

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by  
Commission Regulation (EU) 2020/878

## Carsystem AF.21 X-pert grau

Version		Revision Date:	Date of last issue: 22.11.2023
1.2	DE / EN	12.03.2024	Date of first issue: 18.08.2022

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

#### 1.1 Product identifier

Trade name : Carsystem AF.21 X-pert grau  
Product code : 158.218

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

Use of the Sub-  
stance/Mixture : Body filler/stopper  
Recommended restrictions  
on use : Reserved for industrial and professional use.  
Industrial use, professional use

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

Company : JASA AG  
Müslistrasse 43  
8957 Spreitenbach  
Schweiz  
info@jasa-ag.ch, www.jasa-ag.ch  
Telephone : +41 (0)44 431 60 70  
Telefax : +41 (0)44 432 63 17  
**Responsible Department** : Productmanagement, Tel: +41 (0)44 431 60 70, sds@jasa-ag.ch

#### 1.4 Emergency telephone

Telephone : Tox Info Suisse (STIZ), Tel: 145

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### SECTION 2: Hazards identification



#### 2.1 Classification of the substance or mixture

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

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

#### 2.2 Label elements

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

Hazard pictograms	:	 
Signal Word	:	Warning
Hazard Statements	:	H226 Flammable liquid and vapor. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary Statements	:	<b>Prevention:</b> P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 Avoid breathing mist or vapors. P271 Use only outdoors or in a well-ventilated area. P280 Wear eye protection/ face protection. <b>Response:</b> P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/ attention. <b>Disposal:</b> P501 Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

##### Additional Labeling

EUH208 Contains 4-morpholinecarbaldehyde. May produce an allergic reaction.

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EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

### 2.3 Other hazards

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

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

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

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Mixture

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
n-butyl acetate	123-86-4 204-658-1 607-025-00-1 01-2119485493-29	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) EUH066	>= 5 - < 10
aluminium dihydrogen triphosphate	13939-25-8 237-714-9 01-2119970565-28	Eye Irrit. 2; H319	>= 2,5 - <= 10
xylene	1330-20-7 215-535-7 601-022-00-9 01-2119488216-32	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373 (Central nervous system, Liver, Kidney) Asp. Tox. 1; H304 Aquatic Chronic 3; H412	>= 2,5 - <= 10

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		Acute toxicity estimate  Acute inhalation toxicity (vapor): 11 mg/l	
titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq$ 10 $\mu$ m]	13463-67-7 236-675-5 022-006-00-2 01-2119489379-17	Carc. 2; H351	$\geq$ 2,5 - $\leq$ 10
2-methoxy-1-methylethyl acetate	108-65-6 203-603-9 607-195-00-7 01-2119475791-29	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system)	$\geq$ 2,5 - $\leq$ 5
zinc oxide	1314-13-2 215-222-5 030-013-00-7 01-2119463881-32	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	$\geq$ 1 - $\leq$ 2,5
ethylbenzene	100-41-4 202-849-4 601-023-00-4 01-2119489370-35	Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 (hearing organs) Asp. Tox. 1; H304 Aquatic Chronic 3; H412	$\geq$ 0,1 - $\leq$ 2,5
4-morpholinecarbaldehyde	4394-85-8 224-518-3 01-2119987993-12	Skin Sens. 1B; H317	$\geq$ 0,1 - $\leq$ 1

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
Move out of dangerous area.  
Take off contaminated clothing and shoes immediately.  
Do not leave the victim unattended.  
Symptoms of poisoning may appear several hours later.  
Show this material safety data sheet to the doctor in attendance.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- If inhaled : Move to fresh air.

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Keep patient warm and at rest.  
If breathing is irregular or stopped, administer artificial respiration.  
Call a physician immediately.

- In case of skin contact : Wash off immediately with soap and plenty of water.  
Call a physician if irritation develops or persists.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,  
for at least 15 minutes.  
Keep eye wide open while rinsing.  
If easy to do, remove contact lens, if worn.  
If symptoms persist, call a physician.
- If swallowed : Do NOT induce vomiting.  
Call a physician immediately.

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

- Risks : Causes serious eye irritation.  
Causes serious eye irritation.

