according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

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

1.1 Product identifier

Trade name : MOBIHEL 2K HARDENER 1100

Product code : 41672203

Unique Formula Identifier

(UFI)

: HDK0-X06P-K00C-DTM1

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

Use of the Sub- : PC9a Coatings and paints, thinners, paint removers

stance/Mixture

Recommended restrictions

on use

Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : Helios TBLUS d.o.o.

Količevo 65 1230 Domžale Slovenia

Telephone Company : 386 (1) 722 4383

Telefax Company : 386 (1) 722 4310

Responsible/issuing person : 386 (1) 722 4383

productsafety@helios.si

1.4 Emergency telephone number

01 809 2166 National Poisons Information Centre 01 809 2166

01 809 2566 Healtcare Professionals 01 809 2566

01 809 2566 Healtcare Professionals 01 809 2566

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

### Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Acute toxicity, Category 4 H332: Harmful if inhaled.

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Specific target organ toxicity - single exposure, Category 3, Central nervous

system

H336: May cause drowsiness or dizziness.

Specific target organ toxicity - single exposure, Category 3, Respiratory system

Long-term (chronic) aquatic hazard, Cat-

egory 3

H335: May cause respiratory irritation.

H412: Harmful to aquatic life with long lasting ef-

fects.

#### 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :





Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.H336 May cause drowsiness or dizziness.

H412 Harmful to aquatic life with long lasting effects.

Supplemental Hazard

Statements

EUH066

Repeated exposure may cause skin

dryness or cracking.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking. P261 Avoid breathing mist or vapours.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection/ hearing protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immedi-

ately all contaminated clothing. Rinse skin with water. P370 + P378 In case of fire: Use dry sand, dry chemical or

alcohol-resistant foam to extinguish.

#### Hazardous components which must be listed on the label:

Hexamethylene-di-isocyanate, polymer

n-butyl acetate

2-butoxyethyl acetate

according to Regulation (EC) No. 1907/2006

## HELIOS

## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Hydrocarbons, C9 aromatics

#### **Additional Labelling**

EUH204 Contains isocyanates. May produce an allergic reaction.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hexamethylene-di-isocyanate, polymer	28182-81-2 500-060-2 01-2119485796-17	Acute Tox. 4; H332 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	>= 30 - < 50
n-butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) EUH066	>= 20 - < 30
2-butoxyethyl acetate	112-07-2 203-933-3 607-038-00-2 01-2119475112-47	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312	>= 10 - < 20
Hydrocarbons, C9 aromatics	128601-23-0 918-668-5 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 2.5 - < 10
reaction mixture of ethylbenzene, m-xylene and p-xylene	-	Flam. Liq. 3; H226 Acute Tox. 4; H332	>= 1 - < 10

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

	905-562-9 01-2119555267-33	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373 Asp. Tox. 1; H304	
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	64742-95-6 265-199-0 649-356-00-4 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2.5

#### **SECTION 4: First aid measures**

### 4.1 Description of first aid measures

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.

If unconscious, place in recovery position and seek medical

advice.

In case of skin contact : If skin irritation persists, call a physician.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician. Take victim immediately to hospital.

#### 4.2 Most important symptoms and effects, both acute and delayed

Risks : May cause an allergic skin reaction.

Harmful if inhaled.

May cause respiratory irritation. May cause drowsiness or dizziness.

Repeated exposure may cause skin dryness or cracking.

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**

Version SDS Number: Revision Date: Date of last issue: -

MAT000416722 Date of first issue: 08.08.2023 1.0 08.08.2023

IE/EN

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment** : Treat symptomatically.

#### **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam

Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-

fighting

Do not allow run-off from fire fighting to enter drains or water

courses.

ucts

Hazardous combustion prod- : No hazardous combustion products are known

#### 5.3 Advice for firefighters

for firefighters

Special protective equipment : In the event of fire, wear self-contained breathing apparatus.

Further information Collect contaminated fire extinguishing water separately. This

must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored sepa-

rately in closed containments.

Use a water spray to cool fully closed containers.

#### **SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment.

> Remove all sources of ignition. Evacuate personnel to safe areas.

