

18.07.2023

Kit components

Product code	Description
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450	Twecosolid set
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Components:

448	Twecosolid basis
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449	Twecosolid verharder
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: **Twecosolid basis**

Article number: 448
 UFI: SYK2-V09K-400A-FCE6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Sector of Use SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
 SU19 Building and construction work
 Product category PC9a Coatings and paints, thinners, paint removers
 Process category PROC19 Manual activities involving hand contact
 PROC10 Roller application or brushing
 Environmental release category ERC5 Use at industrial site leading to inclusion into/onto article
 ERC8c Widespread use leading to inclusion into/onto article (indoor)
 ERC8f Widespread use leading to inclusion into/onto article (outdoor)
 Article category AC13 Plastic articles
 AC11 Wood articles
 Application of the substance / the mixture See our technical datasheet for application details of this product.
 Clear coating material, Varnish

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: De IJssel Coatings BV, Centrumbaan 960, NL 2841 MH Moordrecht
 Tel: +31 182 372177, E-mail: info@de-ijssel-coatings.nl

Further information obtainable from: Research and Development.


1.4 Emergency telephone number:

De IJssel Coatings BV, Tel. +31 182 372177, E-mail: safety@de-ijssel-coatings.nl
 Office hours: working days from 08:00 to 17:00 hrs.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

 GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

 GHS07



Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

 
 GHS05 GHS07

Signal word

Danger

Hazard-determining components of labelling:

isoforondiamine-isobutyraldimine

Hazard statements

H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 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.
 P310 Immediately call a POISON CENTER/doctor.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P405 Store locked up.

(Contd. on page 2)

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

Printing date 18.07.2023

Version number 44 (replaces version 43)

Revision: 12.06.2023

Trade name: Tweecosolid basis

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. of page 1)

· 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 of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 54914-37-3 EINECS: 259-393-4 Reg.nr.: 01-2119978283-28	isoforondiamine-isobutyraldimine ⚠ Skin Corr. 1B, H314; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317	50 – 100%
CAS: 64741-65-7 EINECS: 265-067-2 Index number: 649-275-00-4 Reg.nr.: 01-2120009436-62	Naphtha (petroleum), heavy alkylate ⚠ Flam. Liq. 3, H226; ⚠ Asp. Tox. 1, H304; ⚠ Aquatic Chronic 2, H411	< 2%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**· 4.1 Description of first aid measures**

- General information: Immediately remove any clothing soiled by the product.
- 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: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

· 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: CO2 or powder. Fight larger fires with alcohol resistant foam.

· 5.2 Special hazards arising from the substance or mixture

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**

Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.

· 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).
Use neutralising agent.
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.

(Contd. on page 3)

Trade name: Tweecosolid basis

(Contd. of page 2)

*** SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.
 - 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:
 - Store material in original, tightly closed containers in a cool, well-ventilated area in accordance with applicable (local) regulations. Depending on total volume stored, the storage area should comply with PGS15.
 - Information about storage in one common storage facility:
 - Not required.
 - Further information about storage conditions:
 - Keep container tightly sealed.
 - Recommended storage temperature:
 - 5 - 30 °C
- **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:
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· DNEL (Derived No Effect Level) for workers	
54914-37-3 isoforondiamine-isobutyraldimine	
Inhalative	Long-term - systemic effects, worker 150 mg/m ³ (Worker)
· PNEC (Predicted No Effect Concentration) values	
54914-37-3 isoforondiamine-isobutyraldimine	
Aquatic compartment - freshwater	0.023 mg/l (Freshwater)
Aquatic compartment - marine water	0.0023 mg/l (Marine water)
Aquatic compartment - sediment in freshwater	5.78 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water	0.578 mg/kg sed dw (Sediment marine water)
Terrestrial compartment - soil	0.00502 mg/kg dw (Soil)
Sewage treatment plant	3.18 mg/l (stp)

