

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

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

- **1.1 Product identifier**
- **Trade name** VORANSTRICH PU 5 EXPRESS
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Primer/ Subcoating
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MUREXIN GmbH
Franz v. Furtenbachstr. 1
A-2700 Wiener Neustadt
Tel.: +43 (0)2622/27401
- **Informing department:** chemikalieninfo@murexin.com
- **1.4 Emergency telephone number:**
UK National poisons Emergency number.: +44 (0) 870 600 6266

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Carc. 2 H351 Suspected of causing cancer.
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.
 STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
diphenylmethane-4,4'-di-isocyanate
2,2,4-trimethyl-1,3-pentanediol diisobutyrate
diphenylmethane-2,4'-diisocyanate
MDI-basierendes Polyisocyanat-Prepolymer
diphenylmethane-2,2'-diisocyanate
- **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.

(Contd. on page 2)

GB

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 1)

*H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.**H317 May cause an allergic skin reaction.**H351 Suspected of causing cancer.**H361 Suspected of damaging fertility or the unborn child.**H335 May cause respiratory irritation.**H373 May cause damage to organs through prolonged or repeated exposure.***Precautionary statements***P101 If medical advice is needed, have product container or label at hand.**P102 Keep out of reach of children.**P103 Read carefully and follow all instructions.**P260 Do not breathe mist/vapours/spray.**P280 Wear protective gloves / eye protection / face protection.**P284 In case of inadequate ventilation wear respiratory protection.**P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position 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.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***Additional information:***Contains isocyanates. May produce an allergic reaction.**As from 24 August 2023 adequate training is required before industrial or professional use.***2.3 Other hazards****Results of PBT and vPvB assessment***PBT: Not applicable.**vPvB: Not applicable.***SECTION 3: Composition/information on ingredients****3.2 Mixtures***Description: Mixture consisting of the following components with harmless additives.***Dangerous components:**

CAS: 6846-50-0 EINECS: 229-934-9 Reg.nr.: 01-2119451093-47-0000	2,2,4-trimethyl-1,3-pentanediol diisobutyrate ⚠ Repr. 2, H361 Aquatic Chronic 3, H412	≥10-<25%
CAS: 101-68-8 EINECS: 202-966-0 Reg.nr.: 01-2119457014-47	diphenylmethane-4,4'-di-isocyanate ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373 ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 EUH204 Specific concentration limits: Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5% Resp. Sens. 1; H334: C ≥ 0.1% STOT SE 3; C ≥ 5%	10-25%

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31











Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 2)

CAS: 67815-87-6	MDI-basierendes Polyisocyanat-Prepolymer  Resp. Sens. 1A, H334; STOT RE 2, H373  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	10-25%
CAS: 5873-54-1 EINECS: 227-534-9	diphenylmethane-2,4'-diisocyanate  Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 EUH204 Specific concentration limits: Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; C ≥ 5 %	10-25%
CAS: 72088-97-2	1,2-Propanediol, polymer with 1-isocyanato-2-(4-isocyanatophenyl)methylbenzene, 1,1-methylenebis-4-isocyanatobenzene, methyloxirane and oxirane  Resp. Sens. 1, H334; STOT RE 2, H373  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	10-25%
CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues  Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 EUH204 Specific concentration limits: Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; C ≥ 5 %	≥5-<10%
CAS: 2536-05-2 EINECS: 219-799-4	diphenylmethane-2,2'-diisocyanate  Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 EUH204 Specific concentration limits: Eye Irrit. 2; H319: C ≥ 5% Skin Irrit. 2; H315: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; C ≥ 5 %	1-2.5%

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation

Supply fresh air and call for doctor for safety reasons.

In case of unconsciousness bring patient into stable side position for transport.

After skin contact

If skin irritation continues, consult a doctor.

Instantly wash with water and soap and rinse thoroughly.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing Do not induce vomiting; instantly call for medical help.

(Contd. on page 4)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name **VORANSTRICH PU 5 EXPRESS**

(Contd. of page 3)

- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture**
Formation of poisonous gases during heating or in fires.
- **5.3 Advice for firefighters**
- **Protective equipment:** Put on breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Put on breathing apparatus.
Wear protective clothing.
- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Keep containers tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep breathing equipment ready.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store only in the original container.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Storage class** 10
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Components with critical values that require monitoring at the workplace:**

101-68-8 diphenylmethane-4,4'-di-isocyanate

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 4)

5873-54-1 diphenylmethane-2,4'-diisocyanate	
WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
9016-87-9 diphenylmethanediisocyanate, isomeres and homologues	
WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
2536-05-2 diphenylmethane-2,2'-diisocyanate	
WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
Ingredients with biological limit values:	
101-68-8 diphenylmethane-4,4'-di-isocyanate	
BMGV	1 µmol creatinine/mol Medium: urine Sampling time: At the end of the period of exposure Parameter: isocyanate-derived diamine
5873-54-1 diphenylmethane-2,4'-diisocyanate	
BMGV	1 µmol creatinine/mol Medium: urine Sampling time: At the end of the period of exposure Parameter: isocyanate-derived diamine
2536-05-2 diphenylmethane-2,2'-diisocyanate	
BMGV	1 µmol creatinine/mol Medium: urine Sampling time: At the end of the period of exposure Parameter: isocyanate-derived diamine

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Store protective clothing separately.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

· **Hand protection** Protective gloves.

