

## PUR-Hardener 8419

Version number: 4.1

Revision: 2025-03-27  
Date of issue: 2025-03-27:**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name **PUR-Hardener 8419** **8419a:**  
Product number 8419000210

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

Relevant identified uses Hardener for solvent-based coating materials;  
for industrial or professional end-uses.  
Uses advised against Do not use for private purposes (household).

**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

ADLER-Werk Lackfabrik Johann Berghofer GmbH & Co KG  
Bergwerkstraße 22  
A-6130 Schwaz  
Austria

Telephone: +4352426922713  
e-mail: sdb-info@adler-lacke.com

Further information obtainable from: sdb-info@adler-lacke.com

Telephone  
+43 5242 6922-713  
Mon - Thu 07:00 AM - 04:25 PM  
Fri 07:00 AM - 12:15 PM

**1.4 Emergency telephone number**

| Country        | Name                            | Telephone           |
|----------------|---------------------------------|---------------------|
| United Kingdom | Guy's & St Thomas' Poisons Unit | +44 (0)20 7188 0100 |

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

Classification (acc. to GB CLP)

| Hazard class                                                                    | Category | Hazard class and category | Hazard statement |
|---------------------------------------------------------------------------------|----------|---------------------------|------------------|
| flammable liquid                                                                | 3        | Flam. Liq. 3              | H226             |
| skin sensitisation                                                              | 1        | Skin Sens. 1              | H317             |
| specific target organ toxicity - single exposure (respiratory tract irritation) | 3        | STOT SE 3                 | H335             |
| specific target organ toxicity - single exposure (narcotic effects, drowsiness) | 3        | STOT SE 3                 | H336             |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

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### 2.2 Label elements

Labelling (acc. to GB CLP)

- Signal word warning

- Pictograms

GHS02, GHS07



- Hazard statements

H226 Flammable liquid and vapour.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.

- Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P261 Avoid breathing mist/vapours/spray.  
P280 Wear protective gloves/eye protection/face protection.  
P312 Call a POISON CENTRE/doctor/... if you feel unwell.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Supplemental hazard information

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

- Hazardous ingredients for labelling

hexamethylene-1,6-diisocyanate, oligomers, n-butyl acetate, hexamethylene diisocyanate

### 2.3 Other hazards

Keep out of reach of children and do not empty into the drains. Dispose remainders properly (collection of hazardous waste, disposal companies). Empty containers must be entered into the recycling system. The usual safety precautions must be observed during processing of the product.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0,1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

Description of the mixture

Aliphatic polyisocyanate resin in organic solvents.

| Name of substance                         | Identifier           | Wt%       | Classification acc. to GHS                                     |
|-------------------------------------------|----------------------|-----------|----------------------------------------------------------------|
| hexamethylene-1,6-diisocyanate, oligomers | CAS No<br>28182-81-2 | 50 - < 75 | Acute Tox. 4 / H332<br>Skin Sens. 1 / H317<br>STOT SE 3 / H335 |

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| Name of substance          | Identifier                                                                   | Wt%       | Classification acc. to GHS                                                                                                                                   |
|----------------------------|------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | EC No<br>500-060-2<br>931-274-8                                              |           |                                                                                                                                                              |
| n-butyl acetate            | CAS No<br>123-86-4<br><br>EC No<br>204-658-1<br><br>Index No<br>607-025-00-1 | 25 – < 50 | Flam. Liq. 3 / H226<br>STOT SE 3 / H336                                                                                                                      |
| hexamethylene diisocyanate | CAS No<br>822-06-0<br><br>EC No<br>212-485-8<br><br>Index No<br>615-011-00-1 | < 1       | Acute Tox. 4 / H302<br>Acute Tox. 1 / H330<br>Skin Irrit. 2 / H315<br>Eye Irrit. 2 / H319<br>Resp. Sens. 1 / H334<br>Skin Sens. 1 / H317<br>STOT SE 3 / H335 |

| Name of substance                         | Specific Conc. Limits                                           | M-Factors | ATE                            | Exposure route                                 |
|-------------------------------------------|-----------------------------------------------------------------|-----------|--------------------------------|------------------------------------------------|
| hexamethylene-1,6-diisocyanate, oligomers | -                                                               | -         | 11 mg/l/4h<br>1.5 mg/l/4h      | inhalation: vapour<br>inhalation:<br>dust/mist |
| hexamethylene diisocyanate                | Resp. Sens. 1; H334: C ≥ 0.5 %<br>Skin Sens. 1; H317: C ≥ 0.5 % | -         | 959 mg/kg<br>0.124 mg/l<br>/4h | oral<br>inhalation: vapour                     |

### Remarks

For full text of abbreviations: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General notes

Do not leave affected person unattended. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

#### Following skin contact

Take off contaminated clothing. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Do not use any solvents or thinners!.

#### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. Keep at rest. IF SWALLOWED: Immediately call a doctor.

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

Symptoms and effects are not known to date.

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none

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media

Carbon dioxide (CO<sub>2</sub>), BC-powder, Water spray, Alcohol resistant foam, Sand

Unsuitable extinguishing media

Water jet

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

Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Thick smoke may occur in case of a fire. Inhaling the decomposed products may cause serious damage to health. The formation of explosive dust-air-mixtures is possible. Upon contact with air, the vapours may form an explosive mixture. . Combustible.

Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)**5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety. Provision of sufficient ventilation. Control of dust.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

Advice on how to contain a spill

Covering of drains, Fill contaminated material in the original container or any other suitable one and dispose it in accordance with point 13.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

**6.4 Reference to other sections**

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

##### Recommendations

##### - Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

##### - Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

##### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feed-stuffs.

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

##### Managing of associated risks

##### - Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

##### - Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Protect from sunlight.

##### Control of effects

Do not pierce or burn, even after use. Protect from sunlight. Store in a well-ventilated place. Protect from sunlight. . Close the open container carefully and keep it straight to prevent leakage. Store in the original container. Storage temperature of 0 °C/32 °F and up to 50 °C/122 °F.

##### - Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

##### - Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

#### 7.3 Specific end use(s)

See section 16 for a general overview.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

| Occupational exposure limit values (Workplace Exposure Limits) |                 |          |            |           |                          |            |                           |                 |                                |          |              |
|----------------------------------------------------------------|-----------------|----------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|--------------|
| Country                                                        | Name of agent   | CAS No   | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Ceiling-C [ppm] | Ceiling-C [mg/m <sup>3</sup> ] | Notation | Source       |
| EU                                                             | n-butyl acetate | 123-86-4 | IOEL V     | 50        | 241                      | 150        | 723                       |                 |                                |          | 2019/1831/EU |
| GB                                                             | butyl acetate   | 123-86-4 | WEL        | 150       | 724                      | 200        | 966                       |                 |                                |          | EH40/2005    |

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| Occupational exposure limit values (Workplace Exposure Limits) |               |          |            |           |             |            |              |                 |                   |                                          |           |
|----------------------------------------------------------------|---------------|----------|------------|-----------|-------------|------------|--------------|-----------------|-------------------|------------------------------------------|-----------|
| Country                                                        | Name of agent | CAS No   | Identifier | TWA [ppm] | TWA [mg/m³] | STEL [ppm] | STEL [mg/m³] | Ceiling-C [ppm] | Ceiling-C [mg/m³] | Notation                                 | Source    |
| GB                                                             | isocyanates   | 822-06-0 | WEL        |           | 0.02        |            | 0.07         |                 |                   | NCO, ex-C <sub>2</sub> H <sub>3</sub> NO | EH40/2005 |

### Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur  
ex-C<sub>2</sub>H<sub>3</sub>NO except methyl isocyanate  
NCO measured total-NCO (isocyanate)  
STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)  
TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

| Biological limit values |                                                 |                            |          |            |            |           |
|-------------------------|-------------------------------------------------|----------------------------|----------|------------|------------|-----------|
| Country                 | Name of agent                                   | Parameter                  | Notation | Identifier | Value      | Source    |
| GB                      | Isocyanates (applies to HDI, IPDI, TDI and MDI) | isocyanate-derived diamine | crea     | BMGV       | 1 µmol/mol | EH40/2005 |