- 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.
 - Avoid contact with the eyes.
 - Avoid contact with the eyes and skin.
- Respiratory protection:
 - 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.
- Hand protection
 - Protective gloves
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves
 - Nitrile rubber, NBR
 - 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. As the product is a preparation of several substances, the resistance of the glove material can not be

(Contd. on page 4)

Trade name: Tweecosolid basis

(Contd. of page 3)

- Penetration time of glove material
 - calculated in advance and has therefore to be checked prior to the application.
 - Recommended thickness of the material: ≥ 0.3 mm
 - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
 - For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).
- For the permanent contact gloves made of the following materials are suitable:
 - Nitrile rubber, NBR
- As protection from splashes gloves made of the following materials are suitable:
 - Nitrile rubber, NBR
- Not suitable are gloves made of the following materials:
 - Leather gloves
 - Strong material gloves
- Eye/face protection
 - Tightly sealed goggles

*** SECTION 9: Physical and chemical properties**

· 9.1 Information on basic physical and chemical properties	
· General Information	
· Physical state	Fluid
· Colour:	According to product specification
· Odour:	Characteristic
· Odour threshold:	Not determined.
· Melting point/freezing point:	Undetermined.
· Boiling point or initial boiling point and boiling range	200 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	77 °C (Pensky Martens, ASTM D93)
· Decomposition temperature:	Not determined.
· pH at 20 °C	7
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic at 20 °C:	500 mPas (Brookfield, ASTM D1544)
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C:	0.93 g/cm ³ (DIN 51757, ASTM D 1298)
· Relative density	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:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· Organic solvents:	0.8 %
· VOC:	
· VOC (2004/42/EC):	0.83 %
· Solids content:	96.6 %
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void

(Contd. on page 5)

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

Printing date 18.07.2023

Version number 44 (replaces version 43)

Revision: 12.06.2023

Trade name: Tweecosolid basis

(Contd. of page 4)

· 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 Based on available data, the classification criteria are not met.
- LD/LC50 values relevant for classification:

Components	Type	Value	Species
54914-37-3 isoforondiamine-isobutyraldimine			
Oral	LD50	4,150 mg/kg (Rat)	
Dermal	LD50	5,000 mg/kg (Rat)	
64741-65-7 Naphtha (petroleum), heavy alkylate			
Oral	LD50	> 6,000 mg/kg (Rat)	
Dermal	LD50	> 3,000 mg/kg (Rabbit)	

- Skin corrosion/irritation Causes severe skin burns and eye damage.
- Serious eye damage/irritation Causes serious eye damage.
- Respiratory or skin sensitisation May cause an allergic skin reaction.
- 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 Based on available data, the classification criteria are not met.
- 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.

· **11.2 Information on other hazards**

· Endocrine disrupting properties	None of the ingredients is listed.
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*** SECTION 12: Ecological information**

- **12.1 Toxicity**
- Aquatic toxicity: No further relevant information available.

Type of test	Effective concentration	Method	Assessment
64741-65-7 Naphtha (petroleum), heavy alkylate			
Inhalative	LC50/4 h	> 7.8 mg/l (Rat)	

(Contd. on page 6)

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

Printing date 18.07.2023

Version number 44 (replaces version 43)

Revision: 12.06.2023

Trade name: Tweecosolid basis

(Contd. of page 5)

- **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**
- Additional ecological information:
- General notes: Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

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.

· European waste catalogue	
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
HP8	Corrosive
HP13	Sensitising

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

*** SECTION 14: Transport information**

· 14.1 UN number or ID number	
· ADR/RID/ADN, IMDG, IATA	UN3066
· 14.2 UN proper shipping name	
· ADR/RID/ADN	3066 PAINT
· IMDG, IATA	PAINT
· 14.3 Transport hazard class(es)	
· ADR/RID/ADN	
· Class	8 (C9) Corrosive substances.
· Label	8

· IMDG, IATA	
· Class	8 Corrosive substances.
· Label	8
· 14.4 Packing group	
· ADR/RID/ADN, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.