· **Material of gloves**

Nitrile rubber, NBR

Butyl rubber, BR

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection** Tightly sealed safety glasses.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 5)

· **Body protection:** Protective work clothing.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state	Fluid
· Colour:	Red
· Smell:	Aromatic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Not determined
· Boiling point or initial boiling point and boiling range	208 °C (101-68-8 diphenylmethane-4,4'-di-isocyanate)
· Flammability	Not determined.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	>200 °C
· Auto-ignition temperature:	330 °C
· Decomposition temperature:	Not determined.
· pH at 20 °C	5.4
· Viscosity:	
· Kinematic viscosity	Not determined.
· dynamic at 20 °C:	700-1,000 mPas
· Solubility	
· Water:	Unsoluble
· Steam pressure at 20 °C:	>0 hPa
· Density and/or relative density	
· Density at 20 °C	1.1 g/cm ³

· 9.2 Other information

· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Self-inflammability:	Product is not selfigniting.
· Explosive properties:	Product is not explosive.
· Solvent content:	
· Water:	0.1 %
· Solids content:	0.0 %
· Change in condition	
· Evaporation rate	Not determined.

· Information with regard to physical hazard classes

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 6)

- | | |
|---|------|
| · Self-heating substances and mixtures | Void |
| · Substances and mixtures, which emit flammable gases in contact with water | Void |
| · Oxidising liquids | Void |
| · Oxidising solids | Void |
| · Organic peroxides | Void |
| · Corrosive to metals | Void |
| · Desensitised explosives | Void |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** None

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values that are relevant for classification:**

101-68-8 diphenylmethane-4,4'-di-isocyanate

Inhalative	LC50/4 h	490 mg/l (rat)
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9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

Oral	LD50	>100,000 mg/kg (rat)
Dermal	LD50	>9,400 mg/kg (rabbit)
Inhalative	LC50/4 h	0.49 mg/l (rat)

- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity**
Suspected of damaging fertility or the unborn child.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

128-37-0	Butylated hydroxytoluene
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List II

(Contd. on page 8)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 7)

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

101-68-8 diphenylmethane-4,4'-di-isocyanate

EC 50 >1,000 mg/l (G) (Acute Immobilisation Test, 24h Static)

LC50 >1,000 mg/l (Brachydanio rerio (Zebrafish)) (OECD 203 Fish, Acute Toxicity Test, 96h static)

9016-87-9 diphenylmethanediisocyanate, isomers and homologues

EC 50 >100 mg/l (F2) (OECD 209 Activated Sludge, Respiration Inhibition)

>1,000 mg/l (G) (OECD 202 Acute Immobilisation Tet)

· 12.2 Persistence and degradability No further relevant information available.

· 12.3 Bioaccumulative potential No further relevant information available.

· 12.4 Mobility in soil No further relevant information available.

· 12.5 Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· 12.6 Endocrine disrupting properties

For information on endocrine disrupting properties see section 11.

· 12.7 Other adverse effects

· Additional ecological information:

· General notes:

Water hazard class (Germany) 1 (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· Uncleaned packagings:

· Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, ADN, IMDG, IATA Void

· 14.2 UN proper shipping name

· ADR, ADN, IMDG, IATA Void

· 14.3 Transport hazard class(es)

· ADR, ADN, IMDG, IATA

· Class Void

· 14.4 Packing group

· ADR, IMDG, IATA Void

· 14.5 Environmental hazards:

· Marine pollutant: No

(Contd. on page 9)

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 05.05.2023

Version number 12 (replaces version 11)

Revision: 05.05.2023

Trade name VORANSTRICH PU 5 EXPRESS

(Contd. of page 8)

- | | |
|---|-----------------|
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · UN "Model Regulation": | Void |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H412 Harmful to aquatic life with long lasting effects.
- EUH204 Contains isocyanates. May produce an allergic reaction.

- **Contact:** chemikalieninfo@murexin.com (+43 02622/27401)

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Resp. Sens. 1: Respiratory sensitisation – Category 1
 Resp. Sens. 1A: Respiratory sensitisation – Category 1A
 Skin Sens. 1: Skin sensitisation – Category 1
 Carc. 2: Carcinogenicity – Category 2
 Repr. 2: Reproductive toxicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

- *** Data compared to the previous version altered.**