Beware of vapours accumulating to form explosive concentra-

tions. Vapours can accumulate in low areas.

#### 6.2 Environmental precautions

Environmental precautions Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform

respective authorities.

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, and then collect with non-combustible ab-

sorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local

/ national regulations (see section 13).

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

#### **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid formation of aerosol.

Do not breathe vapours/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national

regulations.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being

used.

Advice on protection against

fire and explosion

Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge

(which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: No smoking. Keep container tightly closed in a dry and wellventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials

must comply with the technological safety standards.

Further information on stor-

age stability

No decomposition if stored and applied as directed.

#### 7.3 Specific end use(s)

Specific use(s) : For further information, refer to the product technical data

sheet.

according to Regulation (EC) No. 1907/2006

# HELIOS

## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Consult the technical guidelines for the use of this substance/mixture.

## **SECTION 8: Exposure controls/personal protection**

## 8.1 Control parameters

## **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form	Control parameters	Basis		
		of exposure)				
Hexamethylene-di- isocyanate, poly- mer	28182-81-2	OELV - 8 hrs (TWA)	0.02 mg/m3 (NCO)	IE OEL		
	Further inform	ation: Chemical age	ents which following exposure	may cause		
			ct and lead to asthma, rhinitis			
	allergic alveol	itis				
		OELV - 15 min	0.07 mg/m3	IE OEL		
		(STEL)	(NCO)			
			ents which following exposure			
	sensitisation of	of the respiratory trac	ct and lead to asthma, rhinitis	or extrinsic		
	allergic alveol					
n-butyl acetate	123-86-4	OELV - 8 hrs	50 ppm	IE OEL		
-		(TWA)	241 mg/m3			
		OELV - 15 min	150 ppm	IE OEL		
		(STEL)	723 mg/m3			
		STEL	150 ppm	2019/1831/E		
			723 mg/m3	U		
	Further information: Indicative					
		TWA	50 ppm	2019/1831/E		
			241 mg/m3	U		
	Further information: Indicative					
2-butoxyethyl ace-	112-07-2	TWA	20 ppm	2000/39/EC		
tate			133 mg/m3			
	Further inform	ation: Identifies the	possibility of significant uptak	ke through the		
	skin, Indicative			Ü		
		STEL	50 ppm	2000/39/EC		
			333 mg/m3			
	Further inform	ation: Identifies the	possibility of significant uptak	e through the		
	skin, Indicative	e		-		
		OELV - 8 hrs	20 ppm	IE OEL		
		(TWA)	133 mg/m3			
	Further inform	ation: Substances w	which have the capacity to pe	netrate intact		
	skin when they come in contact with it, and be absorbed into the body					
		OELV - 15 min	50 ppm	IE OEL		
		(STEL)	333 mg/m3			
		(0:/	Further information: Substances which have the capacity to penetrate intact			
	Further inform			netrate intact		
		nation: Substances w				
reaction mixture of		nation: Substances w	which have the capacity to pe			

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

xylene and p- xylene				
	Further inform	ation: Substances w	which have the capacity to pe	netrate intact
	skin when the	y come in contact wi	ith it, and be absorbed into th	e body
		OELV - 15 min	100 ppm	IE OEL
		(STEL)	442 mg/m3	
	Further inform	ation: Substances w	which have the capacity to pe	netrate intact
	skin when the	skin when they come in contact with it, and be absorbed into the body		
		TWA	50 ppm	2000/39/EC
			221 mg/m3	
	Further inform	ation: Identifies the	possibility of significant uptak	e through the
	skin, Indicative	е		•
		STEL	100 ppm	2000/39/EC
			442 mg/m3	
	Further inform	ation: Identifies the	possibility of significant uptak	e through the
	skin, Indicative	е		-

## Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hexamethylene-di- isocyanate, polymer	Workers	Inhalation	Long-term local ef- fects	0.5 mg/m3
	Workers	Inhalation	Long-term systemic effects	1 mg/m3
n-butyl acetate	Workers	Inhalation	Acute systemic effects	600 mg/m3
	Workers	Inhalation	Acute local effects	600 mg/m3
	Workers	Inhalation	Long-term systemic effects	48 mg/m3
	Workers	Inhalation	Long-term local effects	300 mg/m3
	Consumers	Inhalation	Acute systemic effects	300 mg/m3
	Consumers	Inhalation	Acute local effects	300 mg/m3
	Consumers	Inhalation	Long-term systemic effects	12 mg/m3
	Consumers	Inhalation	Long-term local ef- fects	35.7 mg/m3
	Consumers	Dermal	Long-term systemic effects	3.4 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	6 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	2 mg/kg bw/day
	Consumers	Oral	Acute systemic ef- fects	2 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	7 mg/kg bw/day
	Workers	Dermal	Acute systemic ef- fects	11 mg/kg bw/day
2-butoxyethyl acetate	Workers	Inhalation	Long-term systemic effects	333 mg/m3

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

	Consumers	Oral	Long-term systemic effects	86 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	169 mg/kg bw/day
	Workers	Dermal	Acute systemic ef- fects	120 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	102 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	72 mg/kg bw/day
	Consumers	Oral	Acute systemic ef- fects	36 mg/kg bw/day
Hydrocarbons, C9 aromatics	Workers	Inhalation	Long-term systemic effects	150 mg/m3
	Workers	Oral	Long-term systemic effects	150 mg/m3
	Consumers	Inhalation	Long-term exposure	32 mg/m3
	Workers	Dermal	Long-term systemic effects	25 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	11 mg/kg bw/day
reaction mixture of ethylbenzene, m- xylene and p-xylene	Workers	Inhalation	Long-term systemic effects	77 mg/m3
, ,	Consumers	Inhalation	Long-term local ef- fects	65.3 mg/m3
	Workers	Inhalation	Acute systemic ef- fects	442 mg/m3
	Workers	Inhalation	Acute local effects	289 mg/m3
	Consumers	Inhalation	Acute systemic effects	260 mg/m3
	Workers	Inhalation	Long-term local ef- fects	221 mg/m3
	Consumers	Inhalation	Long-term systemic effects	14.8 mg/m3
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Dermal	Long-term systemic effects	108 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	16 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	180 mg/kg bw/day
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	Workers	Inhalation	Long-term systemic effects	150 mg/m3
	Consumers	Inhalation	Long-term systemic effects	32 mg/m3
	Consumers	Dermal	Long-term systemic effects	11 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	25 mg/kg bw/day

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Consumers	Oral	Long-term systemic	11 mg/kg
		effects	bw/day

## Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Hexamethylene-di-isocyanate,	Soil	505 mg/kg dry
polymer		weight (d.w.)
	Marine water	0.01 mg/l
	Fresh water	0.1 mg/l
	Marine sediment	253 mg/kg dry
		weight (d.w.)
	Fresh water sediment	2530 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	100 mg/l
	Intermittent use/release	1 mg/l
n-butyl acetate	Soil	0.0903 mg/kg dry
•		weight (d.w.)
	Marine water	0.018 mg/l
	Fresh water	0.18 mg/l
	Marine sediment	0.0981 mg/kg dry
		weight (d.w.)
	Fresh water sediment	0.981 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	35.6 mg/l
	Intermittent use/release	0.36 mg/l
2-butoxyethyl acetate	Soil	0.415 mg/kg dry
		weight (d.w.)
	Marine water	0.0304 mg/l
	Fresh water	0.304 mg/l
	Marine sediment	0.203 mg/kg dry
		weight (d.w.)
	Fresh water sediment	2.03 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	90 mg/l
	Intermittent use/release	0.56 mg/l
3-methoxybutyl acetate	Soil	0.00397 mg/kg
, ,		dry weight (d.w.)
	Marine water	0.00071 mg/l
	Fresh water	0.0071 mg/l
	Marine sediment	0.0041 mg/kg dry
		weight (d.w.)
	Fresh water sediment	0.041 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	1 mg/l
	Intermittent use/release	0.071 mg/l
reaction mixture of ethylbenzene,	Soil	2.31 mg/kg dry
m-xylene and p-xylene		weight (d.w.)
	Marine water	0.327 mg/l
	Fresh water	0.327 mg/l
	Marine sediment	12.46 mg/kg dry
		weight (d.w.)
	Fresh water sediment	12.46 mg/kg dry

according to Regulation (EC) No. 1907/2006

# HELIOS

## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

	weight (d.w.)
Sewage treatment plant	6.58 mg/l
Intermittent use/release	0.327 mg/l

