

## Safety Data Sheet

### MACROFAN UHS SPOT REPAIRS HARDENER

Safety Data Sheet dated 21/12/2022 version 5



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

### 1.1. Product identifier

Mixture identification:

Trade name: MACROFAN UHS SPOT REPAIRS HARDENER

Trade code: L0MH0120

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

Recommended use: Coatings and paints, thinners, paint removers

Poliisocyanic compound - professional use

Liquid solution

Professional uses

Uses advised against: N.A.

### 1.3. Details of the supplier of the safety data sheet

Company: Lechler SpA - Via Cecilio, 17 - 22100 Como - CO - Italy

Telephone: +39031586111

First Email: safety@lechler.eu

### 1.4. Emergency telephone number

UNITED KINGDOM: Emergency Number 0044 1606738600 - This telephone number is available during office hours only (8.45-16.45).

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Flam. Liq. 2 Highly flammable liquid and vapour.

Acute Tox. 4 Harmful if inhaled.

Eye Irrit. 2 Causes serious eye irritation.

Skin Sens. 1 May cause an allergic skin reaction.

STOT SE 3 May cause respiratory irritation.

STOT SE 3 May cause drowsiness or dizziness.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

#### Regulation (EC) No 1272/2008 (CLP):

#### Hazard pictograms and Signal Word



Danger

#### Hazard statements

H225 Highly flammable liquid and vapour.

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.

### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P403+P235 Store in a well-ventilated place. Keep cool.

### Special Provisions:

EUH066 Repeated exposure may cause skin dryness or cracking.  
EUH204 Contains isocyanates. May produce an allergic reaction.

### Contains

Hexamethylene-1,6-diisocyanate  
Homopolymer

n-butyl acetate

ethyl acetate

dibutyltin dilaurate

hexamethylene-di-isocyanate

### Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

### 2.3. Other hazards

Results of PBT and vPvB assessment Not a PBT, vPvB substance as per the criteria of the REACH Regulation.  
Endocrine disrupting properties-Toxicity 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. Endocrine disrupting properties-Ecotoxicity 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.

Other Hazards: No other hazards

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: MACROFAN UHS SPOT REPAIRS HARDENER

### Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥55 - ≤60 %	Hexamethylene-1,6-diisocyanate Homopolymer	EC:931-297-3	Acute Tox. 4, H332; STOT SE 3, H335; Skin Sens. 1, H317	01-2119488934-20
≥20 - ≤25 %	n-butyl acetate	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066	01-2119485493-29
≥10 - ≤12.5 %	ethyl acetate	CAS:141-78-6 EC:205-500-4 Index:607-022-00-5	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119475103-46
≥0.1 - ≤0.25 %	dibutyltin dilaurate	CAS:77-58-7 EC:201-039-8 Index:050-030-00-3	STOT SE 1, H370; STOT RE 1, H372; Skin Sens. 1, H317; Eye Irrit. 2, H319; Muta. 2, H341; Repr. 1B, H360FD; Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M-Chronic:1, M-Acute:1	01-2119496068-27
< 0,1 %	hexamethylene-di-isocyanate	CAS:822-06-0 EC:212-485-8 Index:615-011-00-1	Acute Tox. 4, H302 Acute Tox. 1, H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335	01-2119457571-37

Specific Concentration Limits:

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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

Eye irritation

Eye damages

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Extinguishing media which must not be used for safety reasons:

None in particular.

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

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

### 5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

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

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

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

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

### 6.4. Reference to other sections

See also section 8 and 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

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

Always keep in a well ventilated place.

