

Safety data sheet
according to UK REACH

Printing date 16.09.2024


Version number 2

Revision: 16.09.2024

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 6271620
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 GB CLP regulation.
- **Hazard pictograms**
- 
GHS07
- **Signal word** *Warning*
- **Hazard-determining components of labelling:**
Aliphatic polyisocyanate
hexamethylene-di-isocyanate
- **Hazard statements**
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

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- **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.

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

- **Additional information:**

Contains 0 % 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.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents:**

Carbon dioxide (CO₂), 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).

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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. Do not close (CO₂-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.

· **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 section 7.*

· **Ingredients with limit values that require monitoring at the workplace:** *Not required.*

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· **DNELs****28182-81-2 Aliphatic polyisocyanate**Inhalative DNEL Inhalative long terme 0.5 /mg/m³ (worker)· **PNECs****28182-81-2 Aliphatic polyisocyanate**

PNEC g/kg	53.2 g/kg (Soil) 266.7 g/kg (Fresh Water Sediment)
PNEC ug/l	1,270 µg/l (Fresh Water)
PNEC mg/l	38.28 mg/l (Rioolwaterzuiveringsinstallaties)
PNEC mg/kg	>0.0026 mg/kg /dw (Soil)

· **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.· **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: Fluid

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· Colour:	Colourless
· Odour:	Odourless
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Not determined.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure:	Not determined.
· Density at 20 °C:	1.17 g/cm ³
· 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:	Not determined.
Kinematic:	Not determined.
Solids content:	0.0 %
· 9.2 Other information	No further relevant information available.

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.

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SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity

Harmful if inhaled.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	1.52 mg/l
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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

ErC50/72 h	>1,000 mg/l (<i>Demodesmus subspicatus</i>)
EC50/72 h	>1,000 mg/l (<i>Selenastrum capricornutum</i>)

· **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.*

· Additional ecological information:

· General notes:

Do not discharge rinse water arising from cleaning tools into sewers or surface water.

Avoid transfer into the environment.

· 12.5 Results of PBT and vPvB assessment

· **PBT:** *Not applicable.*

· **vPvB:** *Not applicable.*

· **12.6 Other adverse effects** *No further relevant information available.*

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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

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

Void

· **14.2 UN proper shipping name**

· **ADR, 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:**

Not applicable.

· **14.6 Special precautions for user**

Not applicable.

· **14.7 Transport in bulk according to Annex II of
Marpol and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

Void

SECTION 15: Regulatory information

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

· **Poisons Act**

· **Regulated explosives precursors**

None of the ingredients is listed.

· **Regulated poisons**

None of the ingredients is listed.

· **Reportable explosives precursors**

None of the ingredients is listed.

· **Reportable poisons**

None of the ingredients is listed.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** *Substance is not listed.*

· **15.2 Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

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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 (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

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

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

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