### Notation

crea creatinine

| Relevant DNELs of components              |            |           |                 |                                    |                   |                         |
|-------------------------------------------|------------|-----------|-----------------|------------------------------------|-------------------|-------------------------|
| Name of substance                         | CAS No     | End-point | Threshold level | Protection goal, route of exposure | Used in           | Exposure time           |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | DNEL      | 0.5 mg/m³       | human, inhalatory                  | worker (industry) | chronic - local effects |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | DNEL      | 1 mg/m³         | human, inhalatory                  | worker (industry) | acute - local effects   |
| hexamethylene diisocyanate                | 822-06-0   | DNEL      | 0.035 mg/m³     | human, inhalatory                  | worker (industry) | chronic - local effects |
| hexamethylene diisocyanate                | 822-06-0   | DNEL      | 0.07 mg/m³      | human, inhalatory                  | worker (industry) | acute - local effects   |

| Relevant PNECs of components              |            |           |                 |                   |                           |                              |
|-------------------------------------------|------------|-----------|-----------------|-------------------|---------------------------|------------------------------|
| Name of substance                         | CAS No     | End-point | Threshold level | Organism          | Environmental compartment | Exposure time                |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | PNEC      | 0.127 mg/l      | aquatic organisms | freshwater                | short-term (single instance) |
| hexamethylene-1,6-diisocyanate,           | 28182-81-2 | PNEC      | 0.013 mg/l      | aquatic organisms | marine water              | short-term (single instance) |

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| Relevant PNECs of components              |            |           |                 |                       |                              |                              |
|-------------------------------------------|------------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance                         | CAS No     | End-point | Threshold level | Organism              | Environmental compartment    | Exposure time                |
| oligomers                                 |            |           |                 |                       |                              |                              |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | PNEC      | 88 mg/l         | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | PNEC      | 266,701 mg/kg   | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | PNEC      | 26,670 mg/kg    | aquatic organisms     | marine sediment              | short-term (single instance) |
| hexamethylene-1,6-diisocyanate, oligomers | 28182-81-2 | PNEC      | 53,183 mg/kg    | terrestrial organisms | soil                         | short-term (single instance) |
| hexamethylene diisocyanate                | 822-06-0   | PNEC      | 0.049 mg/l      | aquatic organisms     | freshwater                   | short-term (single instance) |
| hexamethylene diisocyanate                | 822-06-0   | PNEC      | 0.005 mg/l      | aquatic organisms     | marine water                 | short-term (single instance) |
| hexamethylene diisocyanate                | 822-06-0   | PNEC      | 8.42 mg/l       | aquatic organisms     | sewage treatment plant (STP) | short-term (single instance) |
| hexamethylene diisocyanate                | 822-06-0   | PNEC      | 0.674 mg/kg     | aquatic organisms     | freshwater sediment          | short-term (single instance) |
| hexamethylene diisocyanate                | 822-06-0   | PNEC      | 0.067 mg/kg     | aquatic organisms     | marine sediment              | short-term (single instance) |
| hexamethylene diisocyanate                | 822-06-0   | PNEC      | 0.523 mg/kg     | terrestrial organisms | soil                         | short-term (single instance) |

## 8.2 Exposure controls

### Appropriate engineering controls

General ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Use safety goggle with side protection (EN 166).

#### Skin protection

##### - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Use protective gloves made of butyl rubber as spray protection for short-term work. Material strength: 0.5mm, penetration time  $\geq$  480 min.

##### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

#### Respiratory protection

During spraying wear suitable respiratory equipment. Combination filtering device (EN 141). Particulate filter device (EN 143). Type: A-P2 (combined filters against particles and organic gases and vapours, colour code: Brown/White).

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## Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

|                                                          |                                                  |
|----------------------------------------------------------|--------------------------------------------------|
| Physical state                                           | liquid                                           |
| Colour                                                   | clear                                            |
| Odour                                                    | characteristic                                   |
| Melting point/freezing point                             | <-90 °C                                          |
| Boiling point or initial boiling point and boiling range | 126.2 °C at 1,013 hPa                            |
| Flammability                                             | flammable liquid in accordance with GHS criteria |

## Lower and upper explosion limit

|                             |                                           |
|-----------------------------|-------------------------------------------|
| Lower explosion limit (LEL) | 1.2 vol%                                  |
| Upper explosion limit (UEL) | 10.4 vol%                                 |
| Flash point                 | 29 °C                                     |
| Auto-ignition temperature   | 415 °C                                    |
| pH (value)                  | not determined                            |
| Kinematic viscosity         | 12 – 14 <sup>5</sup> / <sub>DIN 4mm</sub> |