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
Hexamethylene-1,6-diisocyanate Homopolymer	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 0,02 mg/m <sup>3</sup> Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Short Term: 0,07 mg/m <sup>3</sup> The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the categor
n-butyl acetate CAS: 123-86-4	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 724 mg/m <sup>3</sup> - 150 ppm; Short Term: 966 mg/m <sup>3</sup> - 200 ppm
	EU		Long Term: 241 mg/m <sup>3</sup> - 50 ppm; Short Term: 723 mg/m <sup>3</sup> - 150 ppm Behaviour Indicative 2019/1831/EU
	ACGIH		Long Term: 50 ppm; Short Term: 150 ppm Eye and URT irr
ethyl acetate CAS: 141-78-6	EU		Long Term: 734 mg/m <sup>3</sup> - 200 ppm; Short Term: 1468 mg/m <sup>3</sup> - 400 ppm Behaviour Indicative 2017/164/EU
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 734 mg/m <sup>3</sup> - 200 ppm; Short Term: 1468 mg/m <sup>3</sup> - 400 ppm
dibutyltin dilaurate CAS: 77-58-7	EH40	UNITED KINGDOM OF GREAT BRITAIN AND	Long Term: 0,1 mg/m <sup>3</sup> ; Short Term: 0,2 mg/m <sup>3</sup> Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to

NORTHERN  
IRELAND

ACGIH Long Term: 0,1 mg/m<sup>3</sup>

ACGIH Short Term: 0,2 mg/m<sup>3</sup>  
LEC-TD-95133

hexamethylene-di-isocyanate EH40  
CAS: 822-06-0

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND  
Long Term: 0,02 mg/m<sup>3</sup>  
The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the category

EH40 UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND  
Short Term: 0,07 mg/m<sup>3</sup>  
Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific

ACGIH Long Term: 0,005 ppm  
URT irr, resp sens

### Biological limit values

hexamethylene-di-isocyanate  
CAS: 822-06-0

Biological Indicator: 1,6-Hexamethylene diamine; Sampling Period: End of turn  
Value: 15 µg/g creatinine; Medium: Urine  
Remark: Maximum allowable occupational exposure limits in the workplace - Table 3. Adopted Biological Exposu

Biological Indicator: hexamethylenediamine; Sampling Period: Immediately after exposure or after working hours  
Value: 15 µg/g creatinine; Medium: Urine  
Remark: TRGS 903 - Biological limit values

Biological Indicator: hexamethylene diamine; Sampling Period: End of turn  
Value: 15 µg/g creatinine; Medium: Urine  
Remark: Slovenia. BAT-values

Biological Indicator: Hexamethylenediamine; Sampling Period: Immediately after exposure or after working hours  
Value: 15 µg/g creatinine; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

Biological Indicator: Hexamethylenediamine; Sampling Period: Immediately after exposure or after working hours  
Value: 146 nmol/mmol creatinine; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

Biological Indicator: 1,6-Hexamethylene diamine; Sampling Period: End of turn  
Value: 15 µg/g creatinine; Medium: Urine  
Remark: ACGIH - Indicatori di Esposizione Biologica (BEI)

Biological Indicator: isocyanate-derived diamine; Sampling Period: At the end of the period of exposure  
Value: 1 µmol/mol creatinine; Medium: Urine  
Remark: UK. Biological monitoring guidance values

Biological Indicator: spirometry  
Remark: Uruguay. Health surveillance of workers - Biological Exposure Indices (BEI).

Biological Indicator: 4,4'-diaminodiphenylmethane; Sampling Period: At the end of a work week / at the end of a work day / at the end of a shift  
Value: 10 µg/g creatinine; Medium: Urine  
Remark: Austria. Regulation on health surveillance in the workplace 2014

### Predicted No Effect Concentration (PNEC) values

Hexamethylene-1,6-diisocyanate Homopolymer

Exposure Route: Fresh Water; PNEC Limit: 0,1 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 2530 mg/kg dry weight (d.w.)

Exposure Route: Marine water; PNEC Limit: 0,01 mg/l

Exposure Route: Marine water sediments; PNEC Limit: 253 mg/kg dry weight (d.w.)

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l

Exposure Route: Soil; PNEC Limit: 505 mg/kg dry weight (d.w.)