#### 8.2 Exposure controls

Personal protective equipment

Eye/face protection : Equipment should conform to EN 166

Eye wash bottle with pure water Tightly fitting safety goggles

Hand protection

Gloves : | Viton® (> 0,6 mm; < 240 min); DIN EN374 |

PE laminate (> 0,1 mm; < 240 min); DIN EN374

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of

cuts, abrasion, and the contact time.

Skin and body protection : Impervious clothing

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ven-

tilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Equipment should conform to EN 14387

Filter type : Organic vapour type (A)

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

#### 9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : colourless

Odour : solvent-like

Odour Threshold : No data available

Melting point/freezing point : -80.0 °C (calculation method (principal components, lowest

value))

Boiling point/boiling range : 126 °C (calculation method (principal components, lowest

value))

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Flammability : Static-accumulating flammable liquid., Combustible Solids

Upper explosion limit / Upper

flammability limit

8.4 %(V) (calculation method (principal components, highest

value))

Lower explosion limit / Lower

flammability limit

0.8 %(V) (calculation method (principal components, highest

value)

Flash point : 38 °C

Ignition temperature : 280 °C (calculation method (principal components, highest

value))

Decomposition temperature : No decomposition if stored and applied as directed.

Hazardous decomposition products formed under fire condi-

tions.

pH : Not applicable

Viscosity

Viscosity, kinematic : > 20.5 mm2/s (40 °C)

Flow time : 12 s at 20 °C

Cross section: 4 mm Method: DIN 53211

Solubility(ies)

Water solubility : immiscible, partly soluble

Solubility in other solvents : Description: miscible with most organic solvents

Partition coefficient: n-

octanol/water

log Pow: < 4 (calculation method (principal components, high-

est value))

Vapour pressure : < 1,100 hPa (calculation method (principal components, high-

est value)) (50 °C)

Relative density : 0.93 (calculation method (principal components, highest val-

ue))

Density : 0.99 g/cm3

Relative vapour density : 5.5 (calculation method (principal components, lowest value))

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

(Air = 1.0)

9.2 Other information

Explosives : Not applicable

Oxidizing properties : Sustains combustion

VOC : (Directive 2010/75/EU of 24 November 2010 on industrial

emissions (integrated pollution prevention and control))

60.95 %

### **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

No decomposition if stored and applied as directed.

#### 10.2 Chemical stability

No decomposition if stored and applied as directed.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Incompatible with strong acids and bases.

#### 10.6 Hazardous decomposition products

Adequate ventilation is required.

Heating can release vapours which can be ignited.

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

## **SECTION 11: Toxicological information**

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### **Acute toxicity**

Harmful if inhaled.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 19.11 mg/l

Exposure time: 4 h

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Test atmosphere: vapour Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Components:

Hexamethylene-di-isocyanate, polymer:

Acute inhalation toxicity : Assessment: The component/mixture is moderately toxic after

short term inhalation.

n-butyl acetate:

Acute oral toxicity : LD50 Oral (Rat): >= 10,760 mg/kg

Acute dermal toxicity : LD50 (Rabbit): >= 5,000 mg/kg

2-butoxyethyl acetate:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after

single ingestion.

LD50 Oral (Rat): >= 2,400 mg/kg

Acute inhalation toxicity : LC50 (Rat): >= 50 mg/l

Exposure time: 2 h Test atmosphere: vapour

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after

single contact withskin.

LD50 (Rabbit): >= 1,500 mg/kg

Hydrocarbons, C9 aromatics:

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Acute oral toxicity : LD50 Oral (Rat): >= 8,700 mg/kg

Acute inhalation toxicity : LC50 (Rat): 27.14 mg/l

Test atmosphere: vapour

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after

single contact withskin.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l

Test atmosphere: vapour

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

#### Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

**Product:** 

Remarks : May cause skin irritation and/or dermatitis.

