SENTINEL HOLDING
INSTITUT

# SHI PRODUCT PASSPORT

**Find products. Certify buildings.**

SHI Product Passport No.:

**15083-10-1008**

# NORIT-TE-Klebstoff

Product group: Glues

NORIT

Lindner GFT GmbH
Lange Länge 5
97337 Dettelbach

## Product qualities:

QNG
Qualitätssiegel Nachhaltiges Gebäude

DGNB
NEW CONSTRUCTION
2023

DGNB
NEW CONSTRUCTION
2018

EU
taxonomy

CERTIFIED SUSTAINABLE PRODUCT
SHI PRODUCT PASSPORT
SENTINEL HOLDING INSTITUT
www.sentinel-holding.eu

Köttner

**Helmut Köttner**
Scientific Director
Freiburg, 22 January 2026

Product:
**NORIT-TE-Klebstoff**

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The SHI Database is the first and only database for construction products whose comprehensive processes and data accuracy are regularly verified by the independent auditing company SGS-TÜV Saar

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# QNG - Qualitätssiegel Nachhaltiges Gebäude

The Qualitätssiegel Nachhaltiges Gebäude (Quality Seal for Sustainable Buildings), developed by the German Federal Ministry for Housing, Urban Development and Building (BMWSB), defines requirements for the ecological, socio-cultural, and economic quality of buildings. The Sentinel Holding Institut evaluates construction products in accordance with QNG requirements for certification and awards the QNG ready label. Compliance with the QNG standard is a prerequisite for eligibility for the KfW funding programme. For certain product groups, the QNG currently has no specific requirements defined. Although classified as not assessment-relevant, these products remain suitable for QNG-certified projects.

| Criteria | Pos. / product group | Considered substances | QNG assessment |
|---|---|---|---|
| 3.1.3 Schadstoffvermeidung in Baumaterialien | 4.2 On-site applied adhesives and sealants based on PU | VOC / Emissions / hazardous substances / chlorinated paraffins / polybrominated biphenyls (PBB) / polybrominated diphenyl ethers (PBDE) / SVHC | QNG ready |

**Verification:** Herstellererklärung Fa. Lindner vom 14.09.2023.

Product:
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# DGNB New Construction 2023

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings. The 2023 version sets high standards for ecological, economic, socio-cultural, and functional aspects throughout the entire life cycle of a building.

| Criteria | No. / Relevant building components / construction materials / surfaces | Considered substances / aspects | Quality level |
|---|---|---|---|
| ENV 1.2 Local environmental impact, 03.05.2024 (3rd edition) | 46 PU system adhesive | Solvent | Quality level 4 |
| **Verification:** Herstellererklärung Fa. Lindner vom 14.09.2023 | | | |

| Criteria | No. / Relevant building components / construction materials / surfaces | Considered substances / aspects | Quality level |
|---|---|---|---|
| ENV 1.2 Local environmental impact, 29.05.2025 (4th edition) | 46 PU system adhesive | Solvent | Quality level 4 |
| **Verification:** Herstellererklärung Fa. Lindner vom 14.09.2023 | | | |

Product:
**NORIT-TE-Klebstoff**

SHI Product Passport no.:
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# DGNB New Construction 2018

The DGNB System (German Sustainable Building Council) assesses the sustainability of various types of buildings. It can be applied to both large-scale private and commercial projects as well as smaller residential buildings.

| Criteria | No. / Relevant building components / construction materials / surfaces | Considered substances / aspects | Quality level |
|---|---|---|---|
| ENV 1.2 Local environmental impact | 46 PU system adhesive | Solvents | Quality level 4 |
| **Verification:** Herstellererklärung Fa. Lindner vom 14.09.2023 | | | |

Product:
**NORIT-TE-Klebstoff**

SHI Product Passport no.:
**15083-10-1008**

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# EU taxonomy

The EU Taxonomy classifies economic activities and products according to their environmental impact. At the product level, the EU regulation defines clear requirements for harmful substances, formaldehyde and volatile organic compounds (VOCs). The Sentinel Holding Institut GmbH labels qualified products that meet this standard.

| Criteria | Product type | Considered substances | Assessment |
|---|---|---|---|
| DNSH - Pollution prevention and control | | Substances according to Annex C | EU taxonomy compliant |
| **Verification:** Sicherheitsdatenblatt vom 11.07.2025 | | | |

Product:
**NORIT-TE-Klebstoff**

SHI Product Passport no.:
**15083-10-1008**

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# Product labels

In the construction industry, high-quality materials are crucial for a building's indoor air quality and sustainability. Product labels and certificates offer guidance to meet these requirements. However, the evaluation criteria of these labels vary, and it is important to carefully assess them to ensure products align with the specific needs of a construction project.


Products bearing the Sentinel Holding Institute QNG-ready seal are suitable for projects aiming to achieve the "Qualitätssiegel Nachhaltiges Gebäude" (Quality Seal for Sustainable Buildings). QNG-ready products meet the requirements of QNG Appendix Document 3.1.3, "Avoidance of Harmful Substances in Building Materials." The KfW loan program Climate-Friendly New Construction with QNG may allow for additional funding.

Product:
**NORIT-TE-Klebstoff**

SHI Product Passport no.:
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# Legal notices

(*) These criteria apply to the construction project as a whole. While individual products can positively contribute to the overall building score through proper planning, the evaluation is always conducted at the building level. The information was provided entirely by the manufacturer.

