

## Safety Data Sheet

### MACROFAN FLASH HS CLEARCOAT

Safety Data Sheet dated 2/15/2023 version 4



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

### 1.1. Product identifier

Mixture identification:

Trade name: MACROFAN FLASH HS CLEARCOAT

Trade code: LN010111

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

Recommended use: Coatings and paints, thinners, paint removers

Dual compound colourless clearcoat

Liquid solution

Professional uses; Industrial 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. 3	Flammable liquid and vapour.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
STOT SE 3	May cause respiratory irritation.
STOT SE 3	May cause drowsiness or dizziness.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

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

#### Pictograms and Signal Words



Warning

#### Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

**Precautionary statements**

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.
P264	Wash hands thoroughly after handling.
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.

**Contains**

n-butyl acetate

xylene

reaction mass of ethylbenzene and m-xylene and p-xylene

Hydrocarbons, C9, aromatics

reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

**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 FLASH HS CLEARCOAT

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

Qty	Name	Ident. Numb.	Classification	Registration Number
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≥15 - ≤20 %	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
≥15 - ≤20 %	xylene	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412; STOT SE 3, H335	01-2119488216-32
≥7 - ≤10 %	reaction mass of ethylbenzene and m-xylene and p-xylene	EC:905-562-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; STOT RE 2, H373; Asp. Tox. 1, H304	01-2119555267-33
≥3 - ≤5 %	Hydrocarbons, C9, aromatics	EC:918-668-5	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335; STOT SE 3, H336, EUH066, DECLP(*)	01-2119455851-35
≥2.5 - ≤3 %	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
≥0.5 - ≤1 %	2-butoxyethyl acetate	CAS:112-07-2 EC:203-933-3 Index:607-038-00-2	Acute Tox. 4, H302; Acute Tox. 4, H332; Acute Tox. 4, H312	01-2119475112-47
≥0.5 - ≤1 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	STOT SE 3, H336; Flam. Liq. 3, H226	01-2119475791-29
≥0.3 - ≤0.5 %	reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)	CAS:104810-47-1, 104810-48-2 EC:400-830-7 Index:607-176-00-3	Skin Sens. 1A, H317; Aquatic Chronic 2, H411	01-0000015075-76
≥0.1 - ≤0.25 %	Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	CAS:1065336-91-5 EC:915-687-0	Skin Sens. 1A, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Repr. 2, H361f, M-Acute:1	01-2119491304-40-0000

(\*)DECLP Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.

The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.

## 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:

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

Skin Irritation

Erythema

#### **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

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### **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 between 5° and 35°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
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
xylene CAS: 1330-20-7	ACGIH		Long Term: 20 ppm A4, BEI - URT and eye irr; hematologic eff; CNS impair
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 441 mg/m <sup>3</sup> - 100 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to
	EU		Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Behaviour Indicative 2000/39/EC
Hydrocarbons, C9, aromatics	EU		Identifies the possibility of significant uptake through the skin
	ACGIH		Long Term: 200 mg/m <sup>3</sup> Damages to the central nervous system
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
2-butoxyethyl acetate CAS: 112-07-2	ACGIH		Long Term: 20 ppm A3 - Hemolysis
	EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 133 mg/m <sup>3</sup> - 20 ppm; Short Term: 332 mg/m <sup>3</sup> - 50 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to
	EU		Long Term: 133 mg/m <sup>3</sup> - 20 ppm; Short Term: 333 mg/m <sup>3</sup> - 50 ppm Behaviour Indicative 2000/39/EC
2-methoxy-1-methylethyl acetate CAS: 108-65-6	EU		Identifies the possibility of significant uptake through the skin
	EU		Long Term: 275 mg/m <sup>3</sup> - 50 ppm; Short Term: 550 mg/m <sup>3</sup> - 100 ppm Behaviour Indicative 2000/39/EC

EU		Identifies the possibility of significant uptake through the skin
EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 274 mg/m <sup>3</sup> - 50 ppm; Short Term: 548 mg/m <sup>3</sup> - 100 ppm Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to