## Solubility(ies)

|                  |                                |
|------------------|--------------------------------|
| Water solubility | not miscible in any proportion |
|------------------|--------------------------------|

## Partition coefficient

|                                                   |                                   |
|---------------------------------------------------|-----------------------------------|
| Partition coefficient n-octanol/water (log value) | this information is not available |
|---------------------------------------------------|-----------------------------------|

|                 |                       |
|-----------------|-----------------------|
| Vapour pressure | 10.15 hPa at 18.49 °C |
|-----------------|-----------------------|

## Density and/or relative density

|                         |                                                         |
|-------------------------|---------------------------------------------------------|
| Density                 | 1.021 <sup>g</sup> / <sub>cm<sup>3</sup></sub> at 20 °C |
| Relative vapour density | information on this property is not available           |

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|                          |                       |
|--------------------------|-----------------------|
| Particle characteristics | not relevant (liquid) |
|--------------------------|-----------------------|

## Other safety parameters

|                      |                                                                                             |
|----------------------|---------------------------------------------------------------------------------------------|
| Explosive properties | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
|----------------------|---------------------------------------------------------------------------------------------|

## 9.2 Other information

|                                                    |                                    |
|----------------------------------------------------|------------------------------------|
| Information with regard to physical hazard classes | there is no additional information |
| Other safety characteristics                       | there is no additional information |

## SECTION 10: Stability and reactivity

## 10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

## 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

## 10.3 Possibility of hazardous reactions

Heating may cause a fire.

## 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## 10.5 Incompatible materials

Oxidisers

## 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

## Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

## Classification acc. to GHS

## Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity estimate (ATE) of components |            |                       |             |
|---------------------------------------------|------------|-----------------------|-------------|
| Name of substance                           | CAS No     | Exposure route        | ATE         |
| hexamethylene-1,6-diisocyanate, oligomers   | 28182-81-2 | inhalation: vapour    | 11 mg/l/4h  |
| hexamethylene-1,6-diisocyanate, oligomers   | 28182-81-2 | inhalation: dust/mist | 1.5 mg/l/4h |

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| Acute toxicity estimate (ATE) of components |          |                    |               |
|---------------------------------------------|----------|--------------------|---------------|
| Name of substance                           | CAS No   | Exposure route     | ATE           |
| hexamethylene diisocyanate                  | 822-06-0 | oral               | 959 mg/kg     |
| hexamethylene diisocyanate                  | 822-06-0 | inhalation: vapour | 0.124 mg/l/4h |

**Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

**Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

**Carcinogenicity**

Shall not be classified as carcinogenic.

**Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**

May cause respiratory irritation. May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

**Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

**Other information**

Repeated exposure may cause skin dryness or cracking.

**SECTION 12: Ecological information****12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Endocrine disrupting properties**

Not listed.

**12.7 Other adverse effects**

Data are not available.

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## Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

## Waste treatment of containers/packages

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Relevant provisions relating to waste**

## List of wastes

- Product  
08 05 01\* waste isocyanates
- Product residues  
15 01 10\* packaging containing residues of or contaminated by hazardous substances
- Packagings  
15 01 02 plastic packaging  
15 01 04 metallic packaging

## Disposal methods:

## Product

Waste production should be avoided or minimised if possible.

Do not empty into the drains. Avoid releasing the product into the environment. Waste, containers must be removed, disposed in a safe way.

## Packagings

Waste production should be avoided or minimised if possible.

Packaging waste should be recycled. Burning or landfilling should only be considered if recycling is not feasible.

## Notes on disposal:

## Product

Disposal of this product and its dissolutions and by-products must be carried out in accordance with the environmental protection requirements and waste disposal laws as well as the requirements of the local authorities at all times. Excess must be handed over, disposed to a recognised waste disposal company (disposal company/recycling company).

