according to Regulation (EC) No. 1907/2006

# HELIOS

## **MOBIHEL 2K HARDENER 1500**

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

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

1.1 Product identifier

Product code : 41672702

Trade name : MOBIHEL 2K HARDENER 1500

Unique Formula Identifier

(UFI)

: TNK0-F08V-G00U-DUC7

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

on use

Recommended restrictions : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

: Helios TBLUS d.o.o. Company

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

Call 999 for emergency medical attention

professionals only: National Poison Information Service (NPIS) 24h national number 0844 892

0111

consumer: National Health Service (NHS) 24h national number, England & Scotland 111

#### **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.

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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

H335: May cause respiratory irritation.

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

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 dust/ fume/ gas/ mist/ vapours/ spray.P280 Wear protective gloves/ protective clothing/ eye protective

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.

P304 + P340 + P312 IF INHALED: Remove person to fresh

air and keep comfortable for breathing. Call a POISON

CENTER/ doctor if you feel unwell.

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 isobutyl acetate

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

#### **Additional Labelling**

EUH204 Contains isocyanates. May produce an allergic reaction.

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#### 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
isobutyl acetate	110-19-0 203-745-1 607-026-00-7 01-2119488971-22	Flam. Liq. 2; H225 STOT SE 3; H336 (Central nervous system) EUH066	>= 1 - < 10
reaction mixture of ethylbenzene, m-xylene and p-xylene	905-562-9 01-2119555267-33	Flam. Liq. 3; H226 Acute Tox. 4; H332 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	>= 1 - < 10
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9 607-195-00-7	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous	>= 1 - < 10

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	01-2119475791-29	system)	
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.

May cause respiratory irritation. May cause drowsiness or dizziness.

Repeated exposure may cause skin dryness or cracking.

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

Treatment : Treat symptomatically.

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## **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

fighting

Specific hazards during fire- : Cool closed containers exposed to fire with water spray.

#### 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.

#### 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).

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#### 6.4 Reference to other sections

For disposal considerations see section 13., For personal protection see section 8.

#### **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.

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

## 8.1 Control parameters

## **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hexamethylene-di- isocyanate, poly- mer	28182-81-2	TWA	0,02 mg/m3 (NCO)	GB EH40
	Further information: Capable of causing occupational asthma.			
		STEL	0,07 mg/m3 (NCO)	GB EH40
	Further inform	ation: Capable of ca	using occupational asthma.	
n-butyl acetate	123-86-4	TWA	150 ppm 724 mg/m3	GB EH40
		STEL	200 ppm 966 mg/m3	GB EH40
		STEL	150 ppm 723 mg/m3	2019/1831/E U
	Further inform	ation: Indicative		1
		TWA	50 ppm 241 mg/m3	2019/1831/E U
		ation: Indicative		
isobutyl acetate	110-19-0	TWA	150 ppm 724 mg/m3	GB EH40
		STEL	187 ppm 903 mg/m3	GB EH40
		TWA	50 ppm 241 mg/m3	2019/1831/E U
	Further inform	ation: Indicative	•	
		STEL	150 ppm 723 mg/m3	2019/1831/E U
	Further inform	ation: Indicative		
reaction mixture of ethylbenzene, m- xylene and p- xylene	1330-20-7	TWA	50 ppm 221 mg/m3	2000/39/EC
	Further inform skin, Indicative		possibility of significant uptal	ke through the
		STEL	100 ppm 442 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	50 ppm 220 mg/m3	GB EH40
		ose for which there	bed through the skin. The as are concerns that dermal ab	
	,	STEL	100 ppm	GB EH40

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			441 mg/m3	
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
2-methoxy-1- methylethyl ace- tate	108-65-6	STEL	100 ppm 550 mg/m3	2000/39/EC
		Further information: Identifies the possibility of significant uptake through the skin, Indicative		
		TWA	50 ppm 275 mg/m3	2000/39/EC
		Further information: Identifies the possibility of significant uptake through the skin, Indicative		
		TWA	50 ppm 274 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	100 ppm 548 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			