### Biological limit values

xylene  
CAS: 1330-20-7

Biological Indicator: xylene; Sampling Period: End of turn  
Value: 1.5 mg/L; Medium: Blood  
Remark: Croatia. Biological Exposure Limits

Biological Indicator: Methylhippuric acid; Sampling Period: End of turn  
Value: 1.5 g/l; Medium: Urine  
Remark: New Zealand. Biological Exposure Indices

Biological Indicator: xylene; Sampling Period: End of turn  
Value: 1.5 mg/L; Medium: Blood  
Remark: Slovakia. Biological Limit Values

Biological Indicator: sum of 2,3,4-methylhippuric acid; Sampling Period: End of turn  
Value: 2000 mg/L; Medium: Urine  
Remark: Slovakia. Biological Limit Values

Biological Indicator: methylhippuric acid; Sampling Period: End of turn  
Value: 3 g/l; Medium: Urine  
Remark: Romania. Biological limit values

Biological Indicator: methylhippuric acid (all isomers); Sampling Period: End of turn  
Value: 2 g/l; Medium: Urine  
Remark: Slovenia. BAT-values

Biological Indicator: xylene; Sampling Period: Immediately after exposure or after working hours  
Value: 1.5 mg/L; Medium: Blood  
Remark: TRGS 903 - Biological limit values

Biological Indicator: methylhippuric acid (all isomers); Sampling Period: Immediately after exposure or after working hours  
Value: 2 g/l; Medium: Urine  
Remark: TRGS 903 - Biological limit values

Biological Indicator: Methylhippuric acid; Sampling Period: Last 4 hours of shift  
Value: 2 mg/L; Medium: Urine  
Remark: South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.

Biological Indicator: total (o-, m-, p-)methylhippuric acid; Sampling Period: End of turn; End of working week  
Value: 800 mg/L; Medium: Urine  
Remark: Occupational exposure limits based on biological monitoring (JSOH).

Biological Indicator: methyl hippuric acid; Sampling Period: At the end of a work week / at the end of a work day / at the end of a shift  
Value: 1.5 g/l; Medium: Urine  
Remark: Austria. Regulation on health surveillance in the workplace 2014

Biological Indicator: xylene; Sampling Period: End of workday  
Value: 1 mg/L; Medium: Blood  
Remark: Austria. Regulation on health surveillance in the workplace 2014

Biological Indicator: Methylhippuric acid; Sampling Period: At the end of exposure, in 4 hours  
Value: 2 mg/L; Medium: Urine  
Remark: Kenya. Occupational Safety and Health Act (CAP.514), Schedule I, Table 3 Biological Exposure Limits

Biological Indicator: methyl hippuric acid; Sampling Period: After shift  
Value: 5 Millimoles per liter; Medium: Urine  
Remark: Finland. Biological limit values

Biological Indicator: methyl hippuric acid; Sampling Period: Immediately after exposure or after working hours  
Value: 2 g/l; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

2-butoxyethyl acetate  
CAS: 112-07-2

Biological Indicator: Butoxyacetic acid ( BAA ); Sampling Period: End of turn; End of working week  
Value: 200 mg/g Creatinine; Medium: Urine  
Remark: Czech Republic. Biological Exposure Indices

Biological Indicator: Butoxyacetic acid ( BAA ); Sampling Period: End of turn; End of working week  
Value: 17 mmol/mmol creatinine; Medium: Urine  
Remark: Czech Republic. Biological Exposure Indices

Biological Indicator: Butoxyacetic acid ( BAA ); Sampling Period: In case of long-term exposure: after more than one shift  
Value: 200 mg/L; Medium: Urine  
Remark: TRGS 903 - Biological limit values

Biological Indicator: Butoxyacetic acid ( BAA ); Sampling Period: In case of long-term exposure: after more than one shift  
Value: 100 mg/L; Medium: Urine  
Remark: TRGS 903 - Biological limit values

