

SAFETY DATA SHEET

MOBIHEL 2K HARDENER 750W



Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	01.12.2023	MAT000477693	Date of first issue: 01.12.2023
		JO/EN	

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

1.1 Product identifier

Trade name : MOBIHEL 2K HARDENER 750W

Product code : 47769302

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

Use of the Sub-stance/Mixture : Coatings and paints, thinners, paint removers

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

Emergency telephone number: 911

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapour.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.

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

H336: May cause drowsiness or dizziness.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :
H225 Highly flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.

Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements :
Prevention:
P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P261 Avoid breathing mist or vapours.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
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
ethyl acetate
4-methylpentan-2-one
toluene
4-isocyanatosulphonyltoluene
hexamethylene-di-isocyanate

Additional Labelling

"As from 24 August 2023 adequate training is required before industrial or professional use."

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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.

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 diisocyanate, oligomers	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
ethylacetate	141-78-6 205-500-4 607-022-00-5 01-2119475103-46	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system)	>= 20 - < 30
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)	>= 10 - < 20
2-butanone	78-93-3 201-159-0 606-002-00-3 01-2119457290-43	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system)	>= 10 - < 20
4-methylpentan-2-one	108-10-1 203-550-1 606-004-00-4 01-2119473980-30	Flam. Liq. 2; H225 Acute Tox. 4; H332 Eye Irrit. 2; H319 Carc. 2; H351 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system)	>= 10 - < 20
toluene	108-88-3 203-625-9 601-021-00-3 01-2119471310-51	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 (Central nervous system)	>= 3 - < 10

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		STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 3; H412	
p-toluenesulphonyl isocyanate	4083-64-1 223-810-8 615-012-00-7 01-2119980050-47	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 STOT SE 3; H335 (Respiratory system)	$\geq 0.1 - < 1$
hexamethylene diisocyanate	822-06-0 212-485-8 615-011-00-1 01-2119457571-37	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	$\geq 0.1 - < 0.5$

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 : Call a physician or poison control centre immediately.
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 : Immediately flush eye(s) with plenty of water.
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.

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Causes serious eye irritation.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Suspected of damaging the unborn child.
Repeated exposure may cause skin dryness or cracking.

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.

Hazardous combustion products : No hazardous combustion products are known

5.3 Advice for firefighters

Special protective equipment for firefighters : 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 separately 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.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

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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 absorbent 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 application 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). Use only explosion-proof equipment. 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 well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials

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must comply with the technological safety standards.

Further information on storage 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.

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 of exposure)	Control parameters	Basis
ethyl acetate	141-78-6	STEL	400 ppm 1,468 mg/m ³	2017/164/EU
		TWA	200 ppm 734 mg/m ³	2017/164/EU
n-butyl acetate	123-86-4	STEL	150 ppm 723 mg/m ³	2019/1831/EU
		TWA	50 ppm 241 mg/m ³	2019/1831/EU
butanone	78-93-3	TWA	200 ppm 600 mg/m ³	2000/39/EC
		STEL	300 ppm 900 mg/m ³	2000/39/EC
4-methylpentan-2-one	108-10-1	TWA	20 ppm 83 mg/m ³	2000/39/EC
		STEL	50 ppm 208 mg/m ³	2000/39/EC
toluene	108-88-3	TWA	50 ppm 192 mg/m ³	2006/15/EC
		STEL	100 ppm 384 mg/m ³	2006/15/EC

Derived No Effect Level (DNEL)

according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Hexamethylene-diisocyanate, polymer	Workers	Inhalation	Long-term local effects	0.5 mg/m ³
	Workers	Inhalation	Long-term systemic effects	1 mg/m ³
ethyl acetate	Workers	Inhalation	Acute systemic effects	1468 mg/m ³

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	Workers	Inhalation	Long-term local effects	1468 mg/m3
	Workers	Inhalation	Long-term systemic effects	734 mg/m3
	Workers	Inhalation	Long-term local effects	734 mg/m3
	Consumers	Inhalation	Acute systemic effects	734 mg/m3
	Consumers	Inhalation	Acute local effects	734 mg/m3
	Consumers	Inhalation	Long-term systemic effects	367 mg/m3
	Consumers	Inhalation	Long-term local effects	367 mg/m3
	Workers	Dermal	Long-term systemic effects	63 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	37 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	4.5 mg/kg bw/day
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 effects	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 effects	2 mg/kg bw/day
	Workers	Dermal	Long-term systemic effects	7 mg/kg bw/day
	Workers	Dermal	Acute systemic effects	11 mg/kg bw/day
butanone	Consumers	Inhalation	Long-term systemic effects	106 mg/m3
	Workers	Inhalation	Long-term systemic effects	600 mg/m3
	Workers	Dermal	Long-term systemic effects	1161 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	412 mg/kg bw/day