## **Components:**

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Result : irritating

#### Serious eye damage/eye irritation

Not classified based on available information.

**Product:** 

Remarks : Vapours may cause irritation to the eyes, respiratory system

and the skin.

#### **Components:**

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Result : Eye irritation

#### Respiratory or skin sensitisation

#### Skin sensitisation

May cause an allergic skin reaction.

#### Respiratory sensitisation

Not classified based on available information.

**Product:** 

Remarks : Causes sensitisation.

## **Components:**

### Hexamethylene-di-isocyanate, polymer:

Result : Probability or evidence of skin sensitisation in humans

## Germ cell mutagenicity

Not classified based on available information.

#### **Components:**

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Germ cell mutagenicity- As- : Classified based on benzene content < 0.1% (Regulation (EC)

sessment 1272/2008, Annex VI, Part 3, Note P)

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

### Carcinogenicity

Not classified based on available information.

#### **Components:**

#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Carcinogenicity - Assess: Classified based on benzene content < 0.1% (Regulation (EC)

ment 1272/2008, Annex VI, Part 3, Note P)

#### Reproductive toxicity

Not classified based on available information.

#### STOT - single exposure

May cause respiratory irritation.

May cause drowsiness or dizziness.

#### **Components:**

#### Hexamethylene-di-isocyanate, polymer:

Assessment : May cause respiratory irritation.

n-butyl acetate:

Assessment : May cause drowsiness or dizziness.

## Hydrocarbons, C9 aromatics:

Assessment : May cause drowsiness or dizziness.

Assessment : May cause respiratory irritation.

#### reaction mixture of ethylbenzene, m-xylene and p-xylene:

Assessment : May cause respiratory irritation.

#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Assessment : May cause drowsiness or dizziness.

Assessment : May cause respiratory irritation.

#### STOT - repeated exposure

Not classified based on available information.

#### **Components:**

#### reaction mixture of ethylbenzene, m-xylene and p-xylene:

Assessment : May cause damage to organs through prolonged or repeated

exposure.

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

#### **Aspiration toxicity**

Not classified based on available information.

#### **Components:**

#### Hydrocarbons, C9 aromatics:

May be fatal if swallowed and enters airways.

#### reaction mixture of ethylbenzene, m-xylene and p-xylene:

May be fatal if swallowed and enters airways.

#### Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

May be fatal if swallowed and enters airways.

#### 11.2 Information on other hazards

#### **Endocrine disrupting properties**

#### **Product:**

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

#### **Further information**

**Product:** 

Remarks : Symptoms of overexposure may be headache, dizziness,

tiredness, nausea and vomiting.

Concentrations substantially above the TLV value may cause

narcotic effects.

Solvents may degrease the skin.

### **SECTION 12: Ecological information**

#### 12.1 Toxicity

#### **Components:**

#### n-butyl acetate:

Toxicity to algae/aquatic

plants

: NOEC (Desmodesmus subspicatus (green algae)): > 200 mg/l

EC50 (Desmodesmus subspicatus (green algae)): >= 647.7

mg/l

Exposure time: 72 h

Toxicity to microorganisms : IC50 (Tetrahymena pyriformis): 356 mg/l

Exposure time: 40 h

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version SDS Number: Date of last issue: -Revision Date:

MAT000416722 Date of first issue: 08.08.2023 1.0 08.08.2023

IE/EN

2-butoxyethyl acetate:

Toxicity to fish : LC50 (Fish): >= 31 mg/l

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : LC50 (Daphnia (water flea)): >= 142.5 mg/l

Exposure time: 48 h

Toxicity to microorganisms EC50 (Bacteria): >= 2,800 mg/l

Hydrocarbons, C9 aromatics:

Toxicity to fish LC50 (Fish): >= 9.2 mg/l

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia (water flea)): >= 3.2 mg/l

Exposure time: 48 h

**Ecotoxicology Assessment** 

Chronic aquatic toxicity Toxic to aquatic life with long lasting effects.