**Find our criteria here: https://www.sentinel-holding.eu/de/Themenwelten/Pr%C3%BCfkriterien%20f%C3%BCr%20Produkte**

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SGS TÜV SAAR

## Publisher

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79111 Freiburg im Breisgau
Germany
Tel.: +49 761 590 481-70
info@sentinel-holding.eu
www.sentinel-holding.eu

# 1 Identification oft he substance/mixture and of the company/undertaking

## 1.1 Product identifier:

**NORIT-TE-Klebstoff**

**Item Part No.:** **00600506**

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

**Relevant identified uses of the substance or mixture:** **Adhesive**

**Uses advised against:** **No information available at present.**

## 1.3 Manufacturer/supplier

**Lindner GFT GmbH**
**Lange Länge 5**
**D-97337 Dettelbach**

**Phone:** **+49 9324 309-5000**
**Mail:** **NORIT@Lindner-Group.com**

## 1.4 Environmental officer/ Emergency telephone number

**Umweltbeauftragter: Bernhard Stömmer**

**Telefon: +49 8723 20-0**

**E-Mail: Sicherheitsdatenblatt@Lindner-Group.com**

**Erreichbarkeit: Mo.-Fr. 08.00 Uhr bis 17.00 Uhr**

**Constant availability**

# 2 Hazards identification

## 2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008 (CLP)

| Hazard class: | Hazard category | Hazard statement |
|---|---|---|
| Eye Irrit. | 2 | H319-Causes serious eye irritation. |
| STOT SE | 3 | H335-May cause respiratory irritation. |


continued on page 2

| | | |
|---|---|---|
| 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. |
| STOT RE | 2 | H373-May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system). |
| Carc. | 2 | H351-Suspected of causing cancer. |

## 2.2 Label elements

**Labelling according to Regulation (EC) 1272/2008 (CLP)**

**Danger**

**Hazard-determining components of labelling:** Diphenylmethandiisocyanate, isomeres and homologues; 4,4`-methylenediphenyldiisocyanate, o-(p-isocyanatobenzyl)phenyl isocyanate, 2,2`-methylenediphenyldiisocyanate

**Hazard statements:**

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.
H373 May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system).
H351 Suspected of causing cancer.

**Precautionary statements:**


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**P101 If medical advice is needed, have product container or label at hand.**
**P102 Keep out of reach of children.**
**P201 Obtain special instructions before use.**
**P260 Do not breathe vapours or spray.**
**P271 Use only outdoors or in a well-ventilated area.**
**P280 Wear protective gloves / protective clothing / eye protection / face protection.**
**P284 Wear respiratory protection.**
**P302+P352 IF ON SKIN: Wash with plenty of water / soap.**
**P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.**
**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**
**P308+P313 IF exposed or concerned: Get medical advice / attention.**
**P405 Store locked up.**
**P501 Dispose of contents / container to an approved waste disposal facility.**
**EUH204 Contains isocyanates. May produce an allergic reaction.**

**Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.**
**This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.**

### 2.3 Other hazards

**The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII oft he regulation (EC) 1907/2006 (<0,1 %).**

**The mixture does not contain PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII oft the regulation (EC) 1907/2006 (<0,1 %).**

## 3 Composition/information on ingredients

### 3.1 Substance

**n.d.a.**

### 3.2 Mixture

| Diphenylmethandiisocyanate, isomeres und homologues | |
|---|---|
| Registration number (REACH) | — |
| Index | — |
| EINECS, ELINCS, NLP | — |


continued on page 4

| | |
|---|---|
| **CAS** | **9016-87-9** |
| **content %** | **25<50** |
| **Classification according to CLP** | **Acute Tox. 4, H332**<br>**Eye Irrit. 2, H319**<br>**STOT SE 3, H335**<br>**Skin Irrit. 2, H315**<br>**Resp. Sens. 1, H334**<br>**Skin Sens. 1, H317**<br>**Carc. 2, H351**<br>**STOT RE 2, H373** |
| **4,4´-methylendiphenyldiisocyanate** | |
| **Registration number (REACH)** | **01-2119457014-47-XXXX** |
| **Index** | **615-005-00-9** |
| **EINECS, ELINCS, NLP** | **202-966-0** |
| **CAS** | **101-68-8** |
| **content %** | **1-10** |
| **Classification according to CLP** | **Carc. 2, H351**<br>**Acute Tox. 4, H332**<br>**STOT RE 2, H373**<br>**Eye Irrit. 2, H319**<br>**STOT SE 3, H335**<br>**Skin Irrit. 2, H315**<br>**Resp. Sens. 1, H334**<br>**Skin Sens. 1, H317** |
| | |
| **o-(p-isocyanatobenzyl)phenyl isocyanate** | |
| **Registration number (REACH)** | **01-2119480143-45-XXXX** |
| **Index** | **615-005-00-9** |
| **EINECS, ELINCS, NLP** | **227-534-9** |
| **CAS** | **5873-54-1** |
| **content %** | **1-5** |
| **Classification according to CLP** | **Carc. 2, H351**<br>**Acute Tox. 4, H332**<br>**STOT RE 2, H373**<br>**Eye Irrit. 2, H319**<br>**STOT SE 3, H335**<br>**Skin Irrit. 2, H315**<br>**Resp. Sens. 1, H334**<br>**Skin Sens. 1, H317** |
| **Propylene carbonate** | |
| **Registration number (REACH)** | **01-2119537232-48-XXXX** |
| **Index** | **607-194-00-1** |
| **EINECS, ELINCS, NLP** | **203-572-1** |


continued on page 5

| | |
|---|---|
| CAS | 108-32-7 |
| content % | 1-5 |
| Classification according to CLP | Eye Irrit. 2, H319 |
| **2,2´-methylendiphenyldiisocyanate** | |
| Registration number (REACH) | 01-2119927323-43-XXXX |
| Index | 615-005-00-9 |
| EINECS, ELINCS, NLP | 219-799-4 |
| CAS | 2536-05-2 |
| content % | 0,01 - < 1 |
| Classification according to CLP | Carc. 2, H351<br>Acute Tox. 4, H332<br>STOT RE 2, H373<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Skin Irrit. 2, H315<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317 |

**Additional information:** 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.

# 4 First aid measures

## 4.1 Description of first aid measures

**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 position and consult a doctor. Respiratory arrest – Artificial respiration apparatus necessary.