Biological Indicator: total butoxy acetic acid; Sampling Period: In case of long-term exposure: after more than one shift  
Value: 200 mg/L; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

Biological Indicator: total butoxy acetic acid; Sampling Period: In case of long-term exposure: after more than one shift  
Value: 15134 micromol per litre; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

Biological Indicator: 2-butoxy acetic acid; Sampling Period: Immediately after exposure or after working hours  
Value: 100 mg/L; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

Biological Indicator: 2-butoxy acetic acid; Sampling Period: In case of long-term exposure: after more than one shift  
Value: 7567 micromol per litre; Medium: Urine  
Remark: Svizzera. Lista di valori BAT

Sampling Period: Immediately after exposure or after working hours

Sampling Period: In case of long-term exposure: after more than one shift

#### **Predicted No Effect Concentration (PNEC) values**

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

xylene  
CAS: 1330-20-7

Exposure Route: Fresh Water; PNEC Limit: 0.32 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.32 mg/l

Exposure Route: Marine water; PNEC Limit: 0.32 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 12.46 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 12.46 mg/kg

Exposure Route: Soil; PNEC Limit: 2.31 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6.58 mg/l

reaction mass of  
ethylbenzene and m-  
xylene and p-xylene

Exposure Route: Marine water; PNEC Limit: 0.25 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 14.33 mg/kg

Exposure Route: Soil; PNEC Limit: 2.41 mg/kg

2-butoxyethyl acetate  
CAS: 112-07-2

Exposure Route: Fresh Water; PNEC Limit: 0.304 mg/l

Exposure Route: Marine water; PNEC Limit: 0.03 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 2.03 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.203 mg/kg

Exposure Route: Soil; PNEC Limit: 0.415 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 90 mg/l





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.)

xylene  
CAS: 1330-20-7

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 65.3 mg/m<sup>3</sup>

Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 12.5 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Professional: 442 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 212 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 221 mg/m<sup>3</sup>

reaction mass of  
ethylbenzene and m-  
xylene and p-xylene

Exposure Route: Human Inhalation  
Worker Professional: 221 mg/m<sup>3</sup>

Exposure Route: Human Inhalation  
Worker Professional: 442 mg/m<sup>3</sup>

Exposure Route: Human Dermal  
Worker Professional: 3182 mg/kg

Exposure Route: Human Inhalation  
Consumer: 65.3 mg/m<sup>3</sup>

Exposure Route: Human Inhalation  
Consumer: 260 mg/m<sup>3</sup>

Exposure Route: Human Dermal  
Consumer: 1872 mg/kg

Exposure Route: Oral  
Consumer: 12.5 mg/kg

Hydrocarbons, C<sub>9</sub>,  
aromatics

Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 11 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 32 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 11 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 150 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 25 mg/kg

2-butoxyethyl acetate  
CAS: 112-07-2

Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute)  
Consumer: 200 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Consumer: 72 mg/kg

Exposure Route: Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 36 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 80 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 102 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute)  
Worker Professional: 333 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 133 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 169 mg/kg

2-methoxy-1-methylethyl acetate  
CAS: 108-65-6 Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute)  
Consumer: 33 mg/m<sup>3</sup>

Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 36 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 320 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 33 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute)  
Worker Professional: 550 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 796 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 275 mg/m<sup>3</sup>

reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-hydroxypoly(oxyethylene) and α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)  
CAS: 104810-47-1, 104810-48-2 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 0.35 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 0.5 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.085 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.25 mg/kg

Exposure Route: Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.025 mg/kg

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate  
CAS: 1065336-91-5 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Industry: 1.27 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Industry: 1.8 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.31 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.9 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.18 mg/kg

## 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

Color: Colourless

Odour: N.A.

pH: Not Relevant

Kinematic viscosity: > 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: 23 °C (73 °F)

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 0.99 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. 3 H226

Kinematic viscosity m<sup>2</sup>/s (40°C) > 20,5 mm<sup>2</sup>/sec (40 °C)

Viscosity: = 59.00 s - Method: ISO/DIN 2431 84 - Section: 6.00 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.