## Packagings

With the aid of the information provided in this safety data sheet, the responsible authorities must be consulted regarding classification of empty containers, packaging. Empty containers should be disposed, recycled according to type. Licenced containers, packaging can be disposed free of charge via system partners, where applicable. Containers with residual contents must be disposed in accordance with local and national legal provisions.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

**SECTION 14: Transport information****14.1 UN number**

|           |         |
|-----------|---------|
| ADR/RID   | UN 1123 |
| IMDG-Code | UN 1123 |
| ICAO-TI   | UN 1123 |

**14.2 UN proper shipping name**

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|           |                |
|-----------|----------------|
| ADR/RID   | BUTYL ACETATES |
| IMDG-Code | BUTYL ACETATES |
| ICAO-TI   | Butyl acetates |

**14.3 Transport hazard class(es)**

|           |   |
|-----------|---|
| ADR/RID   | 3 |
| IMDG-Code | 3 |
| ICAO-TI   | 3 |

**14.4 Packing group**

|           |     |
|-----------|-----|
| ADR/RID   | III |
| IMDG-Code | III |
| ICAO-TI   | III |

**14.5 Environmental hazards**

non-environmentally hazardous acc. to the dangerous goods regulations

**14.6 Special precautions for user**

Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations****Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information**

|                     |    |
|---------------------|----|
| Classification code | F1 |
| Danger label(s)     | 3  |



|                               |     |
|-------------------------------|-----|
| Excepted quantities (EQ)      | E1  |
| Limited quantities (LQ)       | 5 L |
| Transport category (TC)       | 3   |
| Tunnel restriction code (TRC) | D/E |
| Hazard identification No      | 30  |
| Emergency Action Code         | 3Y  |

**Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information**

|                     |    |
|---------------------|----|
| Classification code | F1 |
| Danger label(s)     | 3  |



|                          |     |
|--------------------------|-----|
| Excepted quantities (EQ) | E1  |
| Limited quantities (LQ)  | 5 L |

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Transport category (TC) 3  
Hazard identification No 30

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant -  
Danger label(s) 3



Special provisions (SP) 223  
Excepted quantities (EQ) E1  
Limited quantities (LQ) 5 L  
EmS F-E, S-D  
Stowage category A

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 3



Special provisions (SP) A3  
Excepted quantities (EQ) E1  
Limited quantities (LQ) 10 L

## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

##### Seveso Directive

| 2012/18/EU (Seveso III) |                                       |                                                                                       |       |
|-------------------------|---------------------------------------|---------------------------------------------------------------------------------------|-------|
| No                      | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
| P5c                     | flammable liquids (cat. 2, 3)         | 5,000 50,000                                                                          | 51)   |

#### Notation

51) flammable liquids, categories 2 or 3 not covered by P5a and P5b

##### Deco-Paint Directive (2004/42/EC)

|             |                    |
|-------------|--------------------|
| VOC content | 44.05 %<br>450 g/l |
|-------------|--------------------|

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|             |                      |
|-------------|----------------------|
| VOC content | 44.05 %<br>449.6 g/l |
|-------------|----------------------|

**Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)**

none of the ingredients are listed

**Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

none of the ingredients are listed

**Water Framework Directive (WFD)**

none of the ingredients are listed

**Regulation on the marketing and use of explosives precursors**

none of the ingredients are listed

**Regulation on drug precursors**

none of the ingredients are listed

**Regulation on persistent organic pollutants (POP)**

none of the ingredients are listed

**National regulations (GB)****Restrictions according to GB REACH, Annex 17**

none of the ingredients are listed

| Dangerous substances with restrictions (GB REACH, Annex 17) |                                                                                                  |        |    |
|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------|----|
| Name of substance                                           | Name acc. to inventory                                                                           | CAS No | No |
| PUR-Hardener 8419                                           | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC |        | 3  |

**15.2 Chemical Safety Assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Indication of changes (revised safety data sheet)**

| Section | Former entry (text/value) | Actual entry (text/value)                                                                                    | Safety-relevant |
|---------|---------------------------|--------------------------------------------------------------------------------------------------------------|-----------------|
| 3.2     |                           | Description of the mixture:<br>change in the listing (table)                                                 | yes             |
| 16      |                           | Abbreviations and acronyms:<br>change in the listing (table)                                                 | yes             |
| 16      |                           | List of relevant phrases (code and full text as stated in section 2 and 3):<br>change in the listing (table) | yes             |