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/l

n-butyl acetate  
CAS: 123-86-4

Exposure Route: Fresh Water; PNEC Limit: 0,18 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0,36 mg/l

Exposure Route: Marine water; PNEC Limit: 0,01 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 0,98 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0,09 mg/kg

Exposure Route: Soil; PNEC Limit: 0,09 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 35,6 mg/l

dibutyltin dilaurate  
CAS: 77-58-7

Exposure Route: Fresh Water; PNEC Limit: 0,463 µg/L

Exposure Route: Freshwater sediments; PNEC Limit: 0,05 µg/L

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 4,63 µg/L

Exposure Route: Marine water; PNEC Limit: 0,0463 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0,005 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l

Exposure Route: Soil; PNEC Limit: 0,0407 mg/kg

Exposure Route: Marine water; PNEC Limit: 0,00774 mg/l

hexamethylene-di-  
isocyanate  
CAS: 822-06-0

Exposure Route: Fresh Water; PNEC Limit: 0,0774 mg/l

Exposure Route: Marine water sediments; PNEC Limit: 0,001334 mg/kg

Exposure Route: Freshwater sediments; PNEC Limit: 0,01334 mg/kg

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0,774 mg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 8,42 mg/l

Exposure Route: Soil; PNEC Limit: 0,0026 mg/kg

#### Derived No Effect Level (DNEL) values

Hexamethylene-1,6-  
diisocyanate  
Homopolymer

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 0,5 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Professional: 1 mg/m<sup>3</sup>

n-butyl acetate  
CAS: 123-86-4

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Industry: 300 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Industry: 600 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Industry: 300 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Industry: 600 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Industry: 11 mg/kg dry weight (d.w.)

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Worker Industry: 11 mg/kg dry weight (d.w.)

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 35,7 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Consumer: 300 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Consumer: 35,7 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Consumer: 300 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 6 mg/kg dry weight (d.w.)

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects

Consumer: 6 mg/kg dry weight (d.w.)

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 2 mg/kg dry weight (d.w.)

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 2 mg/kg dry weight (d.w.)

dibutyltin dilaurate  
CAS: 77-58-7

Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 0,0031 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Consumer: 0,5 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 0,16 mg/kg

Exposure Route: Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 0,02 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 0,43 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 2,05 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 0,0046 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Consumer: 0,04 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 0,02 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 0,059 mg/m<sup>3</sup>

hexamethylene-di-  
isocyanate  
CAS: 822-06-0

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 0,07 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute)  
Worker Professional: 0,07 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 0,035 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 0,035 mg/m<sup>3</sup>

## 8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

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## SECTION 9: Physical and chemical properties

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

Physical State: Liquid

Colour: Colourless

Odour: N.A.

pH: Not Relevant

Kinematic viscosity:  $\leq 20,5$  mm<sup>2</sup>/sec (40 °C)  
Melting point / freezing point: N.A.  
Initial boiling point and boiling range: N.A.  
Flash point: 16,5 °C (61,7 °F)  
Upper/lower flammability or explosive limits: N.A.  
Vapour density: N.A.  
Vapour pressure: N.A.  
Relative density: 1.03 g/cm<sup>3</sup>  
Solubility in water: N.A.  
Solubility in oil: N.A.  
Partition coefficient (n-octanol/water): N.A.  
Auto-ignition temperature: N.A.  
Decomposition temperature: N.A.  
Flammability: The product is classified Flam. Liq. 2 H225  
Kinematic viscosity m<sup>2</sup>/s (40°C)  $\leq 20,5$  mm<sup>2</sup>/sec (40 °C)  
Viscosity: = 29.00 s - Method: ASTM D 1200 82 - Section: 2.00 mm

**Particle characteristics:**

Particle size: N.A.

**9.2. Other information**

Evaporation rate: N.A.  
Miscibility: N.A.  
Conductivity: N.A.  
No other relevant information

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**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Stable under normal conditions

**10.2. Chemical stability**

Data not available.