## **Biological occupational exposure limits**

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Hexamethylene-di- isocyanate, polymer	28182-81-2	isocyanate-derived diamine (Isocya- nates): 1 µmol/mol creatinine (Urine)	At the end of the period of exposure	GB EH40 BAT
reaction mixture of ethylbenzene, m-xylene and p-xylene	1330-20-7	methyl hippuric acid: 650 Millimo- les per mole Creat- inine (Urine)	After shift	GB EH40 BAT

## 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 effects	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 ef- fects	300 mg/m3
	Consumers	Inhalation	Acute systemic ef-	300 mg/m3

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fects Acute local effects 300 mg/m3 Consumers Inhalation Consumers Inhalation Long-term systemic 12 mg/m3 effects Consumers Inhalation Long-term local ef-35,7 mg/m3 fects 3,4 mg/kg Consumers Dermal Long-term systemic effects bw/day Consumers Dermal Acute systemic ef-6 mg/kg bw/day fects Consumers Oral Long-term systemic 2 mg/kg bw/day effects Consumers Oral Acute systemic ef-2 mg/kg bw/day fects Workers Dermal Long-term systemic 7 mg/kg effects bw/day Acute systemic ef-11 mg/kg Workers Dermal fects bw/day Workers Inhalation Long-term systemic 300 mg/m3 isobutyl acetate effects Workers Inhalation Acute systemic ef-600 mg/m3 fects Workers Inhalation Long-term local ef-300 mg/m3 fects Acute local effects 600 mg/m3 Workers Inhalation Inhalation Long-term systemic 35,7 mg/m3 Consumers effects Consumers Inhalation Long-term local ef-35,7 mg/m3 fects Consumers Inhalation Acute local effects 300 mg/m3 Workers Dermal Long-term systemic 10 mg/kg effects bw/day Consumers Oral Acute systemic ef-5 mg/kg bw/day fects 10 mg/kg Workers Dermal Acute systemic efbw/day fects Consumers Dermal Long-term systemic 5 mg/kg bw/day effects Consumers Dermal Acute systemic ef-5 mg/kg bw/day fects 5 mg/kg Consumers Oral Long-term systemic bw/day effects reaction mixture of Workers Inhalation Long-term systemic 77 mg/m3 ethylbenzene, meffects xylene and p-xylene Consumers Inhalation Long-term local ef-65,3 mg/m3 fects Acute systemic ef-442 mg/m3 Workers Inhalation fects Inhalation Acute local effects 289 mg/m3 Workers Acute systemic ef-260 mg/m3 Consumers Inhalation fects

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Workers Inhalation Long-term local ef-221 mg/m3 fects Consumers Inhalation Long-term systemic 14,8 mg/m3 effects 260 mg/m3 Consumers Inhalation Acute local effects 108 mg/kg Consumers Dermal Long-term systemic bw/day effects Long-term systemic 16 mg/kg Consumers Oral effects bw/day Workers Dermal Long-term systemic 180 mg/kg effects bw/day 275 mg/m3 2-methoxy-1-Workers Long-term systemic Inhalation methylethyl acetate effects Workers Inhalation Acute local effects 550 mg/m3 Consumers Inhalation Long-term systemic 33 mg/m3 effects Long-term local ef-33 mg/m3 Consumers Inhalation fects Workers Dermal Long-term systemic 796 mg/kg effects bw/day 320 mg/kg Long-term systemic Consumers Dermal bw/day effects Consumers Oral Long-term systemic 36 mg/kg effects bw/dav ethvl 3-Workers Inhalation Long-term systemic 610 mg/m3 ethoxypropionate effects 610 mg/m3 Workers Inhalation Long-term local effects Consumers Inhalation Long-term systemic 72,6 mg/m3 effects Consumers Inhalation Long-term local ef-72,6 mg/m3 fects Long-term local ef-102 mg/cm2 Workers Dermal fects Workers Dermal Long-term systemic 102 mg/kg effects bw/day 24,2 mg/kg Consumers Dermal Long-term systemic effects bw/day Consumers Oral Long-term systemic 1,2 mg/kg effects bw/day Solvent naphtha (pe-Workers Inhalation Long-term systemic 150 mg/m3 troleum), light arom.; effects Low boiling point naphtha -unspecified Consumers Inhalation Long-term systemic 32 mg/m3 effects Consumers Dermal Long-term systemic 11 mg/kg effects bw/day Workers Dermal Long-term systemic 25 mg/kg effects bw/day Consumers Oral Long-term systemic 11 mg/kg effects bw/day

