

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

Printing date 21.03.2022

Version number 1

Revision: 11.03.2022

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**· **1.1 Product identifier**· Trade name: **350-B LiquidDesign Component B Hardener**· **CAS Number:**

28182-81-2

· **1.2 Relevant identified uses of the substance or mixture and uses advised against***No further relevant information available.*· **Application of the substance / preparation** *Hardener*· **1.3 Details of the supplier of the safety data sheet**· **Manufacturer/Supplier:***Forbo Eurocol Nederland B.V.**Industrieweg 1-2**NL-1521 NA Wormerveer Holland**Tel. +31 75 6271600 - Fax +31 75 6283564**E-mail address: info.eurocol@forbo.com**Website: www.eurocol.com*· **1.4 Emergency telephone number:***In case of emergency please contact the Dutch National Poison Control, telephone number: 0031-(0)88-755 8000 (This number is only accessible to the physician treating the patient and only in case of accidental poisoning).***SECTION 2: Hazards identification**· **2.1 Classification of the substance or mixture**· **Classification according to Regulation (EC) No 1272/2008***Acute Tox. 4 H332 Harmful if inhaled.**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 substance is classified and labelled according to the CLP regulation.*· **Hazard pictograms**

GHS07

· **Signal word** *Warning*· **Hazard-determining components of labelling:***Aliphatic polyisocyanate*

(Contd. on page 2)

GB

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Revision: 11.03.2022

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(Contd. of page 1)

- **Hazard statements**

*H332 Harmful if inhaled.*

*H317 May cause an allergic skin reaction.*

*H335 May cause respiratory irritation.*

- **Precautionary statements**

*P261 Avoid breathing dust/fume/gas/mist/vapours/spray.*

*P280 Wear protective gloves.*

*P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*P312 Call a POISON CENTER if you feel unwell.*

*P333+P313 If skin irritation or rash occurs: Get medical advice/attention.*

*P362+P364 Take off contaminated clothing and wash it before reuse.*

*P403+P233 Store in a well-ventilated place. Keep container tightly closed.*

- **Additional information:**

*Contains 100 % of components with unknown hazards to the aquatic environment.*

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** *Not applicable.*

- **vPvB:** *Not applicable.*

### SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description**

*28182-81-2 Aliphatic polyisocyanate*

### 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:**

*In case of unconsciousness place patient stably in side/recovery position for transportation.*

*Remove person to fresh air, keep warm, have rest, if breathing difficulties, doctor's help is required.*

- **After skin contact:**

*Wash with soap and water. Remove contaminated clothing.*

*Consult a doctor in case of complaints.*

- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*

- **After swallowing:**

*Do not let the victim vomit. After swallowing rinse the mouth thoroughly with water (only when the person fully conscious) and call for immediate help. Let the victim rest.*

- **Information for doctor:** *First aid, disinfection, symptomatic treatment.*

- **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.*

GB

(Contd. on page 3)

## Safety data sheet

### according to 1907/2006/EC, Article 31

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Revision: 11.03.2022

Trade name: **350-B LiquidDesign Component B Hardener**

(Contd. of page 2)

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**  
*Carbon dioxide (CO<sub>2</sub>), foam, extinguishing powder. For larger fires also water spray jet.*
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*
- **5.2 Special hazards arising from the substance or mixture**  
*On burning: release of toxic and corrosive gases / vapors (isocyanates, nitrous vapors, carbon monoxide / carbon dioxide). Hydrogen cyanide (prussic acid).  
In case of fire in the immediate vicinity, increase in pressure, risk of bursting. Cool containers threatened by fire with water and if possible remove from the danger area.*
- **5.3 Advice for firefighters**  
*Do not allow contaminated fire extinguishing water to penetrate into the soil, groundwater or surface water.*
- **Protective equipment:**  
*Wear self-contained respiratory protective device.  
Wear chemical protective clothing.*