**10.3. Possibility of hazardous reactions**

None.

**10.4. Conditions to avoid**

Stable under normal conditions.

**10.5. Incompatible materials**

Avoid contact with combustible materials. The product could catch fire.

**10.6. Hazardous decomposition products**

None.

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**SECTION 11: Toxicological information**

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

**Toxicological Information of the Preparation**

a) acute toxicity	The product is classified: Acute Tox. 4(H332) ATEmix - Inhalation (Vapours) : 19.3846 mg/l
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	The product is classified: STOT SE 3(H335), STOT SE 3(H336)
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met



**Toxicological information on main components of the mixture:**

Hexamethylene-1,6-diisocyanate Homopolymer	a) acute toxicity	LD50 Oral Rat > 2000, mg/kg	OECD Test Guideline 423
		LD50 Skin Rat > 2000, mg/kg	OECD Test Guideline 402
		LC50 Inhalation Rat = 0,39 mg/l 4h	OECD Test Guideline 403
n-butyl acetate	a) acute toxicity	LD50 Oral Rat = 10760 mg/kg	OECD Test Guideline 423
		LC50 Inhalation > 20, mg/l 4h	
		LD50 Skin Rabbit > 14112, mg/kg	OECD Test Guideline 402
ethyl acetate	a) acute toxicity	LD50 Oral Rat = 5620 mg/kg	
		LC50 Inhalation Rat = 56 mg/l 4h	
		LD50 Skin Rabbit > 18000 mg/kg	
dibutyltin dilaurate	a) acute toxicity	LD50 Oral Rat = 2071 mg/kg	OECD Test Guideline 401
hexamethylene-diisocyanate	a) acute toxicity	LD50 Oral Rat = 746 mg/kg	
		LD50 Skin Rabbit = 599 mg/kg	

**11.2. Information on other hazards****Endocrine disrupting properties:**

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 12: Ecological information****12.1. Toxicity**

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

**List of Eco-Toxicological properties of the product**

Not classified for environmental hazards.

No data available for the product

**List of Eco-Toxicological properties of the components**

<b>Component</b>	<b>Ident. Numb.</b>	<b>Ecotox Data</b>
Hexamethylene-1,6-diisocyanate Homopolymer	EINECS: 931-297-3	a) Aquatic acute toxicity : LC50 Fish Danio rerio (zebra fish) > 100 mg/L 96 H - „Directive 67/548/EEC, Annex V, C.1.
		a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) > 100 mg/L 48h
n-butyl acetate	CAS: 123-86-4 - EINECS: 204-658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (fathead minnow) = 18 mg/L 96 H OECD Test Guideline 203
		a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 44 mg/L 48 H OECD Test Guideline 202
		e) Plant toxicity : EC50 Algae Selenastrum capricornutum (green algae) = 397 mg/L 72 H OECD Test Guideline 201
		c) Bacteria toxicity : IC50 Microorganisms Tetrahymena pyriformis = 356 mg/L 40 H
ethyl acetate	CAS: 141-78-6 - EINECS: 205-500-4 - INDEX: 607-022-00-5	a) Aquatic acute toxicity : LC50 Fish = 230 mg/L 96 H
		a) Aquatic acute toxicity : EC50 Invertebrates Daphnia (water flea) > 2500 mg/L 24 H

dibutyltin dilaurate	CAS: 77-58-7 - EINECS: 201-039-8 - INDEX: 050-030-00-3	e) Plant toxicity : EC50 Algae > 100 mg/L 72 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 0,463 mg/L 48 H
hexamethylene-di-isocyanate	CAS: 822-06-0 - EINECS: 212-485-8 - INDEX: 615-011-00-1	e) Plant toxicity : EC50 Algae Desmodesmus subspicatus (green algae) = 1 mg/L 72 H a) Aquatic acute toxicity : LC50 Fish Fish = 22 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia (water flea) >= 89,1 mg/L 48 H e) Plant toxicity : EC50 Algae algae > 77,4 mg/L 72 H e) Plant toxicity : NOEC Algae algae = 11,7 mg/L 72 H

## 12.2. Persistence and degradability

N.A.