## 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	Not classified Based on available data, the classification criteria are not met ATEmix - Dermal : 4829.01 mg/kg bw ATEmix - Inhalation (Vapours) : 48.2901 mg/l
b) skin corrosion/irritation	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1A(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	The product is classified: STOT RE 2(H373)
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

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

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
xylene	a) acute toxicity	LD50 Oral Mouse = 5627 mg/kg	
		LC50 Inhalation Rat = 6700 Ppm 4h	
		LD50 Skin Rabbit > 5000 mg/kg	
Hydrocarbons, C9, aromatics	a) acute toxicity	LD50 Oral Rat = 3592 mg/kg	OECD Test Guideline 401
		LD50 Skin Rabbit > 3160 mg/kg	OECD Test Guideline 402
	f) carcinogenicity	Carcinogenicity - Not classified - Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.	
ethyl acetate	a) acute toxicity	LD50 Oral Rat = 5620 mg/kg	
		LC50 Inhalation Rat = 56 mg/l 4h	
		LD50 Skin Rabbit > 18000 mg/kg	
2-butoxyethyl acetate	a) acute toxicity	LD50 Oral Rat = 1880 mg/kg	
		ATE Skin = 1100 mg/kg	Converted acute toxicity p estimate
		LD50 Skin Rabbit = 1500 mg/kg LC0 Inhalation Rat = 400 Ppm 4h	
2-methoxy-1-methylethyl acetate	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LC0 Inhalation Rat > 2000 Ppm 3h	
		LD50 Skin Rabbit > 5000 mg/kg	

reaction mass of  $\alpha$ -3-(3- a) acute toxicity LD50 Oral Rat > 5000 mg/kg OECD Test Guideline 401  
 (2H-benzotriazol- 2-yl)-5-  
 tert-butyl-4-  
 hydroxyphenyl)propionyl-  
 $\omega$ -hydroxypoly  
 (oxyethylene) and  $\alpha$ -3-  
 (3-(2H-benzotriazol-2-yl)-  
 5-tert-butyl-4-  
 hydroxyphenyl)propionyl-  
 $\omega$ -3-(3-(2H-benzotriazol-  
 2-yl)-5-tert-butyl- 4-  
 hydroxyphenyl)  
 propionyloxypoly  
 (oxyethylene)

LC50 Inhalation Rat = 5.8 mg/l 4h OECD Test Guideline 403  
 LD50 Skin > 2000 mg/kg OECD Test Guideline 402

Reaction mass of a) acute toxicity LD50 Oral Rat = 3230 mg/kg  
 Bis(1,2,2,6,6-  
 pentamethyl-4-piperidyl)  
 sebacate and Methyl  
 1,2,2,6,6-pentamethyl-4-  
 piperidyl sebacate

LD50 Skin Rat = 3170 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:

Harmful to aquatic life with long lasting effects.

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

The product is classified: Aquatic Chronic 3(H412)

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

Component	Ident. Numb.	Ecotox Data
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
xylene	CAS: 1330-20-7 - EINECS: 215- 535-7 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 2.6 mg/L 96 H  a) Aquatic acute toxicity : IC50 Invertebrates Daphnia magna (Water flea) = 1 mg/L 24 H  e) Plant toxicity : EC0 Algae Pseudokirchneriella subcapitata (green algae) = 0.44 mg/L 72 H  b) Aquatic chronic toxicity : NOEC Fish Oncorhynchus mykiss (rainbow trout) > 1.3 mg/L 56 D