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
*Particular danger of slipping on leaked/spilled product.  
Wear protective equipment. Keep unprotected persons away.  
Keep away from ignition sources.  
Ensure adequate aeration and ventilation.*
- **6.2 Environmental precautions:** *Do not let product enter drains. Avoid subsoil penetration.*
- **6.3 Methods and material for containment and cleaning up:**  
*Ensure adequate ventilation.  
Remove mechanically: Cover remains with damp, liquid-binding material (e.g. sawdust, chemical binders on a calcium silicate-hydrate base, sand). After approx. 1 hour, take up and place in refuse container. Don not close (CO<sub>2</sub>-development!) Keep damp and allow to stand in a safe place outdoors for several days.  
Spillage area can be sanitized with the following recommended sanitizing solution:  
Disinfectant solution 1: 8-10% sodium carbonate and 2% liquid soap in water.  
Disinfectant 2: 30% liquid commercial detergent (contains momomehtanolamine) 70% water.*
- **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**
- **Information about fire - and explosion protection:** *No special measures required.*
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
*Store in a dry, cool and very well ventilated place.*
- **Information about storage in one common storage facility:**  
*Do not store together with foodstuffs and animal fodder.*

(Contd. on page 4)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 21.03.2022

Version number 1

Revision: 11.03.2022

Trade name: **350-B LiquidDesign Component B Hardener**

(Contd. of page 3)

- **Further information about storage conditions:**  
*Recommended storage temperature between 15 and 25 °C.*
- **7.3 Specific end use(s)** *No further relevant information available.*

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** *No further data; see item 7.*
- **Ingredients with limit values that require monitoring at the workplace:** *Not required.*

#### · DNELs

##### **28182-81-2 Aliphatic polyisocyanate**

Inhalative	DNEL Inademing	0.5 Langdurig /mg/kg (wrk)
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#### · PNECs

##### **28182-81-2 Aliphatic polyisocyanate**

PNEC mg/kg	532 mg/kg (Soil)
	266.7 mg/kg (Fresh Water Sediment)

- **Additional information:** *The lists valid during manufacture were used as basis.*
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
*The usual precautionary measures are to be adhered to when handling chemicals.*
- **Respiratory protection:**  
*Use only in ventilated workplace.  
Combinationfilter A2-P2 (EN529).  
In case of hypersensitivity of the respiratory tract (asthma, chronic bronchitis) handling of the product is not recommended.*
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material is dependant on the penetration times, rates of diffusion and degradation.*

- **Material of 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 established by the manufacturer of the protective gloves and has to be observed.*
- **For prolonged contact gloves made of the following materials are suitable:**  
*Butyl rubber  
0,5 mm. Penetration time > 480 min,  
Fluorocarbon rubber (Viton)  
0,4 mm. Penetration time ≥ 480 min.  
Advice: remove contaminated gloves.*
- **Eye protection:** *Tightly sealed goggles by risk of splashing.*

(Contd. on page 5)

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 21.03.2022

Version number 1

Revision: 11.03.2022

Trade name: **350-B LiquidDesign Component B Hardener**

(Contd. of page 4)

**· Body protection:**

*Protective work clothing*

*It is not recommended to work with this product in case of skin hypersensitivity.*

### SECTION 9: Physical and chemical properties

**· 9.1 Information on basic physical and chemical properties**

**· General Information**

**· Appearance:**

Form:	<i>Fluid</i>
Colour:	<i>Colourless</i>
· Odour:	<i>Odourless</i>
· Odour threshold:	<i>Not determined.</i>

· pH-value: *Not determined.*

**· Change in condition**

Melting point/freezing point:	<i>Undetermined.</i>
Initial boiling point and boiling range:	<i>Undetermined.</i>