## 12.3. Bioaccumulative potential

N.A.

## 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration >= 0.1%

## 12.6. Endocrine disrupting properties

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.

## 12.7. Other adverse effects

N.A.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

## SECTION 14: Transport information

### 14.1. UN number or ID number

1263

### 14.2. UN proper shipping name

ADR-Shipping Name: PAINT RELATED MATERIAL  
IATA-Technical name: PAINT RELATED MATERIAL  
IMDG-Technical name: PAINT RELATED MATERIAL

### 14.3. Transport hazard class(es)

ADR-Class: 3  
IATA-Class: 3  
IMDG-Class: 3

### 14.4. Packing group

ADR-Packing Group: II  
IATA-Packing group: II  
IMDG-Packing group: II

### 14.5. Environmental hazards

Toxic ingredients quantity: 0.00  
Very toxic ingredients quantity: 0.00  
Marine pollutant: No  
Environmental Pollutant: No  
IMDG-EMS: F-E, S-E

#### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR exempt:

ADR-Label: 3

ADR - Hazard identification number: 33

ADR-Special Provisions: 163 367 640C 650

ADR-Transport category (Tunnel restriction code): 2 (D/E)

Air (IATA):

IATA-Passenger Aircraft: 353

IATA-Cargo Aircraft: 364

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisions: A3 A72 A192

Sea (IMDG):

IMDG-Stowage Code: Category B

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 163 367

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

N.A.

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### SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2020/878

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3, 40

Restrictions related to the substances contained: 30, 74, 75

#### Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
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Product belongs to category: P5c	5000	50000
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Regulation (EU) No 649/2012 (PIC regulation)

#### Substances listed in Annex V to the PIC regulation:

No substances listed

#### Substances listed in Annex I to the PIC regulation:

dibutyltin dilaurate	Part 1
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**German Water Hazard Class.**

3: Severe hazard to waters

**SVHC Substances:**

No data available

**Dir. 2010/75/EC (VOC directive)**

Volatile Organic compounds - VOCs = 42.96 %

Volatile Organic compounds - VOCs = 443.78 g/L

Estimated Total Content of Water 0.00 %

Estimated Total Solid Content 57.04 %

**Storage Class (TRGS 510)**

Storage Class (TRGS 510) Flammable liquid substances

**Classification according to VbF**

Classification according to VbF A I - Flash point less than 21 °C, at 15 °C not miscible in water

**Mal-Code (Denmark)**

Mal-Code (Denmark)	Mal Factor	Unit of Measure	Revision Status / Number	Regulatory Base
4 - 5	1689	m3 air/10 g	1993	Administrative determined MAL-Factors

**Biocides**

REGULATION (EC) No 528/2012

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for the mixture.

**SECTION 16: Other information**

Code	Description
EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
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.
H341	Suspected of causing genetic defects.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs (thymus).
H372	Causes damage to organs (thymus) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.5/2	Muta. 2	Germ cell mutagenicity, Category 2
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
3.8/1	STOT SE 1	Specific target organ toxicity — single exposure, Category 1
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:**

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
2.6/2	On basis of test data

3.1/4/Inhal	Calculation method
3.3/2	Calculation method
3.4.2/1	Calculation method
3.8/3	Calculation method
3.8/3	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: KAFH

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health

NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction

PNEC: Predicted No Effect Concentration.

PSG: Passengers

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

vPvB: Very Persistent, Very Bioaccumulative.

WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 4: First aid measures
- SECTION 5: Firefighting measures
- SECTION 6: Accidental release measures
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 10: Stability and reactivity
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information