**Skin contact:** Wipe off residual product carefully with a soft, dry cloth. Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor. Dab away with polyethylene glycol 400.


continued on page 6

| | |
|---|---|
| **Eye contact:** | **Remove contact lenses. Wash thoroughly for several minutes using copious water – call doctor immediately, have Data Sheet available.** |
| **Ingestion:** | **Rinse the mouth thoroughly with water. Do not induce vomitting – give copious water to drink. Consult doctor immediately. Never pour anything into the mouth of an unconcious person.** |

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

**If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1. The following may occur:**
**Dermatitis (skin inflammation) Drying of the skin.**
**Allergic contact eczema Discoloration of the skin**
**Irritant to mucosa of the nose and throat**
**Coughing**
**Headaches**
**Effect on the central nervous system**
**Asthmatic symptoms**
**In case of sensitivity, concentrations below the limit value may already result in asthmatic symptoms. Respiratory distress**
**In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.**

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

**In case of irritation of the lungs, perform first-aid with controlled-dosage aerosol dexamethasone. Medical supervision necessary due to possibility of delayed reaction.**

## 5 Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing media: $CO_2$, extinction powder, foam, water jet spray.**

**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 nitrogen**

**Oxides of carbon**


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Isocyanates

Hydrocyanic acid

**5.3 Advice for firefighters**

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

Protective respirator with independent air supply

## 6 Accidental release measures

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

Ensure sufficient supply of air.
Avoid inhalation and contact with eyes or skin.
If applicable, caution – risk of slipping.

**6.2 Environmental precautions**

If leakage occurs, dam up. Prevent from entering drainage system.
Resolve leaks if this possible without risk.
Prevent surface and ground water infiltration, as well as ground penetration.

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

Soak up with absorbent material (universal binding agent, sand, saw-dust). Provide enough ventilation. Do not close packing drum.

**6.4 Reference to other sections**

For safe handling see Section 7. For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## 7 Handling and storage


continued on page 8

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

### 7.1. Precautions for safe handling

**7.1.1 General recommendations**

**Ensure good ventilation. Avoid inhalation of the vapours. Avoid contact with eyes or skin. Eating, drinking, smoking, as well as food-storage is prohibited in workplace. 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.**

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

**Keep out of access to unauthorised individuals. Note to be stored in gangways or stair wells. Store product closed and only in original packing. Keep protected from direct sunlight and temperatures over 50°C. Only store at temperatures from 15°C to 25°C.**

### 7.3 Specific end use(s)

**Adhesive**

## 8 Exposure controls/personal protection

### 8.1 Control parameters

| | | | |
|---|---|---|---|
| | **Chemical Name** | Diphenylmethanediisocyanate, isomeres and homologues | Content %:25 ≤ 50 |
| WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO)) | WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO)) | --- | |
| Monitoring procedures: --- | | | |
| BMGV: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task) | Other information: Sen (Isocyanates, all (as -NCO)) | | |


continued on page 9

GB

| Chemical Name | 4,4'-methylenediphenyl diisocyanate | Content %:1-10 |
|---|---|---|

| | | |
|---|---|---|
| WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO)) | WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO)) | --- |
| Monitoring procedures: ISO 16702 (Workplace air quality – determination of total isocyanate groups in air using 2-(1-methoxyphenylpiperazine and<br><br>- liquid chromatography) - 2001<br><br>MDHS 25/3 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1- methoxyphenylpiperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) - 1999 -<br><br>- EU project BC/CEN/ENTR/000/2002-16 card 7-4 (2004) | | |
| BMGV: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task) | Other information: Sen (Isocyanates, all (as -NCO)) | |

GB

| Chemical Name | o-(p-isocyanatobenzyl)phenyl isocyanate | Content %:1-5 |
|---|---|---|

| | | |
|---|---|---|
| WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO)) | WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO)) | --- |
| Monitoring procedures: --- | | |
| BMGV: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task) | Other information: Sen (Isocyanates, all (as -NCO)) | |

GB

| Chemical Name | 2,2'-methylenediphenyl diisocyanate | Content %: 0,01 ≤ 1 |
|---|---|---|

| | | |
|---|---|---|
| WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO)) | WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO)) | --- |
| Monitoring procedures: --- | | |
| BMGV: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task) | Other information: Sen (Isocyanates, all (as -NCO)) | |

GB

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period)

BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage. ** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

## 8.2 Exposure controls

| 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 | |


continued on page 10

| | | | | | | |
|---|---|---|---|---|---|---|
| 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 | |

**4,4'-methylenediphenyl diisocyanate**

| 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 - soil | | PNEC | 1 | mg/kg dw | |
| | Environment - sewage treatment plant | | PNEC | 1 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 10 | mg/l | |
| Consumer | Human - dermal | Short term, systemic effects | DNEL | 25 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, systemic effects | DNEL | 0,05 | mg/m3 | |
| Consumer | Human - oral | Short term, systemic effects | DNEL | 20 | mg/kg bw/d | |
| Consumer | Human - dermal | Short term, local effects | DNEL | 17,2 | mg/cm2 | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 0,05 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 0,025 | mg/m3 | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 0,025 | mg/m3 | |
| Workers / employees | Human - dermal | Short term, systemic effects | DNEL | 50 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 0,1 | mg/m3 | |
| Workers / employees | Human - dermal | Short term, local effects | DNEL | 28,7 | mg/cm2 | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 0,1 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 0,05 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 0,05 | mg/m3 | |