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	Consumers	Oral	Long-term systemic effects	31 mg/kg bw/day
4-methylpentan-2-one	Consumers	Oral	Long-term systemic effects	4.2 mg/kg bw/day
toluene	Workers	Inhalation	Long-term systemic effects	192 mg/m3
	Workers	Inhalation	Long-term local effects	192 mg/m3
	Consumers	Inhalation	Acute systemic effects	226 mg/m3
	Consumers	Inhalation	Acute local effects	226 mg/m3
4-isocyanatosulphonyltoluene	Workers	Inhalation	Long-term systemic effects	3.24 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0.8 mg/m3
	Workers	Dermal	Long-term systemic effects	0.92 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	0.46 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0.46 mg/kg bw/day
hexamethylene-di-isocyanate	Workers	Inhalation	Long-term systemic effects	0.035 mg/m3
	Workers	Inhalation	Acute systemic effects	0.07 mg/m3
	Workers	Inhalation	Long-term local effects	0.035 mg/m3
	Workers	Inhalation	Acute local effects	0.07 mg/m3

Predicted No Effect Concentration (PNEC)

according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Hexamethylene-di-isocyanate, polymer	Soil	505 mg/kg dry 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
ethyl acetate	Intermittent use/release	1 mg/l
	Soil	0.24 mg/kg dry weight (d.w.)
	Marine water	0.026 mg/l
	Fresh water	0.26 mg/l
	Marine sediment	0.125 mg/kg dry weight (d.w.)
	Fresh water sediment	1.25 mg/kg dry weight (d.w.)
	Sewage treatment plant	650 mg/l

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	Intermittent use/release	1.65 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
butanone	Soil	22.5 mg/kg dry weight (d.w.)
	Marine water	55.8 mg/l
	Fresh water	55.8 mg/l
	Marine sediment	284.7 mg/kg dry weight (d.w.)
	Fresh water sediment	284.74 mg/kg dry weight (d.w.)
	Sewage treatment plant	709 mg/l
4-methylpentan-2-one	Soil	1.3 mg/kg dry weight (d.w.)
	Marine water	0.06 mg/l
	Fresh water	0.6 mg/l
	Marine sediment	0.83 mg/kg dry weight (d.w.)
	Fresh water sediment	8.27 mg/kg dry weight (d.w.)
	Sewage treatment plant	27.5 mg/l
toluene	Soil	2.89 mg/kg dry weight (d.w.)
	Marine water	0.68 mg/l
	Fresh water	0.68 mg/l
	Marine sediment	16.39 mg/kg dry weight (d.w.)
	Fresh water sediment	16.39 mg/kg dry weight (d.w.)
	Sewage treatment plant	13.61 mg/l
	Intermittent use/release	0.68 mg/l
4-isocyanatosulphonyltoluene	Soil	0.0168 mg/kg dry weight (d.w.)
	Marine water	0.003 mg/l
	Fresh water	0.03 mg/l
	Marine sediment	0.0172 mg/kg dry weight (d.w.)
	Fresh water sediment	0.172 mg/kg dry weight (d.w.)
	Sewage treatment plant	0.4 mg/l
	Intermittent use/release	0.3 mg/l
hexamethylene-di-isocyanate	Soil	0.0026 mg/kg dry weight (d.w.)
	Marine water	0.00774 mg/l

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	Fresh water	0.0774 mg/l
	Marine sediment	0.001344 mg/kg dry weight (d.w.)
	Fresh water sediment	0.01334 mg/kg dry weight (d.w.)
	Sewage treatment plant	8.42 mg/l
	Intermittent use/release	0.774 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
Wear face-shield and protective suit for abnormal processing problems.

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

Filter type : Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid
Colour : colourless
Odour : solvent-like

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Odour Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	-95.0 °C (calculation method (principal components, lowest value))
Boiling point/boiling range	:	77 °C (calculation method (principal components, lowest value))
Flash point	:	-4 °C (calculation method (principal components, lowest value))
Flammability (solid, gas)	:	Static-accumulating flammable liquid., Combustible Solids
Upper explosion limit / Upper flammability limit	:	11.5 %(V) (calculation method (principal components, highest value))
Lower explosion limit / Lower flammability limit	:	1.2 %(V) (calculation method (principal components, highest value))
Vapour pressure	:	< 1,100 hPa (calculation method (principal components, highest value)) (50 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.950 g/cm ³
Solubility(ies)		
Water solubility	:	immiscible, partly soluble
Solubility in other solvents	:	Description: miscible with most organic solvents
Partition coefficient: n-octanol/water	:	log Pow: 2.65 (calculation method (principal components, highest value))
Auto-ignition temperature	:	404 °C (calculation method (principal components, highest value))
Decomposition temperature	:	No decomposition if stored and applied as directed. Hazardous decomposition products formed under fire conditions.
Viscosity		
Viscosity, kinematic	:	> 20.5 mm ² /s (40 °C)
Explosive properties	:	Not applicable

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Oxidizing properties : Sustains combustion

9.2 Other information

No data available

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 toxicological effects

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

Components:

Hexamethylene-di-isocyanate, polymer:

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

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ethyl acetate:

Acute oral toxicity : LD50 Oral (Rat): $\geq 5,620$ mg/kg

Acute inhalation toxicity : LC50 (Rat): 1600 ppm
Exposure time: 8 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): $\geq 20,000$ mg/kg

n-butyl acetate:

Acute oral toxicity : LD50 Oral (Rat): $\geq 10,760$ mg/kg

Acute dermal toxicity : LD50 (Rabbit): $\geq 5,000$ mg/kg

butanone:

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

4-methylpentan-2-one:

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

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l
Test atmosphere: vapour
Method: Acute toxicity estimate according to Regulation (EC)
No. 1272/2008

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

toluene:

Acute oral toxicity : LD50 Oral (Rat): $> 5,000$ mg/kg

Acute inhalation toxicity : LC50 (Rat): > 28 mg/l
Exposure time: 4 h
Test atmosphere: vapour

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

hexamethylene-di-isocyanate:

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

Acute inhalation toxicity : Assessment: The component/mixture is highly toxic after short term inhalation.

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Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

toluene:

Result : irritating

4-isocyanatosulphonyltoluene:

Result : irritating

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks : May cause irreversible eye damage.

Components:

ethyl acetate:

Result : Eye irritation

butanone:

Result : Eye irritation

4-methylpentan-2-one:

Result : Eye irritation

4-isocyanatosulphonyltoluene:

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:

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Result : Probability or evidence of skin sensitisation in humans

4-isocyanatosulphonyltoluene:

Result : Probability of respiratory sensitisation in humans based on animal testing

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

Components:

4-methylpentan-2-one:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

toluene:

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

STOT - single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.

Components:

Hexamethylene-di-isocyanate, polymer:

Assessment : May cause respiratory irritation.

ethyl acetate:

Assessment : May cause drowsiness or dizziness.

n-butyl acetate:

Assessment : May cause drowsiness or dizziness.

butanone:

Assessment : May cause drowsiness or dizziness.

4-methylpentan-2-one:

Assessment : May cause respiratory irritation.

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toluene:

Assessment : May cause drowsiness or dizziness.

4-isocyanatosulphonyltoluene:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

toluene:

Assessment : May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified based on available information.

Components:

toluene:

May be fatal if swallowed and enters airways.

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

butanone:

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Toxicity to fish : LC50 (Fish): > 1,000 mg/l

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): > 1,000 mg/l

Toxicity to microorganisms : EC50 (Bacteria): > 1,000 mg/l

4-methylpentan-2-one:

Toxicity to fish : LC50 (Fish): >= 100 - 1,000 mg/l

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): >= 100 - 1,000 mg/l

Toxicity to microorganisms : EC50 (Bacteria): >= 100 - 1,000 mg/l

toluene:

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful 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

Stability in water : Degradation half life: 78 d
pH: 8
Remarks: Hydrolyses slowly.

Photodegradation : Remarks: Decomposes rapidly in contact with light.

12.3 Bioaccumulative potential

Components:

ethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 0.6

n-butyl acetate:

Bioaccumulation : Bioconcentration factor (BCF): 15
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 1.81

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butanone:

Partition coefficient: n-octanol/water : log Pow: 0.29

4-methylpentan-2-one:

Partition coefficient: n-octanol/water : log Pow: 1.19

toluene:

Partition coefficient: n-octanol/water : log Pow: 2.65

12.4 Mobility in soil

No data available

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 Other adverse effects

Product:

Endocrine disrupting potential : 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.

Additional ecological information : No data available

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 chemical 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.

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SECTION 14: Transport information

14.1 UN 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)

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

14.4 Packing group

ADN
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

ADR
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3
Tunnel restriction code : (D/E)

RID
Packing group : II
Classification Code : F1
Hazard Identification Number : 33
Labels : 3

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

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IATA (Cargo)

Packing instruction (cargo aircraft) : 364
Packing instruction (LQ) : Y341
Packing group : II
Labels : Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft) : 353
Packing instruction (LQ) : Y341
Packing group : II
Labels : Flammable Liquids

14.5 Environmental hazards

ADN

Environmentally hazardous : no

ADR

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

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.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.

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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.
H336	: May cause drowsiness or dizziness.
H351	: Suspected of causing cancer.
H361d	: Suspected of damaging the unborn child.
H373	: May cause damage to organs through prolonged or repeated exposure.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Carc.	: Carcinogenicity
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Repr.	: Reproductive toxicity
Resp. Sens.	: Respiratory sensitisation
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
2006/15/EC	: Europe. Indicative occupational exposure limit values
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth 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
2000/39/EC / TWA	: Limit Value - eight hours
2000/39/EC / STEL	: Short term exposure limit
2006/15/EC / TWA	: Limit Value - eight hours
2006/15/EC / STEL	: Short term exposure limit
2017/164/EU / STEL	: Short term exposure limit
2017/164/EU / TWA	: Limit Value - eight hours
2019/1831/EU / TWA	: Limit Value - eight hours
2019/1831/EU / STEL	: Short term exposure limit

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 car-

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rying 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; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Flam. Liq. 2	H225
Eye Irrit. 2	H319
Skin Sens. 1	H317
Carc. 2	H351
Repr. 2	H361d
STOT SE 3	H335
STOT SE 3	H336

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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