

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

Printing date 01.09.2023

Version number 10.2

Revision: 01.09.2023

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

- **1.1 Product identifier**
- **Trade name:** Härter PU
- **CAS Number:**
9016-87-9
- **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** Hardening agent/ Curing agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Forbo Eurocol Deutschland GmbH
August-Röbling-Straße 2
99091 Erfurt
GERMANY
-
- **Tel.:** +49 361 730 41 0
Fax: +49 (0)361 73041-92
E-Mail: Elisabeth.Reinhardt@forbo.com
www.forbo-eurocol.de
- **Further information obtainable from:**
Laboratory
Elisabeth Reinhardt
Elisabeth.Reinhardt@forbo.com
- **1.4 Emergency telephone number:**
Poison information center for the states of Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt and Thuringia:
+49-361-730730

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.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



- Acute Tox. 4 H332 Harmful if inhaled.
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.

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· **2.2 Label elements**· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**

GHS07 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***diphenylmethanediisocyanate, isomeres and homologues*· **Hazard statements***H332 Harmful if inhaled.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.**H317 May cause an allergic skin reaction.**H351 Suspected of causing cancer.**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.**P201 Obtain special instructions before use.**P202 Do not handle until all safety precautions have been read and understood.**P260 Do not breathe dust/fume/gas/mist/vapours/spray.**P264 Wash thoroughly after handling.**P271 Use only outdoors or in a well-ventilated area.**P272 Contaminated work clothing should not be allowed out of the workplace.**P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.**P284 [In case of inadequate ventilation] wear respiratory protection.**P302+P352 IF ON SKIN: Wash with plenty of water.**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.**P321 Specific treatment (see on this label).**P314 Get medical advice/attention if you feel unwell.**P362+P364 Take off contaminated clothing and wash it before reuse.**P333+P313 If skin irritation or rash occurs: Get medical advice/attention.**P337+P313 If eye irritation persists: Get medical advice/attention.**P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.**P403+P233 Store in a well-ventilated place. Keep container tightly closed.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Additional information:***Contains isocyanates. May produce an allergic reaction. For professional use only. From 24 August 2023, appropriate training must be provided prior to industrial and professional use.*

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- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
After contact with skin, wash immediately with plenty of soap and water. Take off all contaminated clothing immediately and wash before wearing again. In case of skin irritation, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Do not induce vomiting. Rinse out mouth and drink plenty of water. Consult a doctor if symptoms persist.
- **Information for doctor:**
Note to physician: The product is irritating to the respiratory tract and is a potential trigger for skin and respiratory sensitisation. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Depending on the extent of exposure and symptoms, prolonged medical care may be necessary.
- **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 extinguishing methods suitable to surrounding conditions.
Alcohol-resistant foam. Water spray. Carbon dioxide. Extinguishing powder.
- **5.2 Special hazards arising from the substance or mixture**
Fire produces CO₂, CO, isocyanate vapours and traces of cyanurea.
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Particular danger of slipping on leaked/spilled product.

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Mount respiratory protective device.

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 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 disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

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

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Recommended storage temperature:** 10-30°C

· **Storage class (TRGS):** 10

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

WEL Short-term value: 0.07 mg/m³

Long-term value: 0.02 mg/m³

Sen; as -NCO

· **Additional information:** The lists valid during the making 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:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

Respiratory protection is required at inadequately ventilated workplaces and during spray processing. Fresh air masks or combination filters A2-P2 are recommended for short-term work.

Self-contained respiratory protective device.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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- **Hand protection**



Protective gloves

- **Material of gloves**

Suitable materials for protective gloves: EN374:

Polychloropropene - CR: thickness $\geq 0.5\text{mm}$; breakthrough time $\geq 480\text{ min}$ Nitrile rubber - NBR: thickness $\geq 0.35\text{mm}$; breakthrough time $\geq 480\text{ min}$ Butyl rubber- IIR Thickness $\geq 0.5\text{mm}$; Breakthrough time $\geq 480\text{ min}$ Fluororubber- FKM: Thickness $\geq 0.4\text{mm}$; Breakthrough time $\geq 480\text{ min}$

Recommendation: Dispose of contaminated gloves.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **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 goggles

- **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:**

Dark brown

- **Odour:**

Nearly odourless

- **Odour threshold:**

Not determined.