**o-(p-isocyanatobenzyl)phenyl isocyanate**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|


continued on page 11

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

**2,2'-methylenediphenyl diisocyanate**

| 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 - soil | | PNEC | 1 | mg/kg | |
| | Environment - sewage treatment plant | | PNEC | 1 | mg/l | |
| Consumer | Human - dermal | Short term, systemic effects | DNEL | 25 | mg/kg body weight/day | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 0,05 | mg/kg | |
| Consumer | Human - oral | Short term, systemic effects | DNEL | 20 | mg/kg body weight/day | |
| Consumer | Human - dermal | Short term, local effects | DNEL | 17,2 | mg/cm2 | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 0,05 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 0,025 | mg/m3 | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 0,025 | mg/m3 | |


continued on page 12

| | | | | | | |
|---|---|---|---|---|---|---|
| Workers / employees | Human - dermal | Short term, systemic effects | DNEL | 50 | mg/kg | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 0,1 | mg/m3 | |
| Workers / employees | Human - dermal | Short term, local effects | DNEL | 28,7 | mg/cm2 | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 0,1 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 0 | mg/kg | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 0,05 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, local effects | DNEL | 0 | mg/kg | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 0,05 | mg/m3 | |

**Propylene carbonate**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| | Environment - sporadic (intermittent) release | | PNEC | 9 | mg/l | |
| | Environment - marine | | PNEC | 0,09 | mg/l | |
| | Environment - sediment, marine | | PNEC | 0,083 | mg/l | |
| | Environment - soil | | PNEC | 0,81 | mg/l | |
| | Environment - freshwater | | PNEC | 0,9 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 0,83 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 7400 | mg/l | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 25 | mg/kg | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 25 | mg/kg | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 10 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 43,5 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 176 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 50 | mg/kg | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 20 | mg/m3 | |

## 8.2.1 Appropiate 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 meth-**


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ods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. EN 14042.
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 with chemicals are applicable. Keep away from food, drink and feedingstuff. Remove contaminated chlothing. Wash hands before breaks and at the end of work.

| | |
|---|---|
| Eye/face protection | Tight fitting protective goggles with side protection (EN 166). |
| Skin protection – Hand protection | Chemical resistant protective gloves (EN 374). Protective nitrile gloves (EN 374), minimum layer thickness ≥ 0,35 mm, permeation time ≥ 480 min. Protective hand cream recommended. The exact breakthrough time of the glove material can be obtained directly at the producer. |
| Skin protection - Other | Protective working garments. |
| Respiratory protection | Normally not necessary. If OES or MEL is exceeded: use Filter A2 P2 EN( 14387). |
| Thermal hazards | Not applicable. |

**8.2.3 Environmental exposure controls**

No information available at present.


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## 9 Physical and chemical properties

| | |
|---|---|
| **Physical state:** | **Vicous** |
| **Colour:** | **Amber** |
| **Odour:** | **Characteristic** |
| **Odour threshold:** | **Not determined** |
| **ph-value:** | **Not determined** |
| **Melting point / freezing point:** | **Not determined** |
| **Initial boiling point and boling range:** | **240 °C** |
| **Flash point:** | **111 °C** |
| **Evaporation rate:** | **Not determined** |
| **Flammability (solid, gas):** | **Not determined** |
| **Lower / upper limit:** | **Not determined** |
| **Vapour pressure / density:** | **Not determined** |
| **Density:** | **1,12 – 1,16 g/cm³ (20°C)** |
| **Viscocity** | **~ 6000 mPas** |
| **Decomposition temperature:** | **Not determined** |
| **Auto-ignition temperature:** | **Not determined** |
| **Explosive properties:** | **Product is not explosive.** |
| **Water solubility:** | **Insoluble** |
| **Partition coefficient (n-Octanol/Wasser):** | **Not determined** |

## 10 Stability and reactivity

| | |
|---|---|
| **10.1 Reactivity** | **Reacts with water.** |
| **10.2 Chemical stability** | **Stable with proper storage and handling.** |
| **10.3 Possibility of hazardous reactions** | |
| **Exothermic reaction possible with:** | **Alcohols, amines, bases, acids, water.** |
| **Development of:** | **Carbon dioxide.** |
| **10.4 Conditions to avoid** | **Protect from humidity, polymerisation due to high heat is possible. See also section 7.** |


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**10.5 Incompatible materials** — Acids, bases, alcohols, amines, water. See also section 7.

**10.6 Hazardous decomposition products** — See section 5.2. No decomposition when used as directed.

# 11 Toxicological information

## 11.1 Information on toxicological effects

**NORIT-TE-Klebstoff**

| 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 | >20 | mg/l/4h | | | calculated value, Vapours |
| 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. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target org an 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. |
| Other information: | | | | | | Classification according to calculation procedure |

**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 |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Mild irritant |


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| | | | | | | |
|---|---|---|---|---|---|---|
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Sensitising (skin contact) |
| Germ cell mutagenicity: | | | | | OECD 474 (Mammalian Erythrocyte Micronucleus Test) | Negative |
| Carcinogenicity: | | 1 | mg/m3 | Rat | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Positive |
| Reproductive toxicity: | NOAE L | 12 | mg/m3 | Rat | OECD 414( Prenatal Developmental Toxicity Study) | Negative, Aerosol |
| Reproductive toxicity (Developmental toxicity): | | 4 | | 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 |
| 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, oedema of the lungs, chemical pneumonitis (condition similar to pneumonia), abdominal pain, diarrhoea |
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: | | | | | | Target organ(s): respiratory organs, May cause respiratory irritation |