(Contd. on page 7)

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

Printing date 18.07.2023

Version number 44 (replaces version 43)

Revision: 12.06.2023

Trade name: Tweecosolid basis

(Contd. of page 6)

· Transport/Additional information:	
· ADR/RID/ADN	1L
· Limited quantities (LQ)	Code: E2
· Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 3066 PAINT, 8, II

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.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
None of the ingredients is listed.
· REGULATION (EU) 2019/1148
· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))
None of the ingredients is listed.
· Annex II - REPORTABLE EXPLOSIVES PRECURSORS
None of the ingredients is listed.
· Regulation (EC) No 273/2004 on drug precursors
None of the ingredients is listed.
· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors
None of the ingredients is listed.

· National regulations:

· Technical instructions (air):

Class	Share in %
NK	0.8

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 H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

· Classification according to Regulation (EC) No 1272/2008 The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Skin corrosion/irritation Serious eye damage/irritation Skin sensitisation	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
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(Contd. on page 8)

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

Printing date 18.07.2023

Version number 44 (replaces version 43)

Revision: 12.06.2023

Trade name: Tweecosolid basis

(Contd. of page 7)

- Department issuing SDS: Research and Development
- Contact: Saïda El Asjadi, tel: +31 182 372177, e-mail: safety@de-ijssel-coatings.nl
- Date of previous version: 28.01.2022
- Version number of previous version: 43
- 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)
VOC: Volatile Organic Compounds (USA, EU)
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
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Literature data and/or investigation reports are available through the manufacturer.
- Sources:
- * Data compared to the previous version altered.

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

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

1.1 Product identifier

- Trade name: **Tweecosolid verharder**
- Article number: 449
- UFI: ACK4-R0TE-4005-EF2A

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Sector of Use
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
 - SU19 Building and construction work
- Product category: PC9a Coatings and paints, thinners, paint removers
- Process category
 - PROC19 Manual activities involving hand contact
 - PROC10 Roller application or brushing
- Environmental release category
 - ERC5 Use at industrial site leading to inclusion into/onto article
 - ERC8c Widespread use leading to inclusion into/onto article (indoor)
 - ERC8f Widespread use leading to inclusion into/onto article (outdoor)
- Article category
 - AC13 Plastic articles
 - AC11 Wood articles
- Application of the substance / the mixture
 - See our technical datasheet for application details of this product.
 - Isocyanate hardener for polyurethanes

1.3 Details of the supplier of the safety data sheet

- Manufacturer/Supplier: De IJssel Coatings BV, Centrumbaan 960, NL 2841 MH Moordrecht
Tel: +31 182 372177, E-mail: info@de-ijssel-coatings.nl

- Further information obtainable from: Research and Development.

1.4 Emergency telephone number:

De IJssel Coatings BV, Tel. +31 182 372177, E-mail: safety@de-ijssel-coatings.nl
Office hours: working days from 08:00 to 17:00 hrs.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008

 GHS07

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 product is classified and labelled according to the CLP regulation.

- Hazard pictograms

 GHS07

- Signal word

Warning

- Hazard-determining components of labelling:

Hexamethyleen-1,6-diisocyanaat homopolymeer
hexamethylene-di-isocyanate

- Hazard statements

H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

- Precautionary statements

P261 Avoid breathing 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/doctor if you feel unwell.
P362+P364 Take off contaminated clothing and wash it before reuse.
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:

EUH204 Contains isocyanates. May produce an allergic reaction.

(Contd. on page 2)

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

Trade name: Tweecosolid verharder

(Contd. of page 1)

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 of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119488934-20	Hexamethyleen-1,6-diisocyaan homopolymeer ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50 – 100%
CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1 Reg.nr.: 01-2119457571-37	hexamethylene-di-isocyanate ⚠ Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335, EUH204 Specific concentration limits: Resp. Sens. 1; H334: C ≥ 0.5 % Skin Sens. 1; H317: C ≥ 0.5 %	0.1 – 0.5%

- Additional information: For the wording of the listed hazard phrases refer to section 16.