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

- Treatment : Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry powder  
Water spray jet  
Alcohol-resistant foam
- Unsuitable extinguishing media : High volume water jet

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

- Specific hazards during fire fighting : Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.
- Hazardous combustion products : Hazardous decomposition products due to incomplete combustion  
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

### 5.3 Advice for firefighters

- Special protective equipment for fire-fighters : In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. Use

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personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Use water spray to cool unopened containers. 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.

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### SECTION 6: Accidental release measures

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

Personal precautions : Wear personal protective equipment.  
Evacuate personnel to safe areas.  
Ensure adequate ventilation, especially in confined areas.  
Remove all sources of ignition.  
Do not smoke.  
Avoid contact with skin, eyes and clothing.  
In the case of vapor formation use a respirator with an approved filter.

#### 6.2 Environmental precautions

Environmental precautions : Prevent spreading over a wide area (e.g., by containment or oil barriers).  
Do not flush into surface water or sanitary sewer system.  
Local authorities should be advised if significant spillages cannot be contained.

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

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.  
Do not flush with water.

#### 6.4 Reference to other sections

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

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Keep container closed when not in use.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Wear personal protective equipment.

Advice on protection against fire and explosion : Vapors may form explosive mixtures with air. Keep away from open flames, hot surfaces and sources of ignition. Do not

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smoke. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment.

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

Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

Further information on storage conditions : Keep away from heat and sources of ignition. Protect from moisture. Keep away from direct sunlight.

Advice on common storage : Keep away from food and drink.  
Incompatible with oxidizing agents.  
Incompatible with strong acids and bases.

Storage class (TRGS 510) : 3

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
n-butyl acetate	123-86-4	STEL	150 ppm 723 mg/m <sup>3</sup>	2019/1831/E U
		Further information: Indicative		
		TWA	50 ppm 241 mg/m <sup>3</sup>	2019/1831/E U
		Further information: Indicative		
		AGW	62 ppm 300 mg/m <sup>3</sup>	DE TRGS 900
		Peak-limit category: 2;(I)		
		Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child		
		MAK	100 ppm 480 mg/m <sup>3</sup>	DE DFG MAK
		Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed		
xylene	1330-20-7	TWA	50 ppm 221 mg/m <sup>3</sup>	2000/39/EC
		Further information: Identifies the possibility of significant uptake through the skin, Indicative		
		STEL	100 ppm 442 mg/m <sup>3</sup>	2000/39/EC
		Further information: Identifies the possibility of significant uptake through the skin, Indicative		

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		AGW	50 ppm 220 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: Skin absorption			
		MAK	50 ppm 220 mg/m <sup>3</sup>	DE DFG MAK
	Further information: Danger of absorption through the skin, Either there are no data for an assessment of damage to the embryo or foetus, including developmental neurotoxicity, or the currently available data are not sufficient for classification in one of the groups A - C			
titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]	13463-67-7	AGW (Inhalable fraction)	10 mg/m <sup>3</sup> (Titanium dioxide)	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Alveolate fraction)	1,25 mg/m <sup>3</sup> (Titanium dioxide)	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		BM (Alveolar dust fraction)	0,5 mg/m <sup>3</sup>	DE TRGS 527
		MAK (measured as the alveolate fraction)	0,3 mg/m <sup>3</sup>	DE DFG MAK
	Further information: Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value can be derived., Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
2-methoxy-1-methylethyl acetate	108-65-6	STEL	100 ppm 550 mg/m <sup>3</sup>	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	50 ppm 275 mg/m <sup>3</sup>	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	50 ppm 270 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit category: 1;(I)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		MAK	50 ppm 270 mg/m <sup>3</sup>	DE DFG MAK
	Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
ethylbenzene	100-41-4	TWA	100 ppm	2000/39/EC



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			442 mg/m <sup>3</sup>	
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	200 ppm 884 mg/m <sup>3</sup>	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	20 ppm 88 mg/m <sup>3</sup>	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		MAK	20 ppm 88 mg/m <sup>3</sup>	DE DFG MAK
	Further information: Danger of absorption through the skin, Substances that cause cancer in humans or animals or that are considered to be carcinogenic for humans and for which a MAK value can be derived., Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			

### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
xylene	1330-20-7	methylhippuric acid (all isomers): 2.000 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
		Methylhippuric acid (toluric acid) (all isomers): 2.000 mg/l (Urine)	Immediately after exposition or after working hours	DE DFG BAT
ethylbenzene	100-41-4	mandelic acid + phenylglyoxylic acid: 250 mg/g creatinine (Urine)	Immediately after exposure or after working hours	TRGS 903
		mandelic acid plus phenylglyoxylic acid: 250 mg/g creatinine (Urine)	Immediately after exposition or after working hours	DE DFG BAT

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

Substance name	End Use	Routes of exposure	Potential health effects	Value
n-butyl acetate	Workers	Inhalation	Long-term systemic effects, Long-term local effects	300 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic effects	600 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic effects, Acute systemic effects	11 mg/kg bw/day

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	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	35,7 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute systemic effects	300 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects, Acute systemic effects	6 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects, Acute systemic effects	2 mg/kg bw/day
aluminium dihydrogen triphosphate	Workers	Inhalation	Long-term systemic effects	11,52 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	32,9 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2,47 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	16,45 mg/kg
	Consumers	Oral	Long-term systemic effects	1,65 mg/kg
xylene	Workers	Inhalation	Long-term systemic effects, Long-term local effects	221 mg/m <sup>3</sup>
	Workers	Inhalation	Acute systemic effects, Acute local effects	442 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	212 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	65,3 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute systemic effects, Acute local effects	260 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	125 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	12,5 mg/kg bw/day
2-methoxy-1-methylethyl acetate	Workers	Inhalation	Long-term systemic effects	275 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	796 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	33 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	320 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	36 mg/kg bw/day
zinc oxide	Workers	Inhalation	Long-term systemic effects	5 mg/m <sup>3</sup>
	Workers	Dermal	Long-term systemic	83 mg/kg

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			effects	
	Consumers	Inhalation	Long-term systemic effects	2,5 mg/m <sup>3</sup>
	Consumers	Dermal	Long-term systemic effects	83 mg/kg
	Consumers	Oral	Long-term systemic effects	0,83 mg/kg
4-morpholinecarbaldehyde	Workers	Inhalation	Long-term systemic effects	98 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	1,7 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	14 mg/kg
	Workers	Skin contact	Long-term local effects	0,29 mg/cm <sup>2</sup>
	Consumers	Inhalation	Long-term systemic effects	29 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	0,84 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	8 mg/kg
	Consumers	Skin contact	Long-term local effects	0,176 mg/cm <sup>2</sup>
	Consumers	Oral	Long-term systemic effects	8 mg/kg

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

Substance name	Environmental Compartment	Value
n-butyl acetate	Fresh water	0,18 mg/l
	Sea water	0,018 mg/l
	Fresh water sediment	0,981 mg/kg dry weight (d.w.)
	Sea sediment	0,098 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	35,6 mg/l
	Soil	0,09 mg/kg dry weight (d.w.)
aluminium dihydrogen triphosphate	Fresh water	0,03 mg/l
	Sea water	0,003 mg/l
xylene	Fresh water	0,327 mg/l
	Sea water	0,327 mg/l
	Fresh water sediment	12,46 mg/kg dry weight (d.w.)
	Sea sediment	12,46 mg/kg dry weight (d.w.)
	Soil	2,31 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	6,58 mg/l
2-methoxy-1-methylethyl acetate	Fresh water	0,635 mg/l
	Sea water	0,064 mg/l

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	Sewage treatment plant (STP)	100 mg/l
	Fresh water sediment	3,29 mg/kg dry weight (d.w.)
	Sea sediment	0,329 mg/kg dry weight (d.w.)
	Soil	0,29 mg/kg dry weight (d.w.)
zinc oxide	Fresh water	0,0206 mg/l
	Sea water	0,0061 mg/l
	Sewage treatment plant (STP)	0,1 mg/l
	Fresh water sediment	117,8 mg/kg
	Sea sediment	56,5 mg/kg
	Soil	35,6 mg/kg
4-morpholinecarbaldehyde	Fresh water	0,5 mg/l
	Sea water	0,05 mg/l
	Sewage treatment plant (STP)	2000 mg/l
	Fresh water sediment	2,69 mg/kg
	Sea sediment	0,269 mg/kg
	Soil	0,244 mg/kg

### 8.2 Exposure controls

#### Personal protective equipment

- Eye/face protection : Safety glasses with side-shields conforming to EN166
- Hand protection  
Material : Protective gloves complying with EN 374.
- Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Preventive skin protection
- Skin and body protection : Please wear suitable protective clothing, e.g. made of cotton or heat-resistant synthetic fibres.  
Long sleeved clothing
- Respiratory protection : Apply technical measures to comply with the occupational exposure limits.  
Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
- Filter type : Combined particulates and organic vapor type (A-P)
- Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.  
Avoid contact with the skin and the eyes.  
Use only with adequate ventilation.