**4,4'-methylenediphenyl diisocyanate**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | >2000 | mg/kg | Rat | | |
| Acute toxicity, by oral route: | LD50 | >2000 | mg/kg | Rat | Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY) | |
| Acute toxicity, by dermal route: | LD50 | >9400 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | 0,368 | mg/l/4h | Rat | OECD 403 (Acute Inhalation Toxicity) | Does not conform with EU classification |
| Acute toxicity, by inhalation: | LC50 | >2,24 | mg/l/4h | Rat | OECD 403 (Acute Inhalation Toxicity) | Aerosol |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Irritant, Analogous conclusion |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Irritant, Analogous conclusion |
| Respiratory or skin sensitisation: | | | | Mouse | OECD 429 (Skin Sensitisation - Local Lymph Node Assay) | Yes (skin contact), Analogous conclusion |
| Respiratory or skin sensitisation: | | | | Mouse | OECD 429 (Skin Sensitisation - Local Lymph Node Assay) | Yes (inhalation and skin contact), Analogous conclusion |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Negative |



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| | | | | | | |
|---|---|---|---|---|---|---|
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative, Analogous conclusion |
| Carcinogenicity: | | | | | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Analogous conclusion, Limited evidence of a carcinogenic effect |
| Reproductive toxicity: | NOAEL | 4 | mg/m3 | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | Negative, Analogous conclusion |
| Symptoms: | | | | | | respiratory distress, coughing, mucous membrane irritation |
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: | | | | | | Irritation of the respiratory tract, Target organ(s): respiratory tract |
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: | | | | | | Irritation of the respiratory tract, Target organ(s): respiratory system |

**o-(p-isocyanatobenzyl)phenyl isocyanate**

| 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: | LC50 | 0,387 | mg/l/4h | Rat | | Does not conform with EU classification |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Irritant, Analogous conclusion |
| Respiratory or skin sensitisation: | | | | Mouse | OECD 429 (Skin Sensitisation - Local Lymph Node Assay) | Sensitising (skin contact), Analogous conclusion |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Yes (inhalation), Analogous conclusion |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative, Analogous conclusion |
| Carcinogenicity: | | | | | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Analogous conclusion, Limited evidence of a carcinogenic effect |
| Reproductive toxicity: | | | | | OECD 414 (Prenatal Developmental Toxicity Study) | Negative |
| Symptoms: | | | | | | asthmatic symptoms, mucous membrane irritation |
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: | | | | | | Target organ(s): respiratory tract, Irritant |

**Propylene carbonate**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | >5000 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Not irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Irritant |


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| | | | | | | |
|---|---|---|---|---|---|---|
| Respiratory or skin sensitisation: | | | | Human being | | No (skin contac) |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 474 (Mammalian Erythrocyte Micronucleus Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 482 (Gen. Tox. - DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro) | Negative |
| Carcinogenicity: | | | | Mouse | OECD 451 (Carcinogenicity Studies) | Negative |
| Reproductive toxicity: | NOAE L | 5000 | mg/kg | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | No indications of such an effect |
| Reproductive toxicity: | NOAE L | 1000 | mg/kg | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | Negative |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | No |
| Specific target organ toxicity - repeated exposure (STOT-RE): | | | | | | No |
| Aspiration hazard: | | | | | | No |
| Symptoms: | | | | | | breathing difficulties, headaches, gastrointestinal disturbances, dizziness, nausea |
| Specific target organ toxicity - repeated exposure (STOT-RE), oral: | NOEL | >5000 | mg/kg | | OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) | |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOEC | 100 | mg/m3 | | OECD 413 (Subchronic Inhalation Toxicity - 90-Day Study) | Dust, Mist |

**2,2'-methylenediphenyl diisocyanate**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50BB95:H111 | mg/l/B95:H1111h | 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) | |
| Acute toxicity, by inhalation: | LC50 | >2,24 | mg/l/1h | Rat | OECD 403 (Acute Inhalation Toxicity) | Mist |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Mild irritant |
| Serious eye damage/irritation: | | | | Rabbit | | Irritant |
| Respiratory or skin sensitisation: | | | | Mouse | OECD 429 (Skin Sensitisation - Local Lymph Node Assay) | Yes (skin contact) |
| Respiratory or skin sensitisation: | | | | Guinea pig | | Yes (inhalation), Analogous conclusion |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative, Analogous conclusion |
| Carcinogenicity: | | | | Rat | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Limited evidence of a carcinogenic effect., Analogous conclusion |



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| | | | | | | |
|---|---|---|---|---|---|---|
| Reproductive toxicity: | NOAE L | 4 | mg/m3 | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | No indications of such an effect |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | May cause respiratory irritation |
| Aspiration hazard: | | | | | | Not to be expected |
| Symptoms: | | | | | | respiratory distress, coughing, mucous membrane irritation |

# 12 Ecological information:

**NORIT-TE-Klebstoff**

| 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 CO2 into a firm, insoluble reaction product with a high melting point (poly-carba mide). 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. Other adverse effects: | | | | | | | n.d.a. |

**Diphenylmethanediisocyanate, isomeres and homologues**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC50 | 96h | >100 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 24h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisati-on Test) | |
| 12.1. Toxicity to daphnia: | NOEC/N OEL | 21d | >10 | mg/l | Daphnia magna | OECD 211 (Daphnia magna Reproduction Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | >16 | mg/l | Scenedesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 0 | % | | OECD 301 C (Ready Biodegradab ility - Modified MITI Test (I)) | Not biodegrada ble |
| 12.3. Bioaccumulative potential: | BCF | 42d | <14 | | Cyprinus caprio | OECD 305 (Bio-concentr ation - Flow-Through Fish Test) | A notable biological accumulati on potential is not to be expected (LogPow 1-3) |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance |


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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to bacteria: | EC50 | 3h | >100 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | |
| Other organisms: | NOEC/N OEL | 14d | >100 | mg/k g | Eisenia foetida | OECD 207 (Earthworm, Acute Toxicity Tests) | |
| Other information: | | | | | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water |
| Other information: | BOD | 28d | <10 | % | | OECD 302 C (Inherent Biodegradab ility - Modified MITI Test (II)) | |

**4,4'-methylenediphenyl diisocyanate**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC0 | 96h | >100 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | Analogous conclusion |
| 12.1. Toxicity to fish: | LC50 | 96h | >100 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 24h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisati- on Test) | Analogous conclusion |
| 12.1. Toxicity to algae: | EC50 | 72h | 1,5 | mg/l | | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | 1640 | mg/l | Desmodesm us subspicatus | OECD 201 (Alga, Growth Inhibition Test) | Analogous conclusion |
| 12.1. Toxicity to algae: | NOEC/N OEL | 72h | 1640 | mg/l | Desmodesm us subspicatus | OECD 201 (Alga, Growth Inhibition Test) | Analogous conclusion |
| 12.2. Persistence and degradability: | | 28d | 0 | % | | OECD 302 C (Inherent Biodegradab ility - Modified MITI Test (II)) | With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (poly- carba mide). According to experience available to date, polycarbamide is inert and non- degradable |
| 12.2. Persistence and degradability: | BOD | 28d | 0 | % | | OECD 302 C (Inherent Biodegradab ility - Modified MITI Test (II)) | With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (poly- carba mide). According to experience available to date, polycarbamide is inert and non- degradable |
| 12.3. Bioaccumulative potential: | BCF | 28d | 200 | | Cyprinus caprio | OECD 305 (Bio- concentr ation - Flow- Through Fish Test) | A notable biological accumulati on potential has to be expected (LogPow >3) |
| 12.3. Bioaccumulative potential: | Log Pow | | 5,22 | | | | A notable biological accumulati on potential has to be expected (LogPow >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)) | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to bacteria: | EC50 | 3h | >100 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | Analogous conclusion |
| Other information: | | | | | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water |
| Toxicity to annelids: | EC50 | 14d | >100 | mg/kg | Eisenia foetida | OECD 207 (Earthworm, Acute Toxicity Test) | |

**o-(p-isocyanatobenzyl)phenyl isocyanate**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC0 | 96h | > 1000 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | Analogous conclusion |
| 12.1. Toxicity to daphnia: | EC50 | 24h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisati-on Test) | Analogous conclusion |
| 12.1. Toxicity to daphnia: | NOEC/N OEL | 21d | >10 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisati-on Test) | Analogous conclusion |
| 12.1. Toxicity to algae: | ErC50 | 72h | >1640 | mg/l | Scenedesm us subspicatus | OECD 201 (Alga, Growth Inhibition Test) | Analogous conclusion |
| 12.2. Persistence and degradability: | | 28d | 0 | % | | OECD 302 C (Inherent Biodegradab ility - Modified MITI Test (II)) | With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (poly-carba mide)., Analo-gous conclusion |
| 12.3. Bioaccumulative potential: | BCF | 28d | 200 | | Cyprinus caprio | OECD 305 (Biocon-centr ation - Flow-Through Fish Test) | Not to be expected, Analogous conclusion |
| 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/N OEL | 14d | >100 | | Lumbricus terrestris | OECD 207 (Earthworm, Acute Toxicity Test) | Analogous conclusion |

**Propylene carbonate**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC50 | 96h | >100 | mg/l | Cyprinus caprio | 92/69/EC | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisati-on Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | >900 | mg/l | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | | 83,5-87-7 | % | | OECD 301 B (Ready Biodegradab ility - Co2 Evolution Test) | Readily biodegrada ble29d |
| 12.3. Bioaccumulative potential: | Log Pow | | -0,48 | | | | Bioaccumul ation is unlikely (LogPow < 1)., calculated value |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | EC10 | 16h | 25619 | mg/l | Pseudomonas putida | DIN 38412 T.8 | |


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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Other information: | AOX | | 0 | % | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water |

**2,2'-methylenediphenyl diisocyanate**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| 12.1. Toxicity to fish: | LC50 | 96h | >100 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | Analogous conclusion |
| 12.1. Toxicity to daphnia: | EC50 | 24h | >100 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | Analogous conclusion |
| 12.1. Toxicity to algae: | EC50 | 72h | >1640 | mg/l | Scenedesm us 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)) | 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 |
| 12.3. Bioaccumulative potential: | BCF | 28d | 200 | | Cyprinus caprio | OECD 305 (Bioconcentration - Flow-Through Fish Test) | A notable biological accumulation potential has to be expected (LogPow >3) |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | EC50 | 3h | >100 | | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | Analogous conclusion |
| Toxicity to annelids: | NOEC/N OEL | 14d | >100 | mg/kg | Eisenia foetida | OECD 207 (Earthworm, Acute Toxicity Test) | Analogous conclusion |

# 13 Disposal considerations

## 13.1 Waste treatment methods

**For the substance/mixture/residual amounts:**

**EC disposal code no.:**
**08 04 09 waste adhesives and sealants containing organic solvents or other hazardous substances.**

**08 05 01 waste isocyanates.**

**(The waste codes are recommendations based on the scheduled use of this point. Owing to the user´s specific conditions for use and disposal, other waste**


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| | |
|---|---|
| | codes may be allocated under certain circumstances 2014/955/EU) |
| 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. 15 01 10 packaging containing residues of or contaminated by hazardous substances. |
| Recommendation | Dispose not down the sewer. |