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: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water.
- After swallowing: If symptoms persist consult doctor.

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.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

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**

Not required.

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.

(Contd. on page 3)

Trade name: Tweecosolid verharder

(Contd. of page 2)

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.

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 material in original, tightly closed containers in a cool, well-ventilated area in accordance with applicable (local) regulations. Depending on total volume stored, the storage area should comply with PGS15.

Information about storage in one common storage facility:

Not required.

Further information about storage conditions:

Keep container tightly sealed.

Recommended storage temperature:

5 - 30 °C

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:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

DNEL (Derived No Effect Level) for workers

28182-81-2 Hexamethyleen-1,6-diisocyanat homopolymeer

Inhalative	Acute - local effects, worker	1 mg/m ³ (Worker)
	Long-term - local effects, worker	0.5 mg/m ³ (Worker)

822-06-0 hexamethylene-di-isocyanate

Inhalative	Acute - systemic effects, worker	0.07 mg/m ³ (Worker)
	Long-term - systemic effects, worker	0.035 mg/m ³ (Worker)
	Long-term - local effects, worker	0.035 mg/m ³ (Worker)

PNEC (Predicted No Effect Concentration) values

28182-81-2 Hexamethyleen-1,6-diisocyanat homopolymeer

Aquatic compartment - freshwater	0.199 mg/l (Freshwater)
Aquatic compartment - marine water	0.0199 mg/l (Marine water)
Aquatic compartment - sediment in freshwater	44,551 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water	4,455 mg/kg sed dw (Sediment marine water)
Terrestrial compartment - soil	8,884 mg/kg dw (Soil)
Sewage treatment plant	100 mg/l (stp)

822-06-0 hexamethylene-di-isocyanate

Aquatic compartment - freshwater	0.0774 mg/l (Freshwater)
Aquatic compartment - marine water	0.00774 mg/l (Marine water)
Aquatic compartment - sediment in freshwater	0.01334 mg/kg sed dw (Sediment freshwater)
Aquatic compartment - sediment in marine water	0.001334 mg/kg sed dw (Sediment marine water)
Terrestrial compartment - soil	0.0026 mg/kg dw (Soil)
Sewage treatment plant	8.42 mg/l (stp)

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.

(Contd. on page 4)

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

Trade name: Tweecosolid verharder

(Contd. of page 3)

- Respiratory protection: 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.
- Hand protection: Protective gloves
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves: Nitrile rubber, NBR
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Recommended thickness of the material: ≥ 0.3 mm
- 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.
For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).
- For the permanent contact gloves made of the following materials are suitable: Nitrile rubber, NBR
- As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR
- Not suitable are gloves made of the following materials: Leather gloves
Strong material gloves
- Eye/face protection: Goggles recommended during refilling

SECTION 9: Physical and chemical properties**· 9.1 Information on basic physical and chemical properties**

- General Information
- Physical state: Fluid
- Colour: Colourless
- Odour: Characteristic
- Odour threshold: Not determined.
- Melting point/freezing point: Undetermined.
- Boiling point or initial boiling point and boiling range: 190 °C
- Flammability: Not applicable.
- Lower and upper explosion limit
- Lower: 2.8 Vol %
- Upper: 12.7 Vol %
- Flash point: 203 °C (Pensky Martens, ASTM D93)
- Auto-ignition temperature: 431 °C
- Decomposition temperature: Not determined.
- pH at 20 °C: 7
- Viscosity:
- Kinematic viscosity: Not determined.
- Dynamic at 20 °C: 700 mPas (Brookfield, ASTM D1544)
- Solubility
- water: Not miscible or difficult to mix.
- Partition coefficient n-octanol/water (log value): Not determined.
- Vapour pressure at 20 °C: 3 hPa
- Density and/or relative density
- Density at 20 °C: 1.142 g/cm³ (DIN 51757, ASTM D 1298)
- Relative density: 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: Product is not selfigniting.