- **Melting point/freezing point:**

Undetermined.

- **Boiling point or initial boiling point and boiling range**

 $>300\text{ °C}$

- **Flammability**

Not applicable.

- **Lower and upper explosion limit**

- **Lower:**

Not determined.

- **Upper:**

Not determined.

- **Flash point:**

 $>200\text{ °C}$

- **Auto-ignition temperature:**

 $>500\text{ °C}$

- **Decomposition temperature:**

Not determined.

- **pH**

Not determined.

- **Viscosity:**

- **Kinematic viscosity**

Not determined.

- **Viscosity at 100°C:**

- **Dynamic:**

Not determined.

- **Solubility**

- **water:**

Not miscible or difficult to mix.

- **Partition coefficient n-octanol/water (log value)**

Not determined.

- **Vapour pressure at 25 °C:**

0 . 0 0 0 2 h P a (9 0 1 6 - 8 7 - 9
diphenylmethanediisocyanate, isomeres and homologues)

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· Density and/or relative density	
· Density at 20 °C:	1.24 g/cm ³
· Relative density	Not determined.
· Density (@15°C)	Not determined.
· Vapour density	Not determined.
· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· VOC (EC)	0.00 %
· Molecular weight	360 g/mol
· 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
· 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**
- **Thermal decomposition / 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:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if inhaled.

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· LD/LC50 values relevant for classification:		
· ATE (Acute Toxicity Estimates)		
Inhalative	Acute toxicity Estimate inhalative (4h)	11 mg/l
· 9016-87-9 diphenylmethandiisocyanate, isomeres and homologues		
Oral	LD50	>10,000 mg/kg (rat)
Dermal	LD50	9,400 mg/kg (rabbit)
Inhalative	Acute toxicity Estimate inhalative (4h)	11 mg/l

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

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

- **Respiratory or skin sensitisation**

- May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- May cause an allergic skin reaction.

- **Carcinogenicity** Suspected of causing cancer.

- **STOT-single exposure** May cause respiratory irritation.

- **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.

- **11.2 Information on other hazards**

· Endocrine disrupting properties		
Substance is not listed.		

SECTION 12: Ecological information

- **12.1 Toxicity**

· Aquatic toxicity:		
· 9016-87-9 diphenylmethandiisocyanate, isomeres and homologues		
LC50 (96h) mg/ltr.	>1,000 mg/ltr (Fish)	
EC50 (48h)	>1,000 mg/l (daphnia)	

- **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**

- The product does not contain substances with endocrine disrupting properties.

- **12.7 Other adverse effects** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

- Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

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

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

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

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|-----------------|
| <ul style="list-style-type: none"> · 14.1 UN number or ID number · ADR, IMDG, IATA | not regulated |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR, IMDG, IATA | not regulated |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class | not regulated |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | not regulated |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: | Not applicable. |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user | Not applicable. |
| <ul style="list-style-type: none"> · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| <ul style="list-style-type: none"> · UN "Model Regulation": | not regulated |

SECTION 15: Regulatory information

- | |
|---|
| <ul style="list-style-type: none"> · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: (Substances not listed) |
| <ul style="list-style-type: none"> · Substance is not listed. |
- **Directive 2012/18/EU**
 - **Named dangerous substances - ANNEX I** Substance is not listed.
 - **National regulations:**
 - **VOC (EU) 0.0 g/l**
 - **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

- **Disclaimer**
This safety data sheet contains only safety relevant information. The information is based on the state of our knowledge at the time of revision, however, it does not constitute a guarantee of product properties, product information or product specifications and does not establish a contractual legal relationship. This document is only valid in its unchanged form. In the event of changes by third parties, the exhibitor accepts no responsibility for form and content or for any damages or claims arising from such changes. The information is not transferable to other products. If the product named in this safety data sheet is mixed, blended or processed with other materials or is subjected to processing, the information in this safety data sheet cannot be transferred to the new material produced in this way, unless expressly stated otherwise. The data sheet does not release the user from the obligation to ensure that he acts in accordance with all regulations in connection with his activity.
- **Department issuing SDS:** Quality Management department

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· Abbreviations and acronyms:*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**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**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**Skin Sens. 1: Skin sensitisation – Category 1**Carc. 2: Carcinogenicity – Category 2**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2***· * Data compared to the previous version altered.**

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