (Acute Inhalation Toxicity)                         | Aerosol, Does not conform with EU classification.                  |
| Acute toxicity, by inhalation:                                          | LC50     | 1,5   | mg/l/4h |                        |                                                              | Aerosol, Expert judgement.                                         |
| Skin corrosion/irritation:                                              |          |       |         | Rabbit                 | OECD 404 (Acute Dermal Irritation/Corrosion)                 | Skin Irrit. 2, Analogous conclusion                                |
| Respiratory or skin sensitisation:                                      |          |       |         | Guinea pig             |                                                              | Yes (inhalation)                                                   |
| Respiratory or skin sensitisation:                                      |          |       |         | Mouse                  | OECD 429 (Skin Sensitisation - Local Lymph Node Assay)       | Skin Sens. 1                                                       |
| Germ cell mutagenicity:                                                 |          |       |         | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test)                   | Negative, Analogous conclusion                                     |
| Germ cell mutagenicity:                                                 |          |       |         | Rat                    | OECD 474 (Mammalian Erythrocyte Micronucleus Test)           | Negativemale                                                       |
| Germ cell mutagenicity:                                                 |          |       |         | Rat                    | OECD 489 (In Vivo Mammalian Alkaline Comet Assay)            | Negativemale                                                       |
| Carcinogenicity:                                                        |          |       |         | Rat                    | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Aerosol, Analogous conclusion, Carc. 2                             |
| Reproductive toxicity:                                                  | NOAEL    | 4-12  | mg/m3   | Rat                    | OECD 414 (Prenatal Developmental Toxicity Study)             | Aerosol, Analogous conclusion                                      |
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: |          |       |         |                        |                                                              | May cause respiratory irritation.                                  |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | LOAEL    | 1     | mg/m3   | Rat                    | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Aerosol, Analogous conclusion, Target organ(s): respiratory system |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOAEL    | 0,2   | mg/m3   | Rat                    | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Aerosol, Analogous conclusion, Target organ(s): respiratory system |

## 11.2. Information on other hazards

| Pliogrip™ 7400 – Component A     |          |       |      |          |             |                                                                       |
|----------------------------------|----------|-------|------|----------|-------------|-----------------------------------------------------------------------|
| Toxicity / effect                | Endpoint | Value | Unit | Organism | Test method | Notes                                                                 |
| Endocrine disrupting properties: |          |       |      |          |             | Does not apply to mixtures.                                           |
| Other information:               |          |       |      |          |             | No other relevant information available on adverse effects on health. |

## SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

| Pliogrip™ 7400 – Component A             |          |      |       |      |          |             |                                                                                                                                                                                                                                                           |
|------------------------------------------|----------|------|-------|------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity / effect                        | Endpoint | Time | Value | Unit | Organism | Test method | Notes                                                                                                                                                                                                                                                     |
| 12.1. Toxicity to fish:                  |          |      |       |      |          |             | n.d.a.                                                                                                                                                                                                                                                    |
| 12.1. Toxicity to daphnia:               |          |      |       |      |          |             | n.d.a.                                                                                                                                                                                                                                                    |
| 12.1. Toxicity to algae:                 |          |      |       |      |          |             | n.d.a.                                                                                                                                                                                                                                                    |
| 12.2. Persistence and degradability:     |          |      |       |      |          |             | With water at the interface, transforms slowly with formation of CO <sub>2</sub> into a firm, insoluble reaction product with a high melting point (polycarbamide). According to experience available to date, polycarbamide is inert and non-degradable. |
| 12.3. Bioaccumulative potential:         |          |      |       |      |          |             | n.d.a.                                                                                                                                                                                                                                                    |
| 12.4. Mobility in soil:                  |          |      |       |      |          |             | n.d.a.                                                                                                                                                                                                                                                    |
| 12.5. Results of PBT and vPvB assessment |          |      |       |      |          |             | n.d.a.                                                                                                                                                                                                                                                    |
| 12.6. Endocrine disrupting properties:   |          |      |       |      |          |             | Does not apply to mixtures.                                                                                                                                                                                                                               |
| 12.7. Other adverse effects:             |          |      |       |      |          |             | No information available on other adverse effects on the environment.                                                                                                                                                                                     |

| Diphenylmethanediisocyanate, isomeres and homologues |          |      |       |      |                   |                                      |       |
|------------------------------------------------------|----------|------|-------|------|-------------------|--------------------------------------|-------|
| Toxicity / effect                                    | Endpoint | Time | Value | Unit | Organism          | Test method                          | Notes |
| 12.1. Toxicity to fish:                              | LC50     | 96h  | >1000 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) |       |