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

Substance name	Environmental Compartment	Value
Hexamethylene-di-isocyanate,	Soil	53182 mg/kg dry
polymer		weight (d.w.)
	Marine water	0,0127 mg/l
	Fresh water	0,127 mg/l
	Marine sediment	26670 mg/kg dry
		weight (d.w.)
	Fresh water sediment	266670 mg/kg
		dry weight (d.w.)
	Sewage treatment plant	38,3 mg/l
	Intermittent use/release	1,27 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
isobutyl acetate	Soil	0,0755 mg/kg dry
		weight (d.w.)
	Marine water	0,017 mg/l
	Fresh water	0,17 mg/l
	Marine sediment	0,0877 mg/kg dry
		weight (d.w.)
	Fresh water sediment	0,877 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	200 mg/l
	Intermittent use/release	0,34 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
		weight (d.w.)
	Sewage treatment plant	6,58 mg/l
	Intermittent use/release	0,327 mg/l
2-methoxy-1-methylethyl acetate	Soil	0,29 mg/kg dry
, , ,		weight (d.w.)
	Marine water	0,0635 mg/l
	Fresh water	0,635 mg/l
	Marine sediment	0,329 mg/kg dry
		weight (d.w.)
	Fresh water sediment	3,29 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	100 mg/l

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1	Intermittent use/release	0,00635 mg/l
ethyl 3-ethoxypropionate	Soil	0,048 mg/kg dry
		weight (d.w.)
	Marine water	0,00609 mg/l
	Fresh water	0,0609 mg/l
	Marine sediment	0,0419 mg/kg dry
		weight (d.w.)
	Fresh water sediment	0,419 mg/kg dry
		weight (d.w.)
	Sewage treatment plant	50 mg/l
	Intermittent use/release	0,609 mg/l

#### 8.2 Exposure controls

Personal protective equipment

Eye protection : Equipment should conform to EN 166

Eye wash bottle with pure water Tightly fitting safety goggles

Hand protection

Gloves : | Nitrile rubber (> 0,1 mm; < 60 min); DIN EN374 | | butyl-

rubber (> 0,6 mm; < 240 min); DIN EN374 | | Viton® (> 0,6 mm; < 240 min); DIN EN374 | | PE laminate (> 0,1 mm; <

240 min); DIN EN374

Remarks : 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 : Wear a full face respirator conforming to EN136 with Type

A/P2 filter or better.

Self-contained closed-circuit breathing apparatus com-

pressed (EN 145)

In the case of aerosol and mist formation use an approved

respirator filter (EN 141).

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

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

Physical state : liquid

Colour : in accordance with the product description

Odour : solvent-like

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Odour Threshold : No data available

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Melting point/freezing point : -98,8 °C

(calculation method (principal components, lowest value))

Boiling point/boiling range : 117 °C (calculation method (principal components, lowest

value))

Flammability : Static-accumulating flammable liquid., Combustible Solids

Upper explosion limit / Upper

flammability limit

10,5 %(V) (calculation method (principal components, highest

value))

Lower explosion limit / Lower

flammability limit

1,1 %(V) (calculation method (principal components, highest

value))

Flash point : 34 °C

Ignition temperature : 315 °C (calculation method (principal components, highest

value))

Decomposition temperature

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)

Solubility(ies)

Water solubility : immiscible, partly soluble

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

Partition coefficient: n-

octanol/water

log Pow: 2,77 - 3,15 (calculation method (principal compo-

nents, highest value))

Vapour pressure : < 1.100 hPa (calculation method (principal components, high-

est value))

(50 °C)

Relative density : No data available

Density : 0,984 g/cm3

Relative vapour density : 4,6 (calculation method (principal components, lowest value))

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(Air = 1.0)

9.2 Other information

Explosives : Not applicable

Oxidizing properties : Sustains combustion

## **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 : Strong acids and oxidizing agents

Strong reducing agents

#### 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**

Not classified based on available information.

**Product:** 

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l

Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg

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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:

: LD50 Oral (Rat): >= 10.760 mg/kg Acute oral toxicity

Acute dermal toxicity : LD50 (Rabbit): >= 5.000 mg/kg

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

Acute oral toxicity : LD50 Oral (Rat): >= 8.700 mg/kg

Acute inhalation toxicity Test atmosphere: vapour

Assessment: The component/mixture is moderately toxic after

short term inhalation.