		e) Plant toxicity : Algae Pseudokirchneriella subcapitata (green algae) = 4.36 mg/L 72 H
Hydrocarbons, C9, aromatics	EINECS: 918-668-5	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 9.2 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 3.2 mg/L 48 H e) Plant toxicity : Algae algae = 2.9 mg/L 72 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 e) Plant toxicity : EC50 Algae > 100 mg/L 72 H
2-butoxyethyl acetate	CAS: 112-07-2 - EINECS: 203-933-3 - INDEX: 607-038-00-2	a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 145 mg/L 24 H e) Plant toxicity : EC50 Algae = 1570 mg/L 72 H
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203-603-9 - INDEX: 607-195-00-7	a) Aquatic acute toxicity : LC50 Fish = 20 mg/L 96h a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) 100 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) > 500 mg/L 48 H e) Plant toxicity : EC50 Algae Selenastrum capricornutum (green algae) > 1000 mg/L 96 H b) Aquatic chronic toxicity : NOEC Fish Oryzias latipes (Japanese medaka) = 47.5 mg/L 14 D b) Aquatic chronic toxicity : NOEC Invertebrates Daphnia magna (Water flea) >= 100 mg/L 21 D e) Plant toxicity : NOEC Algae Selenastrum capricornutum (green algae) >= 1000 mg/L 96 H
reaction mass of $\alpha$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- $\omega$ -hydroxypoly(oxyethylene) and $\alpha$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl- $\omega$ -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)	CAS: 104810-47-1, 104810-48-2 - EINECS: 400-830-7 - INDEX: 607-176-00-3	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss (rainbow trout) = 2.8 mg/L 96 H a) Aquatic acute toxicity : EC50 Invertebrates Daphnia magna (Water flea) = 4 mg/L 48 H e) Plant toxicity : EC50 Algae Pseudokirchneriella subcapitata (green algae) > 100 mg/L 72 H e) Plant toxicity : EC10 Algae Pseudokirchneriella subcapitata (green algae) = 10 mg/L 72 H
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	CAS: 1065336-91-5 - EINECS: 915-687-0	e) Plant toxicity : EC50 Algae Desmodesmus subspicatus (green algae) = 1.68 mg/L 72 H a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio (zebrafish) = 0.9 mg/L 96 H a) Aquatic acute toxicity : NOEC Invertebrates Daphnia magna = 1 mg/L 21 Days

## 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 Ingredients are present

### 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.

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## 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.

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## SECTION 14: Transport information

### 14.1. UN number or ID number

1263

### 14.2. UN proper shipping name

ADR-Shipping Name: PAINT

IATA-Technical name: PAINT

IMDG-Technical name: PAINT

### 14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

Toxic Ingredients Qty: 0.00

High Toxicity Ingredients Qty: 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: -

ADR-Special Provisions: 163 367 650

ADR-Transport category (Tunnel restriction code): 3 (E)

Air ( IATA ) :

IATA-Passenger Aircraft: 355

IATA-Cargo Aircraft: 366

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisioning: A3 A72 A192

Sea ( IMDG ) :

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 163 223 367 955

#### 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: 70, 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)**

Product belongs to category: P5c    5000    50000

Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

#### German Water Hazard Class.

3: Severe hazard to waters

#### SVHC Substances:

No data available

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

Volatile Organic compounds - VOCs = 52.58 %

Volatile Organic compounds - VOCs = 520.52 g/L

Estimated Total Content of Water 0.00 %

Estimated Total Solid Content 47.42 %

#### Storage Class (TRGS 510)

Storage Class (TRGS 510) Flammable liquid substances

#### Classification according to VbF

Classification according to VbF A II - Flash point 21 °C to 55 °C, at 15 °C not miscible in water

#### Mal-Code (Denmark)

Mal-Code (Denmark)	Mal Factor	Unit of Measure	Revision Status / Number	Regulatory Base
3 - 3	1.011	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.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

### 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
2.6/3	On basis of test data
3.2/2	Calculation method
3.3/2	Calculation method
3.4.2/1A	Calculation method
3.8/3	Calculation method
3.8/3	Calculation method
3.9/2	Calculation method
4.1/C3	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 2: Hazards identification
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 15: Regulatory information