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|                                          |           |     |       |       |                         |                                                                                          |                                                                                                       |
|------------------------------------------|-----------|-----|-------|-------|-------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 12.1. Toxicity to daphnia:               | NOEC/NOEL | 21d | >= 10 | mg/l  | Daphnia magna           | OECD 211 (Daphnia magna Reproduction Test)                                               |                                                                                                       |
| 12.1. Toxicity to daphnia:               | EC50      | 24h | >1000 | mg/l  | Daphnia magna           | OECD 202 (Daphnia sp. Acute Immobilisation Test)                                         |                                                                                                       |
| 12.1. Toxicity to algae:                 | EC50      | 72h | >1640 | mg/l  | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test)                                                  |                                                                                                       |
| 12.2. Persistence and degradability:     |           | 28d | 0     | %     | activated sludge        | OECD 301 C (Ready Biodegradability - Modified MITI Test (I))                             | Not biodegradable                                                                                     |
| 12.3. Bioaccumulative potential:         | BCF       | 42d | <14   |       | Cyprinus caprio         | OECD 305 (Bioconcentration - Flow-Through Fish Test)                                     | A notable biological accumulation potential is not to be expected (LogPow 1-3).                       |
| 12.5. Results of PBT and vPvB assessment |           |     |       |       |                         |                                                                                          | No PBT substance, No vPvB substance                                                                   |
| Toxicity to bacteria:                    | EC50      | 3h  | >100  | mg/l  | activated sludge        | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) |                                                                                                       |
| Other organisms:                         | NOEC/NOEL | 14d | >1000 | mg/kg | Eisenia foetida         | OECD 207 (Earthworm, Acute Toxicity Tests)                                               |                                                                                                       |
| Other information:                       | BOD       | 28d | <10   | %     |                         | OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))                         |                                                                                                       |
| Other information:                       |           |     |       |       |                         |                                                                                          | Does not contain any organically bound halogens which can contribute to the AOX value in waste water. |

**Methylenediphenyl diisocyanate, modified**

| Toxicity / effect          | Endpoint  | Time | Value | Unit | Organism          | Test method                                | Notes |
|----------------------------|-----------|------|-------|------|-------------------|--------------------------------------------|-------|
| 12.1. Toxicity to fish:    | LL50      | 96h  | >100  | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test)       |       |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d  | >=10  | mg/l | Daphnia magna     | OECD 211 (Daphnia magna Reproduction Test) |       |

|                                          |         |     |       |          |                         |                                                                                          |                                     |
|------------------------------------------|---------|-----|-------|----------|-------------------------|------------------------------------------------------------------------------------------|-------------------------------------|
| 12.1. Toxicity to daphnia:               | EL50    | 48h | 9     | mg/l     | Daphnia magna           | OECD 202 (Daphnia sp. Acute Immobilisation Test)                                         |                                     |
| 12.1. Toxicity to algae:                 | EL50    | 72h | >100  | mg/l     | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test)                                                  |                                     |
| 12.2. Persistence and degradability:     |         | 28d | 0     | %        | activated sludge        | OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))                         |                                     |
| 12.2. Persistence and degradability:     |         | 28d | 0     | %        |                         | OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)                       |                                     |
| 12.3. Bioaccumulative potential:         | BCF     | 28d | 200   |          | Cyprinus caprio         | OECD 305 (Bioconcentration - Flow-Through Fish Test)                                     |                                     |
| 12.3. Bioaccumulative potential:         | BCF     |     | 200   |          |                         | OECD 305 (Bioconcentration - Flow-Through Fish Test)                                     | Not to be expected                  |
| 12.4. Mobility in soil:                  | Log Koc |     | 4,5   |          |                         |                                                                                          |                                     |
| 12.5. Results of PBT and vPvB assessment |         |     |       |          |                         |                                                                                          | No PBT substance, No vPvB substance |
| 12.6. Endocrine disrupting properties:   |         |     |       |          |                         |                                                                                          | Negative                            |
| Toxicity to bacteria:                    | EC50    | 3h  | >100  | mg/l     | activated sludge        | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) |                                     |
| Other organisms:                         | EC50    | 14d | >1000 | mg/kg dw | Avena sativa            |                                                                                          |                                     |
| Other organisms:                         | EC0     | 14d | >1000 | mg/kg dw | Lactuca sativa          |                                                                                          |                                     |
| Toxicity to annelids:                    | LC50    | 14d | >1000 | mg/kg    | Eisenia foetida         | OECD 207 (Earthworm, Acute Toxicity Tests)                                               |                                     |