#### Environmental exposure controls

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Soil : Avoid subsoil penetration.

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### SECTION 9: Physical and chemical properties

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

Physical state	: liquid
Color	: gray
Odor	: characteristic
Odor Threshold	: not determined
Melting point/range	: not determined
Boiling point/boiling range	: 124 - 128 °C
Upper explosion limit / Upper flammability limit	: Upper explosion limit 15 %(V)
Lower explosion limit / Lower flammability limit	: Lower explosion limit 1,1 %(V)
Flash point	: > 23 °C
pH	: Not applicable substance/mixture is non-soluble (in water)
Viscosity Viscosity, kinematic	: not determined
Solubility(ies) Water solubility	: immiscible
Partition coefficient: n-octanol/water	: not determined
Vapor pressure	: 10,7 hPa (20 °C)

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Density : 1,62 - 1,66 g/cm<sup>3</sup> (20 °C)

### 9.2 Other information

Explosives : Not explosive  
In use, may form flammable/explosive vapour-air mixture.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if used as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Incompatible with strong acids and bases.  
Reaction with strong oxidizing agents.  
Vapors may form explosive mixture with air.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.  
Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

Materials to avoid : Strong acids and strong bases  
Strong oxidizing agents

### 10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.  
Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

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## SECTION 11: Toxicological information

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

#### Acute toxicity

Not classified due to lack of data.

#### Product:

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Calculation method

Acute toxicity estimate: > 20 mg/l

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

Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

Acute toxicity estimate: > 2.000 mg/kg  
Method: Calculation method

### Components:

#### **n-butyl acetate:**

Acute oral toxicity : LD50 (Rat): 10.760 mg/kg  
Method: OECD Test Guideline 423

Acute inhalation toxicity : LD50 (Rat): > 21 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 Dermal (Rabbit): 14.112 mg/kg  
Method: OECD Test Guideline 402

#### **aluminium dihydrogen triphosphate:**

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 420

Acute inhalation toxicity : LC50 (Rat): > 3,46 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The substance or mixture has no acute inhalation toxicity

#### **xylene:**

Acute oral toxicity : LD50 Oral (Rat): 3.523 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Expert judgment

Acute dermal toxicity : LD50 (Rabbit): > 1.700 mg/kg

#### **titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm]:**

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LD50 (Rat): > 6,82 mg/l

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Exposure time: 4 h  
Test atmosphere: dust/mist

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

- Acute oral toxicity : LD50 Oral (Rat): 6.190 mg/kg  
Method: OECD Test Guideline 401
- Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 Dermal (Rabbit): > 5.000 mg/kg  
Method: OECD Test Guideline 402

### **zinc oxide:**

- Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg  
Method: OECD Test Guideline 401

### **ethylbenzene:**

- Acute oral toxicity : LD50 (Rat): 3.500 mg/kg

### **4-morpholinecarbaldehyde:**

- Acute oral toxicity : LD50 Oral (Rat): > 7.360 mg/kg  
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC50 (Rat):  $\geq$  5,319 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 Dermal (Rabbit): > 18.400 mg/kg  
Method: OECD Test Guideline 402

### **Skin corrosion/irritation**

Not classified due to lack of data.

### **Components:**

#### **xylene:**

- Result : Skin irritation

#### **titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq$ 10 $\mu$ m]:**

- Remarks : No skin irritation

### **Serious eye damage/eye irritation**

Causes serious eye irritation.



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### Components:

#### **aluminium dihydrogen triphosphate:**

Result : Moderate eye irritation

#### **xylene:**

Result : Moderate eye irritation

#### **titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]:**

Remarks : Dust contact with the eyes can lead to mechanical irritation.