· Flash point: *Not applicable.*

· Flammability (solid, gas): *Not applicable.*

· Decomposition temperature: *Not determined.*

· Auto-ignition temperature: *Not determined.*

· Explosive properties: *Product does not present an explosion hazard.*

**· Explosion limits:**

Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>

· Vapour pressure: *Not determined.*

· Density at 20 °C: *1.17 g/cm<sup>3</sup>*

· Relative density: *Not determined.*

· Vapour density: *Not determined.*

· Evaporation rate: *Not determined.*

**· Solubility in / Miscibility with water:**

*Not determined.*

· Partition coefficient: n-octanol/water: *Not determined.*

**· Viscosity:**

Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>

**Solids content:** *0.0 %*

· 9.2 Other information *No further relevant information available.*

GB

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 21.03.2022

Version number 1

Revision: 11.03.2022

Trade name: **350-B LiquidDesign Component B Hardener**

(Contd. of page 5)

### 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 toxicological effects

- **Acute toxicity**  
*Harmful if inhaled.*

#### · LD/LC50 values relevant for classification:

##### **28182-81-2 Aliphatic polyisocyanate**

Oral	LD50	>2,500 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat) >2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.39 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** *Based on available data, the classification criteria are not met.*
- **Serious eye damage/irritation** *Based on available data, the classification criteria are not met.*
- **Respiratory or skin sensitisation**  
*May cause an allergic skin reaction.*
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** *Based on available data, the classification criteria are not met.*
- **Carcinogenicity** *Based on available data, the classification criteria are not met.*
- **Reproductive toxicity** *Based on available data, the classification criteria are not met.*
- **STOT-single exposure**  
*May cause respiratory irritation.*
- **STOT-repeated exposure** *Based on available data, the classification criteria are not met.*
- **Aspiration hazard** *Based on available data, the classification criteria are not met.*

### SECTION 12: Ecological information

#### · 12.1 Toxicity

#### · Aquatic toxicity:

##### **28182-81-2 Aliphatic polyisocyanate**

LC50/96h	>100 mg/l (Danio rerio)
ErC50/72 h	>1,000 mg/l (Demodermus subspicatus)
EC50/48 h	>100 mg/l (daphnia)

- **12.2 Persistence and degradability** *No further relevant information available.*

(Contd. on page 7)

## Safety data sheet

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Version number 1

Revision: 11.03.2022

Trade name: **350-B LiquidDesign Component B Hardener**

(Contd. of page 6)

- **12.3 Bioaccumulative potential** *No further relevant information available.*
- **12.4 Mobility in soil** *No further relevant information available.*
- **Additional ecological information:**
- **General notes:**  
*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*
- **12.6 Other adverse effects** *No further relevant information available.*

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

### SECTION 14: Transport information

- |                                                                                             |                        |
|---------------------------------------------------------------------------------------------|------------------------|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>                                         | <i>Void</i>            |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, IMDG, IATA</b>                           | <i>Void</i>            |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, ADN, IMDG, IATA</b><br>· <b>Class</b> | <i>Void</i>            |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                     | <i>Void</i>            |
| · <b>14.5 Environmental hazards:</b>                                                        | <i>Not applicable.</i> |
| · <b>14.6 Special precautions for user</b>                                                  | <i>Not applicable.</i> |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>            | <i>Not applicable.</i> |
| · <b>UN "Model Regulation":</b>                                                             | <i>Void</i>            |

### 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** *Substance is not listed.*

(Contd. on page 8)

## Safety data sheet

### according to 1907/2006/EC, Article 31

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**Trade name: 350-B LiquidDesign Component B Hardener**

(Contd. of page 7)

- **National regulations:**
- **Waterhazard class:** *Water hazard class 1 (Assessment by list): slightly hazardous for water.*
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57**
- 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.*

- **Department issuing SDS:** *R&D department*
- **Contact:** *Ing. T.W. Breeuwer*
- **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)*
  - DNEL: Derived No-Effect Level (REACH)*
  - PNEC: Predicted No-Effect Concentration (REACH)*
  - LC50: Lethal concentration, 50 percent*
  - LD50: Lethal dose, 50 percent*
  - PBT: Persistent, Bioaccumulative and Toxic*
  - SVHC: Substances of Very High Concern*
  - vPvB: very Persistent and very Bioaccumulative*
  - Acute Tox. 4: Acute toxicity – Category 4*
  - Skin Sens. 1: Skin sensitisation – Category 1*
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

GB