**4,4'-methylenediphenyl diisocyanate, oligomeric reaction products with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)**

| Toxicity / effect          | Endpoint  | Time | Value | Unit | Organism        | Test method                                | Notes                |
|----------------------------|-----------|------|-------|------|-----------------|--------------------------------------------|----------------------|
| 12.1. Toxicity to fish:    | LC50      | 96h  | >3000 | mg/l | Oryzias latipes |                                            | Analogous conclusion |
| 12.1. Toxicity to daphnia: | EC50      | 24h  | >100  | mg/l | Daphnia magna   | OECD 211 (Daphnia magna Reproduction Test) | Analogous conclusion |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d  | >10   | mg/l | Daphnia magna   | OECD 211 (Daphnia magna Reproduction Test) | Analogous conclusion |

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|                                      |  |     |   |   |  |                                                                  |                                         |
|--------------------------------------|--|-----|---|---|--|------------------------------------------------------------------|-----------------------------------------|
| 12.2. Persistence and degradability: |  | 21d | 0 | % |  | OECD 302 C (Inherent Biodegradability - Modified MITI Test (II)) | Not biodegradable, Analogous conclusion |
|--------------------------------------|--|-----|---|---|--|------------------------------------------------------------------|-----------------------------------------|

| Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate |           |      |        |      |                   |                                                                                          |                    |
|--------------------------------------------------------------------------------------------------|-----------|------|--------|------|-------------------|------------------------------------------------------------------------------------------|--------------------|
| Toxicity / effect                                                                                | Endpoint  | Time | Value  | Unit | Organism          | Test method                                                                              | Notes              |
| 12.1. Toxicity to fish:                                                                          | LC50      | 96h  | > 1000 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test)                                                     |                    |
| 12.1. Toxicity to daphnia:                                                                       | NOEC/NOEL | 21d  | >10    | mg/l | Daphnia magna     | OECD 211 (Daphnia magna Reproduction Test)                                               |                    |
| 12.1. Toxicity to daphnia:                                                                       | EC50      | 24h  | > 1000 | mg/l | Daphnia magna     | OECD 202 (Daphnia sp. Acute Immobilisation Test)                                         |                    |
| 12.2. Persistence and degradability:                                                             |           | 28d  | 0      | %    | activated sludge  | OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))                         |                    |
| 12.3. Bioaccumulative potential:                                                                 | BCF       |      | 200    |      |                   |                                                                                          | Not to be expected |
| Toxicity to bacteria:                                                                            | EC50      | 3h   | >100   | mg/l | activated sludge  | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) |                    |

| Talc                                     |          |      |       |      |                   |             |                                        |
|------------------------------------------|----------|------|-------|------|-------------------|-------------|----------------------------------------|
| Toxicity / effect                        | Endpoint | Time | Value | Unit | Organism          | Test method | Notes                                  |
| 12.1. Toxicity to fish:                  | LC50     | 96h  | 100   | g/l  | Brachydanio rerio |             |                                        |
| 12.2. Persistence and degradability:     |          |      |       |      |                   |             | Not relevant for inorganic substances. |
| 12.5. Results of PBT and vPvB assessment |          |      |       |      |                   |             | No PBT substance, No vPvB substance    |
| Water solubility:                        |          |      | <0,1  | %    |                   |             |                                        |