(Contd. on page 5)

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

Trade name: Tweecosolid verharder

(Contd. of page 4)

· Explosive properties:	Product does not present an explosion hazard.
· VOC:	
· VOC (2004/42/EC):	0.00 %
· Solids content:	89.7 %
· 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.
- LD/LC50 values relevant for classification:

Components	Type	Value	Species
ATE (Acute Toxicity Estimates)			
Dermal	LD50	274,537 mg/kg	
822-06-0 hexamethylene-di-isocyanate			
Oral	LD50	738 mg/kg (Rat)	
Dermal	LD50	593 mg/kg (Rat)	

- 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.
- 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.

(Contd. on page 6)

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

Trade name: Tweecosolid verharder

(Contd. of page 5)

· 11.2 Information on other hazards

- Endocrine disrupting properties
- None of the ingredients is listed.

SECTION 12: Ecological information

· 12.1 Toxicity

- Aquatic toxicity: No further relevant information available.

Type of test	Effective concentration	Method	Assessment
ATE (Acute Toxicity Estimates)			
Inhalative	LC50/4 h	11.6 mg/l	

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	11.6 mg/l
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· 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

- Additional ecological information:

- General notes:

Water hazard class 1 (German Regulation) (Self-assessment): 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.

· European waste catalogue

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
----------	-------------------------------------------------------------------------------------------------------------------------------------------------------------

08 01 00	wastes from MFSU and removal of paint and varnish
----------	---------------------------------------------------

08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
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HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
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HP13	Sensitising
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- Uncleaned packaging:

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

*** SECTION 14: Transport information**

· 14.1 UN number or ID number

- ADR/RID/ADN, IMDG, IATA: UN1263

· 14.2 UN proper shipping name

- ADR/RID/ADN: 1263 PAINT
- IMDG, IATA: PAINT

· 14.3 Transport hazard class(es)

- ADR/RID/ADN

- Class: 3 (F1) Flammable liquids.
- Label: 3

- IMDG, IATA

- Class: 3 Flammable liquids.
- Label: 3

(Contd. on page 7)

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

Trade name: Tweecosolid verharder

(Contd. of page 6)

· 14.4 Packing group · ADR/RID/ADN, IMDG, IATA	III
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 30 F-E, <u>S</u> -E A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR/RID/ADN · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1263 PAINT, 3, III

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.
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 74

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· REGULATION (EU) 2019/1148

· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· National regulations:

· Technical instructions (air):

Class	Share in %
I	0.2

· 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.

(Contd. on page 8)

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

Printing date 18.07.2023

Version number 38 (replaces version 37)

Revision: 18.07.2023

Trade name: Tweecosolid verharder

(Contd. of page 7)

- Relevant phrases
 - H302 Harmful if swallowed.
 - H311 Toxic in contact with skin.
 - H315 Causes skin irritation.
 - H317 May cause an allergic skin reaction.
 - H319 Causes serious eye irritation.
 - H330 Fatal if inhaled.
 - H332 Harmful if inhaled.
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H335 May cause respiratory irritation.
 - EUH204 Contains isocyanates. May produce an allergic reaction.

- Classification according to Regulation (EC) No 1272/2008

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Acute toxicity - inhalation Skin sensitisation Specific target organ toxicity (single exposure)	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
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- Department issuing SDS: Research and Development
- Contact: Saïda El Asjadi, tel: +31 182 372177, e-mail: safety@de-ijsstel-coatings.nl
- Date of previous version: 23.03.2021
- Version number of previous version: 37
- 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)
 - VOC: Volatile Organic Compounds (USA, EU)
 - 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
 - vPvB: very Persistent and very Bioaccumulative
 - Acute Tox. 3: Acute toxicity – Category 3
 - Acute Tox. 2: Acute toxicity – Category 2
 - 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
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- Sources: Literature data and/or investigation reports are available through the manufacturer.
- * Data compared to the previous version altered.