## 14 Transport information

| | |
|---|---|
| General statements | |
| 14.1 UN number: | n.a. |
| **Transport by road/by rail (ADR/RID)** | |
| 14.2 UN proper shipping name | |
| 14.3 Transport hazard class(es): | n.a. |
| 14.4 Packing group | |
| Classification group: | n.a. |
| LQ: | n.a. |
| 14.5 Environmental hazards: | Not applicable. |
| **Transport by sea (IMDG-code)** | |
| 14.2 UN proper shipping name | |
| 14.3 Transport hazard class(es): | n.a. |
| 14.4 Packing group: | n.a. |
| Marine Pollutant: | n.a. |
| 14.5 Environmental hazards: | Not applicable. |
| **Transport by air (IATA)** | |
| 14.2 UN proper shipping name | |
| 14.3 Transport hazard class(es): | n.a. |
| 14.4 Packing group: | n.a. |


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**14.5 Environmental hazards:** **Not applicable**

**Special precautions for user**

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

**Transport in bulk according to Annex II of MARPOL and the IBC Code**

**Non-dangerous material according to Transport Regulations.**

## 15 Regulatory information

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

**Observe restrictions:**
**Regulation (EC) No 1907/2006, Annex XVII**
**Diphenylmethandiphenyldiisocyanate, isomeres and homologues**
**4,4`-methylendiphenyldiisocyanate**
**o-(p-isocyanatobenzyl)phenyl isocyanate**
**2,2´-methylendiphenyldiisocyanat**
**Comply with trade association/occupational health regulations.**

**Directive 2010/75/EU (VOC):** **0 %**

### 15.2 Chemical safety assessment:

**A chemical safety assessment is not provided for mixtures.**

## 16 Other information

**This safety data sheet replaces all previous versions. The information is based on the current state of our knowledge, but they do not constitute an assurance of product properties and do not establish a contractual relationship. All industrially customary precautions concerning health**


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**protection and safe handling apply. The recommendations should be reviewed in the context oft he intended application an applied where necessary.**

**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 calssification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):**

| Classification in accordance to CLP | Evaluation method used |
|---|---|
| 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 |
| STOT RE 2, H373 | 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) oft he product and the constituents (specified in Section 2 and 3).**

| | |
|---|---|
| H315 | Causes skin irritations. |
| H317 | May cause an allergic reaction. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |


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| | |
|---|---|
| **H334** | **May cause allergy or asthma symptoms or breathing difficulties if inhaled** |
| **H335** | **May cause respiratory irritation** |
| **H373** | **May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system).** |
| **H351** | **Suspected of causing cancer.** |

| | | |
|---|---|---|
| **Eye Irrit. 2** | **—** | **Eye irritation.** |
| **STOT SE 3** | **—** | **Specific target organ toxicity single exposure respiration tract irritation** |
| **Skin Irrit. 2** | **—** | **Skin irritation** |
| **Resp. Sens.** | **—** | **Respiratory sensitization** |
| **Skin Sens.** | **—** | **Skin sensitization** |
| **STOT RE** | **—** | **Specific target organ toxicity repeated exposure** |
| **Carc.** | **—** | **Carcinogenicity** |
| **Acute Tox.** | **—** | **Acute toxicity - inhalation** |

## Any abbreviations and acronyms used in this document:

| | |
|---|---|
| AC | Article Categories |
| acc., | acc. to according, according to |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ADR | Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road) |
| AOEL | Acceptable Operator Exposure Level |
| AOX | Adsorbable organic halogen compounds |
| approx. | approximately |
| Art., Art. no. | Article number |
| ATE | Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP) |
| 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 |
| BGV | Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation) BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol) |
| BMGV | Biological monitoring guidance value (EH40, UK) |
| BOD | Biochemical oxygen demand |
| BSEF | Bromine Science and Environmental Forum |
| bw | body weight |
| CAS | Chemical Abstracts Service |
| CEC | Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids |
| CESIO | Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques |
| CIPAC | Collaborative International Pesticides Analytical Council |
| CLP | Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures) |
| CMR | carcinogenic, mutagenic, reproductive toxic |
| COD | Chemical oxygen demand |
| CTFA | Cosmetic, Toiletry, and Fragrance Association |
| DMEL | Derived Minimum Effect Level |
| DNEL | Derived No Effect Level |
| DOC | Dissolved organic carbon |
| DT50 | Dwell Time - 50% reduction of start concentration |
| DVS | Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes) |
| dw | dry weight |
| e.g. | for example (abbreviation of Latin 'exempli gratia'), for instance |
| EC | European Community |
| ECHA | European Chemicals Agency |
| EEA | European Economic Area |
| 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) |
| ERC | Environmental Release Categories |