| 4,4'-methylenediphenyl diisocyanate |           |      |       |      |                   |                                                  |                      |
|-------------------------------------|-----------|------|-------|------|-------------------|--------------------------------------------------|----------------------|
| Toxicity / effect                   | Endpoint  | Time | Value | Unit | Organism          | Test method                                      | Notes                |
| 12.1. Toxicity to fish:             | LC50      | 96h  | >1000 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test)             | Analogous conclusion |
| 12.1. Toxicity to daphnia:          | EC50      | 24h  | >1000 | mg/l | Daphnia magna     | OECD 202 (Daphnia sp. Acute Immobilisation Test) | Analogous conclusion |
| 12.1. Toxicity to daphnia:          | NOEC/NOEL | 21d  | >10   | mg/l | Daphnia magna     | OECD 211 (Daphnia magna Reproduction Test)       | Analogous conclusion |

|                                          |           |     |           |           |                         |                                                                                          |                                                                                                                                                                                                                                                                                          |
|------------------------------------------|-----------|-----|-----------|-----------|-------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12.1. Toxicity to algae:                 | ErC50     | 72h | >1640     | mg/l      | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test)                                                  | Analogous conclusion                                                                                                                                                                                                                                                                     |
| 12.2. Persistence and degradability:     |           | 28d | 0         | %         |                         | OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))                         | Not biodegradable, With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide) ., According to experience available to date, polycarbamide is inert and non-degradable., Analogous conclusion |
| 12.3. Bioaccumulative potential:         | Log Pow   |     | 4,51-5,22 |           |                         |                                                                                          | A notable biological accumulation potential has to be expected (LogPow > 3).                                                                                                                                                                                                             |
| 12.3. Bioaccumulative potential:         | BCF       | 28d | 200       |           | Cyprinus caprio         | IUCLID Chem. Data Sheet (ESIS)                                                           | Not to be expected                                                                                                                                                                                                                                                                       |
| 12.4. Mobility in soil:                  | H (Henry) |     | 0,0229    | Pa*m3/mol |                         |                                                                                          |                                                                                                                                                                                                                                                                                          |
| 12.5. Results of PBT and vPvB assessment |           |     |           |           |                         |                                                                                          | No PBT substance, No vPvB substance                                                                                                                                                                                                                                                      |
| Toxicity to bacteria:                    | EC50      | 3h  | >100      | mg/l      | activated sludge        | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | Analogous conclusion                                                                                                                                                                                                                                                                     |
| Other organisms:                         | NOEC/NOEL | 14d | >1000     | mg/kg     | Lactuca sativa          | OECD 208 (Terrestrial Plants, Growth Test)                                               | Analogous conclusion                                                                                                                                                                                                                                                                     |
| Other organisms:                         | NOEC/NOEL | 14d | >1000     | mg/kg     | Avena sativa            | OECD 208 (Terrestrial Plants, Growth Test)                                               | Analogous conclusion                                                                                                                                                                                                                                                                     |

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|                       |           |     |        |       |                      |                                            |                                                                                                                                                                                                                                                |
|-----------------------|-----------|-----|--------|-------|----------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other information:    | AOX       |     |        |       |                      |                                            | Does not contain any organically bound halogens which can contribute to the AOX value in waste water.                                                                                                                                          |
| Other information:    |           |     |        |       |                      |                                            | According to experience available to date, polycarbamide is inert and non-degradable., With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide). |
| Toxicity to annelids: | NOEC/NOEL | 14d | > 1000 | mg/kg | Lumbricus terrestris | OECD 207 (Earthworm, Acute Toxicity Tests) | Analogous conclusion                                                                                                                                                                                                                           |
| Toxicity to annelids: | EC50      | 14d | >1000  | mg/kg | Eisenia foetida      | OECD 207 (Earthworm, Acute Toxicity Tests) | Analogous conclusion                                                                                                                                                                                                                           |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be

allocated under certain circumstances. (2014/955/EU)

08 04 09 waste adhesives and sealants containing organic solvents or other hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

## SECTION 14: Transport information

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## General statements

### Transport by road/by rail (ADR/RID)

|                                   |                |
|-----------------------------------|----------------|
| 14.1. UN number or ID 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 |
| Tunnel restriction code:          | Not applicable |
| Classification code:              | Not applicable |
| LQ:                               | Not applicable |
| Transport category:               | Not applicable |

### Transport by sea (IMDG-code)

|                                   |                |
|-----------------------------------|----------------|
| 14.1. UN number or ID 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 |
| Marine Pollutant:                 | Not applicable |
| EmS:                              | Not applicable |

### Transport by air (IATA)

|                                   |                |
|-----------------------------------|----------------|
| 14.1. UN number or ID 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

Unless specified otherwise, general measures for safe transport must be followed.