### **Respiratory or skin sensitization**

#### **Skin sensitization**

Not classified due to lack of data.

#### **Respiratory sensitization**

Not classified due to lack of data.

### Components:

#### **titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]:**

Remarks : No known sensitising effect.

#### **4-morpholinecarbaldehyde:**

Species : Mouse

Method : OECD Test Guideline 429

Result : The product is a skin sensitizer, sub-category 1B.

#### **Germ cell mutagenicity**

Not classified due to lack of data.

#### **Carcinogenicity**

Not classified due to lack of data.

#### **Reproductive toxicity**

Not classified due to lack of data.

#### **STOT-single exposure**

Not classified due to lack of data.

### Components:

#### **n-butyl acetate:**

Assessment : May cause drowsiness or dizziness.

#### **xylene:**

Assessment : May cause respiratory irritation.

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

Routes of exposure : Oral  
Target Organs : Central nervous system  
Assessment : May cause drowsiness or dizziness.

### **STOT-repeated exposure**

Not classified due to lack of data.

### **Components:**

#### **xylene:**

Target Organs : Central nervous system, Liver, Kidney  
Assessment : May cause damage to organs through prolonged or repeated exposure.

#### **ethylbenzene:**

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

### **Aspiration toxicity**

Not classified due to lack of data.

### **Components:**

#### **xylene:**

May be fatal if swallowed and enters airways.

## 11.2 Information on other hazards

### **Endocrine disrupting properties**

#### **Product:**

Assessment : The substance/mixture does not contain components 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.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### **Components:**

#### **n-butyl acetate:**

Toxicity to fish : (Pimephales promelas (fathead minnow)): 18 mg/l  
Exposure time: 96 h

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Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 44 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 647,7 mg/l  
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 23 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

### aluminium dihydrogen triphosphate:

Toxicity to fish : (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h

### xylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,6 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 4,6 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC: > 1,3 mg/l  
Exposure time: 56 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,96 mg/l  
Exposure time: 7 d  
Species: Ceriodaphnia dubia (water flea)  
Method: Regulation (EC) No. 440/2008, Annex, C.20

### titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1.000 mg/l  
Exposure time: 48 h

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

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 130 mg/l  
Exposure time: 96 h  
Test Type: static test

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Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l  
Exposure time: 48 h  
Test Type: static test  
Method: Regulation (EC) No. 440/2008, Annex, C.2

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC: 47,5 mg/l  
Exposure time: 14 d  
Species: Oryzias latipes (Orange-red killifish)  
Method: OECD Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: >= 100 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

### **zinc oxide:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 3,31 mg/l  
End point: mortality  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 0,76 mg/l  
End point: mortality  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : IC50 (Pseudokirchneriella subcapitata (green algae)): 0,136 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (Bacteria): > 1.000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0,44 mg/l  
End point: mortality  
Exposure time: 72 d  
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other : NOEC: 0,058 mg/l

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aquatic invertebrates (Chronic toxicity) : Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

### ethylbenzene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4,2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,8 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): 4,6 mg/l  
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1 mg/l  
Species: Ceriodaphnia dubia (water flea)

### 4-morpholinecarbaldehyde:

Toxicity to fish : LC0 (Leuciscus idus (Golden orfe)): 500 mg/l  
Exposure time: 96 h

LC50 (Leuciscus idus (Golden orfe)): > 500 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC0 (Daphnia magna (Water flea)): 500 mg/l  
Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): > 500 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC10 (Desmodesmus subspicatus (green algae)): 17.040 mg/l  
Exposure time: 72 h

EC50 (Desmodesmus subspicatus (green algae)): 23.880 mg/l  
Exposure time: 72 h

## 12.2 Persistence and degradability

### Components:

#### n-butyl acetate:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 83 %  
Exposure time: 28 d

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### **xylene:**

Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301

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

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 90 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301F

### **ethylbenzene:**

Biodegradability : Result: rapidly degradable  
Biodegradation: 79 %  
Exposure time: 10 d

### **4-morpholinecarbaldehyde:**

Biodegradability : Biodegradation: 100 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301A

## 12.3 Bioaccumulative potential

### **Components:**

#### **n-butyl acetate:**

Partition coefficient: n- : log Pow: 2,3 (25 °C)  
octanol/water Method: OECD Test Guideline 117