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Toxicity to fish : LC50 (Fish): >= 1 - 10 mg/l

aquatic invertebrates

Toxicity to daphnia and other : LC50 (Daphnia (water flea)): >= 1 - 10 mg/l

: EC50 (Bacteria): >= 1 - 100 mg/l Toxicity to microorganisms

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

LC50 (Fish): > 1 - 10 mg/l Toxicity to fish

aquatic invertebrates

Toxicity to daphnia and other : LC50 (Daphnia (water flea)): > 1 - 10 mg/l

Toxicity to microorganisms EC50 (Bacteria): > 1 - 10 mg/l

**Ecotoxicology Assessment** 

Chronic aquatic toxicity Toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

**Components:** 

n-butyl acetate:

Biodegradability Result: Biodegradable

Biodegradation: 83 % Exposure time: 28 d

Method: OECD Test Guideline 301D

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Stability in water : Degradation half life: 78 d

pH: 8

Hydrolyses slowly.

Photodegradation : Decomposes rapidly in contact with light.

2-butoxyethyl acetate:

Biodegradability : Result: Biodegradable

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Biodegradability : Readily biodegradable.

Photodegradation : Decomposes rapidly in contact with light.

12.3 Bioaccumulative potential

**Components:** 

n-butyl acetate:

Bioaccumulation : Bioconcentration factor (BCF): 15

Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 1.81

2-butoxyethyl acetate:

Partition coefficient: n-

octanol/water

log Pow: 1.51

Hydrocarbons, C9 aromatics:

Partition coefficient: n-

octanol/water

log Pow: < 4

reaction mixture of ethylbenzene, m-xylene and p-xylene:

Bioaccumulation : Bioconcentration factor (BCF): 25.9

Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 2.77 - 3.15

12.4 Mobility in soil

**Components:** 

Hydrocarbons, C9 aromatics:

Mobility : Medium: Air

Content: 92.9 %

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version 1.0

Revision Date: 08.08.2023

SDS Number: MAT000416722 Date of last issue: -

Date of first issue: 08.08.2023

IE/EN

Medium: Water Content: 3.5 %

Medium: Soil Content: 1.9 %

: Medium: Sediment Content: 1.8 %

Distribution among environ-

mental compartments

Koc: 1.71 - 14.70 Mobile in soils

The product is insoluble and floats on water.

#### reaction mixture of ethylbenzene, m-xylene and p-xylene:

Distribution among environ-

mental compartments

Koc: 537, log Koc: 2.73 Moderately mobile in soils

The product evaporates from soil.

Stability in soil Dissipation time: 23 d

Percentage dissipation: 50 % (DT50)

#### 12.5 Results of PBT and vPvB assessment

#### **Product:**

Assessment This substance/mixture contains no components considered

to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of

0.1% or higher.

#### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components consid-

> ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

## 12.7 Other adverse effects

#### **Product:**

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

### **SECTION 13: Disposal considerations**

## 13.1 Waste treatment methods

according to Regulation (EC) No. 1907/2006

## HELIOS

## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Product : The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product. Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

Waste Code : 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 var-

nish

08 01 11, waste paint and varnish containing organic solvents

or other hazardoussubstances

15 00 00, WASTE PACKAGING; ABSORBENTS, WIPING

CLOTHS, FILTER MATERIALS AND PROTECTIVE

CLOTHING NOT OTHERWISE SPECIFIED

15 01 00, packaging (including separately collected municipal

packaging waste)

15 01 10, packaging containing residues of or contaminated

by hazardoussubstances

HP3, Flammable HP6, Acute Toxicity HP13, Sensitising

## **SECTION 14: Transport information**

#### 14.1 UN number or ID number

ADN : UN 1263
ADR : UN 1263
RID : UN 1263
IMDG : UN 1263
IATA : UN 1263

#### 14.2 UN proper shipping name

ADN : PAINT
ADR : PAINT
RID : PAINT
IMDG : PAINT
IATA : Paint

## 14.3 Transport hazard class(es)

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version 1.0

Revision Date: 08.08.2023

SDS Number: MAT000416722

IE/EN

Date of last issue: -

Date of first issue: 08.08.2023

Class

Subsidiary risks

ADN : 3
ADR : 3
RID : 3
IMDG : 3
IATA : 3

### 14.4 Packing group

#### ADN

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

#### ADR

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : (D/E)