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

Non-dangerous material according to Transport Regulations.

## SECTION 15: Regulatory information

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

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!

Regulation (EC) No 1907/2006, Annex XVII

Diphenylmethanediisocyanate, isomeres and homologues

Methylenediphenyl diisocyanate, modified

Methylene diphenyl diisocyanate, modified

4,4'-methylenediphenyl diisocyanate, oligomeric reaction products with .alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate

Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!

Comply with trade association/occupational health regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

## SECTION 16: Other information

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These details refer to the product as it is delivered.  
Employee instruction/training in handling hazardous materials is required.

### Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

| Classification in accordance with regulation (EC) No. 1272/2008 (CLP) | Evaluation method used                             |
|-----------------------------------------------------------------------|----------------------------------------------------|
| Acute Tox. 4, H332                                                    | Classification based on toxicological analyses.    |
| STOT RE 2, H373                                                       | Classification according to calculation procedure. |
| Eye Irrit. 2, H319                                                    | Classification according to calculation procedure. |
| STOT SE 3, H335                                                       | Classification according to calculation procedure. |
| Skin Irrit. 2, H315                                                   | Classification according to calculation procedure. |
| Resp. Sens. 1, H334                                                   | Classification according to calculation procedure. |
| Skin Sens. 1, H317                                                    | Classification according to calculation procedure. |
| Carc. 2, H351                                                         | Classification according to calculation procedure. |

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.

H373 May cause damage to organs through prolonged or repeated exposure by inhalation.

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.

Acute Tox. — Acute toxicity - inhalation

STOT RE — Specific target organ toxicity - repeated exposure

Eye Irrit. — Eye irritation

STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation

Skin Irrit. — Skin irritation

Resp. Sens. — Respiratory sensitization

Skin Sens. — Skin sensitization

Carc. — Carcinogenicity

### Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.

Guidelines for the preparation of safety data sheets as amended (ECHA).

Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).

Safety data sheets for the constituent substances.

ECHA Homepage - Information about chemicals.

GESTIS Substance Database (Germany).

German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).

EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.

National Lists of Occupational Exposure Limits for each country as amended.

Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

### Any abbreviations and acronyms used in this document:

acc., acc. to according, according to

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOX Adsorbable organic halogen compounds

approx. approximately

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TTP90- Component A

Art., Art. no. Article number

ASTM ASTM International (American Society for Testing and Materials)

ATE Acute Toxicity Estimate

BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BSEF The International Bromine Council

CAS Chemical Abstracts Service

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EbCx, EyCx, Eblx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)

EC European Community

ECHA European Chemicals Agency

ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ErCx, EpCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)

etc. et cetera

EU European Union

EVAL Ethylene-vinyl alcohol copolymer

Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

Koc Adsorption coefficient of organic carbon in the soil

Kow octanol-water partition coefficient

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC (Code) International Bulk Chemical (Code)

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

IUPAC International Union for Pure Applied Chemistry

LC50 Lethal Concentration to 50 % of a test population

LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)

Log Koc Logarithm of adsorption coefficient of organic carbon in the soil

Log Kow, Log Pow Logarithm of octanol-water partition coefficient

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships

mg/kg bw mg/kg body weight

mg/kg bw/d, mg/kg bw/day mg/kg body weight/day

mg/kg dw mg/kg dry weight

mg/kg wwt mg/kg wet weight

n.a. not applicable

n.av. not available

n.c. not checked

n.d.a. no data available

NIOSH National Institute for Occupational Safety and Health (USA)

NLP No-longer-Polymer

NOEC, NOEL No Observed Effect Concentration/Level

OECD Organisation for Economic Co-operation and Development

org. organic

OSHA Occupational Safety and Health Administration (USA)

PBT persistent, bioaccumulative and toxic

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TTP90 – Component A

PE Polyethylene

PNEC Predicted No Effect Concentration

ppm parts per million

PVC Polyvinylchloride

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 6/7/8/9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SVHC Substances of Very High Concern

Tel. Telephone

TOC Total organic carbon

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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