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

single contact with skin.

2-methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 Oral (Rat): > > 2.000 mg/kg

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

Test atmosphere: vapour

LC0 (Rat): 2000 ppm Exposure time: 3 h

Acute dermal toxicity : LD50 (Rabbit): > > 2.000 mg/kg

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

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.

according to Regulation (EC) No. 1907/2006



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#### **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.

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.

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# HELIOS

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#### 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.

isobutyl acetate:

Assessment : May cause drowsiness or dizziness.

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

Assessment : May cause respiratory irritation.

#### 2-methoxy-1-methylethyl acetate:

Assessment : May cause drowsiness or dizziness.

#### 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.

#### **Aspiration toxicity**

Not classified based on available information.

## **Components:**

#### 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.

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#### 11.2 Information on other hazards

#### **Endocrine disrupting properties**

**Product:** 

The substance/mixture does not contain components consid-Assessment

> 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

Exposure time: 72 h

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

Exposure time: 40 h

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

: 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 - 100 mg/l

2-methoxy-1-methylethyl acetate:

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): 130 mg/l

Exposure time: 96 h

NOEC: 100 mg/l

according to Regulation (EC) No. 1907/2006

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Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

LC50: 408 mg/l

Exposure time: 48 h

Toxicity to fish (Chronic tox-

icity)

EC10: 47,5 mg/l

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

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

Toxicity to daphnia and other :

aquatic invertebrates

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

Degradation half life: 78 d Stability in water

8:Hq

Hydrolyses slowly.

Photodegradation Decomposes rapidly in contact with light.

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

Biodegradability Readily biodegradable.

Photodegradation Decomposes rapidly in contact with light.

2-methoxy-1-methylethyl acetate:

Biodegradability : Readily biodegradable.

#### 12.3 Bioaccumulative potential

#### **Components:**

n-butyl acetate:

Bioaccumulation Bioconcentration factor (BCF): 15

according to Regulation (EC) No. 1907/2006

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Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 1,81

isobutyl acetate:

Partition coefficient: n-

octanol/water

log Pow: 1,72

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

2-methoxy-1-methylethyl acetate:

Partition coefficient: nlog Pow: 1,2 (20 °C)

octanol/water pH: 6,8

12.4 Mobility in soil

**Components:** 

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

Distribution among environmental 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.

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#### 12.7 Other adverse effects

**Product:** 

Additional ecological infor- : No data available

mation

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

#### 13.1 Waste treatment methods

Product Do not dispose of waste into sewer.

Do not contaminate ponds, waterways or ditches with chemi-

cal or used container.

Send to a licensed waste management company.

Empty remaining contents. Contaminated packaging

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

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

08 00 00, WASTES FROM THE MANUFACTURE, Waste Code

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 sol-

vents or other hazardous substances

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 hazardous substances

HP3. Flammable 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

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

#### 14.3 Transport hazard class(es)

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, <u>S-E</u>

#### 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

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Labels Flammable Liquids

14.5 Environmental hazards

**ADN** 

Environmentally hazardous no

Environmentally hazardous no

RID

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 mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances.

preparations and articles (Annex XVII)

Conditions of restriction for the following entries should be considered:

Number on list 3

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

Not applicable

REACH - List of substances subject to authorisation

(Annex XIV)

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

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

according to Regulation (EC) No. 1907/2006

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34 Petroleum products: (a) gasolines

and naphthas, (b) kerosenes (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)

## 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**

H225 : Highly flammable liquid and vapour. H226 : Flammable liquid and vapour.

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

STOT RE : Specific target organ toxicity - repeated exposure

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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

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT : UK. Biological monitoring guidance values

2000/39/EC / TWA : Limit Value - eight hours 2000/39/EC / STEL : Short term exposure limit 2019/1831/EU / TWA : Limit Value - eight hours 2019/1831/EU / STEL : Short term exposure limit

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European 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; TRGS -Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### **Further information**

## Classification of the mixture: Classification procedure:

Flam. Liq. 3 H226 Based on product data or assessment

Skin Sens. 1 H317 Calculation method STOT SE 3 H336 Calculation method

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STOT SE 3 H335 Calculation method

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