## RID

Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

#### **IMDG**

Packing group : III
Labels : 3
EmS Code : F-E, S-E

### IATA (Cargo)

Packing instruction (cargo : 366

aircraft)

Packing instruction (LQ) : Y344
Packing group : III

Labels : Flammable Liquids

#### IATA (Passenger)

Packing instruction (passen: 355

ger aircraft)

Packing instruction (LQ) : Y344
Packing group : III

Labels : Flammable Liquids

#### 14.5 Environmental hazards

#### **ADN**

Environmentally hazardous : no

ADR

Environmentally hazardous : no

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version SDS Number: Revision Date: Date of last issue: -

MAT000416722 Date of first issue: 08.08.2023 1.0 08.08.2023

IE/EN

Environmentally hazardous no

**IMDG** 

Marine pollutant no

#### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### **SECTION 15: Regulatory information**

## 15.1 Safety, health and environmental regulations/legislation specific for the substance or mix-

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered: Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

Not applicable

Regulation (EC) No 1005/2009 on substances that de-

plete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollu-

tants (recast)

Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import

of dangerous chemicals

Not applicable

REACH - List of substances subject to authorisation

(Annex XIV)

Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

P5c FLAMMABLE LIQUIDS

34 Petroleum products: (a) gasolines and naphthas, (b) kerosenes

according to Regulation (EC) No. 1907/2006

## **MOBIHEL 2K HARDENER 1100**



Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

(including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a)

to (d)

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial

emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 60.95 %

#### Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

#### **SECTION 16: Other information**

#### **Full text of H-Statements**

H226 : Flammable liquid and vapour.

H302 : Harmful if swallowed.

H304 : May be fatal if swallowed and enters airways.

H312 : Harmful in contact with skin.

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.

H332 : Harmful if inhaled.

H335 : May cause respiratory irritation. H336 : May cause drowsiness or dizziness.

H373 : May cause damage to organs through prolonged or repeated

exposure.

H411 : Toxic to aquatic life with long lasting effects.

EUH066 : Repeated exposure may cause skin dryness or cracking.

#### Full text of other abbreviations

Acute Tox. : Acute toxicity

Aquatic Chronic : Long-term (chronic) aquatic hazard

Asp. Tox. : Aspiration hazard Eye Irrit. : Eye irritation Flam. Liq. : Flammable liquids

according to Regulation (EC) No. 1907/2006

## ENER 4400

**MOBIHEL 2K HARDENER 1100** 

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure STOT SE : Specific target organ toxicity - single exposure

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first

list of indicative occupational exposure limit values

2019/1831/EU : Europe. Commission Directive 2019/1831/EU establishing a

fifth list of indicative occupational exposure limit values

IE OEL : Ireland. List of Chemical Agents and Occupational Exposure

Limit Values - Schedule 1

2000/39/EC / TWA: Limit Value - eight hours2000/39/EC / STEL: Short term exposure limit2019/1831/EU / TWA: Limit Value - eight hours2019/1831/EU / STEL: Short term exposure limit

IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min : Occupational exposure limit value (15-minute reference peri-

(STEL) od)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road: AIIC - Australian Inventory of Industrial Chemicals: ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

according to Regulation (EC) No. 1907/2006



## **MOBIHEL 2K HARDENER 1100**

Version Revision Date: SDS Number: Date of last issue: -

1.0 08.08.2023 MAT000416722 Date of first issue: 08.08.2023

IE/EN

#### Classification of the mixture: Classification procedure: Flam. Liq. 3 H226 Based on product data or assessment Acute Tox. 4 H332 Calculation method Skin Sens. 1 H317 Calculation method STOT SE 3 H336 Calculation method STOT SE 3 H335 Calculation method Aquatic Chronic 3 H412 Calculation method

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