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| | |
|---|---|
| ES | Exposure scenario |
| etc. | et cetera |
| EU | European Union |
| EWC | European Waste Catalogue |
| gen. | general |
| GHS | Globally Harmonized System of Classification and Labelling of Chemicals |
| GWP | Global warming potential |
| HET-CAM | Hen's Egg Test - Chorionallantoic Membrane |
| HGWP | Halocarbon Global Warming Potential |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IBC | Intermediate Bulk Container |
| IBC (Code) | International Bulk Chemical (Code) |
| IC | Inhibitory concentration |
| IMDG-code | International Maritime Code for Dangerous Goods |
| incl. | including, inclusive |
| IUCLID | International Uniform ChemicaL Information Database |
| LC | lethal concentration |
| LC50 | lethal concentration 50 percent kill |
| LCLo | lowest published lethal concentration |
| LD | Lethal Dose of a chemical |
| LD50 | Lethal Dose, 50% kill |
| LDLo | Lethal Dose Low |
| LOAEL | Lowest Observed Adverse Effect Level |
| LOEC | Lowest Observed Effect Concentration |
| LOEL | Lowest Observed Effect Level |
| LQ | Limited Quantities |
| MARPOL | International Convention for the Prevention of Marine Pollution from Ships |
| n.a. | not applicable |
| n.av. | not available |
| n.c. | not checked |
| n.d.a. | no data available |
| NIOSH | National Institute of Occupational Safety and Health (United States of America) |
| NOAEC | No Observed Adverse Effective Concentration |
| NOAEL | No Observed Adverse Effect Level |
| NOEC | No Observed Effect Concentration |
| NOEL | No Observed Effect Level |
| ODP | Ozone Depletion Potential |
| OECD | Organisation for Economic Co-operation and Development |
| org. | organic |
| PAH | polycyclic aromatic hydrocarbon |
| PBT | persistent, bioaccumulative and toxic |
| PC | Chemical product category |
| PE | Polyethylene |
| PNEC | Predicted No Effect Concentration |
| POCP | Photochemical ozone creation potential |
| ppm | parts per million |
| PROC | Process category |
| PTFE | Polytetrafluorethylene |
| 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. | 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) |
| SADT | Self-Accelerating Decomposition Temperature |
| UN RTDG | United Nations Recommendations on the Transport of Dangerous Goods |
| SAR | Structure Activity Relationship |
| SU | Sector of use |
| SVHC | Substances of Very High Concern |
| Tel. | Telephone |
| ThOD | Theoretical oxygen demand |
| TOC | Total organic carbon |
| TRGS | Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances) UN RTDG United Nations Recommendations on the Transport of Dangerous Goods |
| VbF | Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria)) |
| VOC | Volatile organic compounds |
| vPvB | very persistent and very bioaccumulative |
| WEL-TWA, WEL-STEL | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK). |
| WHO | World Health Organization |
| wwt | wet weight |


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**Exclusion of liability**

**This information applies only to the specified product and is not valid for use with any other materials or in other applications. The information is correct and reliable to the best of our knowledge and belief at the time of preparation. A guarantee of accuracy, reliability and completeness is not granted. It is the responsibility of the user, even to his satisfaction, to check this information for suitability for its application.**

# NORIT-TE-Klebstoff
Produktdatenblatt

## Systembeschreibung

Der NORIT-TE-Klebstoff ist ein lösemittel- und formaldehyd-freier Polyurethan-Klebstoff. Er wird zur dauerhaften, kraftschlüssigen Verbindung aller NORIT-Trockenestriche verwendet.


## Vorteile

- ausgezeichnete Haftung
- feuchtigkeitshärtend
- gute Verbundfestigkeit
- lange offene Zeit

## Technische Daten

| | |
|---|---|
| **Verarbeitungstemperatur** | ≥ +10°C |
| **Hautbildezeit bei +20°C, 50% r. F.** | ca. 35 min |
| **Aushärtezeit bei +20°C, 50% r. F.** | ca. 24 h |
| **Farbton** | bernstein |
| **Viskosität bei +20°C** | ca. 6.000 mPas |
| **Dichte bei +20°C** | ca. 1,13 g/cm³ |
| **Verbrauch** | ca. 18 g/m² |
| **Reichweite mit 1-kg-Flasche** | ca. 55 m² |
| **GISCODE** | RU1 |

## Verarbeitung

Die Klebeflächen müssen trocken, sauber, staub- und fettfrei sein. Der Kleber wird auf die Anlegezunge des verlegten Elements aufgebracht. Dabei kann die Flasche an der oberen Plattenkante entlang geführt werden, so dass der Klebstoff neben der Rille aufgetragen wird. Überstehender Klebstoff kann nach dem Aushärten einfach abgestoßen werden.

Nicht ausgehärteter Klebstoff auf Werkzeugen kann mit einem geeigneten Reiniger, beispielsweise auf Basis gemischter Carbonsäurederivate, entfernt werden.

## Lieferform/Lagerung

- 1-kg-Flasche, 10 Flaschen/Karton ca. 11 kg
- Ohne direkte Sonneneinstrahlung trocken bei +15 °C bis +25 °C lagern
- 12 Monate ab Produktionsdatum im ungeöffneten Originalgebinde lagerfähig

## Sicherheitshinweise

NORIT-TE-Klebstoff ist kennzeichnungspflichtig im Sinne der Gefahrstoffverordnung (GefStoffV). Weitere Hinweise zum Umgang, Transport und der Entsorgung sind dem Sicherheitsdatenblatt zu entnehmen.


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Datum 14. September 2023

**Herstellererklärung**

Hiermit wird bestätigt, dass unser Produkt:

**NORIT-TE-Klebstoff**

Nachstehende Kriterien erfüllt:

- Enthält keinerlei Chlorparaffine
- Enthält keinerlei Kohlenwasserstoff (KWS-)Weichmacher
- Enthält keinerlei halognierte Flammschutzmittel bzw. Treibmittel
- Enthält keinerlei VOC-haltigen Substanzen
- Enthält keinerlei amin- oder oximvernetzten Silikone
- Enthält kein TCEP (Tris(2-chlorethyl)phosphat

Dies schließt jedoch nicht aus, dass rohstoffbedingt Spuren der genannten Stoffe vorliegen können.

NORIT-TE-Klebstoff könnte seitens der BG Bau, Frankfurt registriert und in GISCODE RU1 (Lösemittelfreie Polyurethan-Verlegewerkstoffe) eingestuft werden.

i. V. André Scheuring-Mazarin
Leitung Produktmanagement & Anwendungstechnik
NORIT Produkte