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### Abbreviations and acronyms

| Abbr.        | Descriptions of used abbreviations                                                                                                                                                    |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2019/1831/EU | Commission Directive establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC   |
| Acute Tox.   | Acute toxicity                                                                                                                                                                        |
| ADR          | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)                         |
| ATE          | Acute Toxicity Estimate                                                                                                                                                               |
| CAS          | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)                                                                                |
| Ceiling-C    | Ceiling value                                                                                                                                                                         |
| DGR          | Dangerous Goods Regulations (see IATA/DGR)                                                                                                                                            |
| DNEL         | Derived No-Effect Level                                                                                                                                                               |
| EC No        | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)     |
| ED           | Endocrine disruptor                                                                                                                                                                   |
| EH40/2005    | EH40/2005 Workplace exposure limits ( <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/">http://www.nationalarchives.gov.uk/doc/open-government-licence/</a> ) |
| EINECS       | European Inventory of Existing Commercial Chemical Substances                                                                                                                         |
| ELINCS       | European List of Notified Chemical Substances                                                                                                                                         |
| EmS          | Emergency Schedule                                                                                                                                                                    |
| Eye Dam.     | Seriously damaging to the eye                                                                                                                                                         |
| Eye Irrit.   | Irritant to the eye                                                                                                                                                                   |
| Flam. Liq.   | Flammable liquid                                                                                                                                                                      |
| GB CLP       | The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)                            |
| GB REACH     | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)                                                                                                  |
| GHS          | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations                                                                             |
| IATA         | International Air Transport Association                                                                                                                                               |
| IATA/DGR     | Dangerous Goods Regulations (DGR) for the air transport (IATA)                                                                                                                        |
| ICAO         | International Civil Aviation Organization                                                                                                                                             |
| ICAO-TI      | Technical instructions for the safe transport of dangerous goods by air                                                                                                               |
| IMDG         | International Maritime Dangerous Goods Code                                                                                                                                           |
| IMDG-Code    | International Maritime Dangerous Goods Code                                                                                                                                           |
| index No     | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008                                                              |
| IOELV        | Indicative occupational exposure limit value                                                                                                                                          |
| NLP          | No-Longer Polymer                                                                                                                                                                     |
| PBT          | Persistent, Bioaccumulative and Toxic                                                                                                                                                 |
| PNEC         | Predicted No-Effect Concentration                                                                                                                                                     |
| ppm          | Parts per million                                                                                                                                                                     |
| Resp. Sens.  | Respiratory sensitisation                                                                                                                                                             |

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| Abbr.       | Descriptions of used abbreviations                                                                                                                                      |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RID         | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| Skin Corr.  | Corrosive to skin                                                                                                                                                       |
| Skin Irrit. | Irritant to skin                                                                                                                                                        |
| Skin Sens.  | Skin sensitisation                                                                                                                                                      |
| STEL        | Short-term exposure limit                                                                                                                                               |
| STOT SE     | Specific target organ toxicity - single exposure                                                                                                                        |
| TWA         | Time-weighted average                                                                                                                                                   |
| VOC         | Volatile Organic Compounds                                                                                                                                              |
| vPvB        | Very Persistent and very Bioaccumulative                                                                                                                                |
| WEL         | Workplace exposure limit                                                                                                                                                |

**Key literature references and sources for data**

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended). The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended). GB mandatory classification and labelling.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

**Classification procedure**

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

**List of relevant phrases (code and full text as stated in section 2 and 3)**

| Code | Text                                                                       |
|------|----------------------------------------------------------------------------|
| H226 | Flammable liquid and vapour.                                               |
| H302 | Harmful if swallowed.                                                      |
| H315 | Causes skin irritation.                                                    |
| H317 | May cause an allergic skin reaction.                                       |
| H319 | Causes serious eye irritation.                                             |
| H330 | Fatal if inhaled.                                                          |
| H332 | Harmful if inhaled.                                                        |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation.                                          |
| H336 | May cause drowsiness or dizziness.                                         |

**Note concerning the lower explosion limit of water-thinnable varnishes:**

See PTB research report PEx5 200500185, Physical-Technical Federal Agency Braunschweig, September 2005 and report PTB-W-57, February 1994.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.