#### **aluminium dihydrogen triphosphate:**

Partition coefficient: n- : Remarks: No data available  
octanol/water

#### **xylene:**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 25,9

Partition coefficient: n- : log Pow: 3,155 (20 °C)  
octanol/water

#### **titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$ ]:**

Partition coefficient: n- : Remarks: Not applicable  
octanol/water

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

Partition coefficient: n- : log Pow: 1,2 (20 °C)

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octanol/water      pH: 6,8  
Method: OECD Test Guideline 117

### **ethylbenzene:**

Partition coefficient: n-octanol/water      :    log Pow: 3,6 (20 °C)

### **4-morpholinecarbaldehyde:**

Partition coefficient: n-octanol/water      :    log Pow: -1,2 (23 °C)

## **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 Endocrine disrupting properties**

### **Product:**

Assessment      :    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**

### **Product:**

Additional ecological information      :    No data available

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## **SECTION 13: Disposal considerations**

### **13.1 Waste treatment methods**

Product      :    Do not dispose of with domestic refuse.  
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.  
Dispose of in accordance with local regulations.  
Send to a licensed waste management company.

Contaminated packaging      :    Empty containers should be taken to an approved waste handling site for recycling or disposal.

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Store containers and offer for recycling of material when in accordance with the local regulations.  
Packaging that is not properly emptied must be disposed of as the unused product.  
Dispose of in accordance with local regulations.

Waste Code : The following Waste Codes are only suggestions:  
08 01 11, waste paint and varnish containing organic solvents or other hazardous substances

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### SECTION 14: Transport information

#### 14.1 UN number or ID number

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

#### 14.2 UN proper shipping name

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

#### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 3	
ADR	: 3	
RID	: 3	
IMDG	: 3	
IATA	: 3	

#### 14.4 Packing group

<b>ADN</b>		
Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3
<b>ADR</b>		
Packing group	:	III
Classification Code	:	F1



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Hazard Identification Number : 30  
Labels : 3  
Tunnel restriction code : (D/E)

### RID

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

### IMDG

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

### IATA (Cargo)

Packing instruction (cargo aircraft) : 366  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids

### IATA (Passenger)

Packing instruction (passenger aircraft) : 355  
Packing instruction (LQ) : Y344  
Packing group : III  
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 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

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REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75, 3

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

REACH - Candidate List of Substances of Very High Concern for Authorization (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. P5c FLAMMABLE LIQUIDS

Water hazard class (Germany) : WGK 2 obviously hazardous to water  
Classification according to AwSV, Annex 1 (5.2)

Volatile organic compounds : Directive 2004/42/EC  
Volatile organic compounds (VOC) content: <= 540 g/l  
VOC content for the product in a ready to use condition.

### Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

### 15.2 Chemical Safety Assessment

A chemical safety assessment according to (EC) regulation 1907/2006 (REACH) has not been carried out for this product.

## SECTION 16: Other information

### Full text of H-Statements

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

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H319 : Causes serious eye irritation.  
H332 : Harmful if inhaled.  
H335 : May cause respiratory irritation.  
H336 : May cause drowsiness or dizziness.  
H351 : Suspected of causing cancer if inhaled.  
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.  
H412 : Harmful to aquatic life with long lasting effects.  
EUH066 : Repeated exposure may cause skin dryness or cracking.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Acute : Short-term (acute) aquatic hazard  
Aquatic Chronic : Long-term (chronic) aquatic hazard  
Asp. Tox. : Aspiration hazard  
Carc. : Carcinogenicity  
Eye Irrit. : Eye irritation  
Flam. Liq. : Flammable liquids  
Skin Irrit. : Skin irritation  
Skin Sens. : Skin sensitization  
STOT RE : Specific target organ toxicity - repeated exposure  
STOT SE : Specific target organ toxicity - single exposure  
2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values  
2019/1831/EU : Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values  
DE DFG BAT : Germany. MAK BAT Annex XIII  
DE DFG MAK : Germany. MAK BAT Annex IIa  
DE TRGS 527 : Germany. TRGS 527 - Activities with nanomaterials  
DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.  
TRGS 903 : c - Biological limit values  
2000/39/EC / TWA : Limit Value - eight hours  
2000/39/EC / STEL : Short term exposure limit  
2019/1831/EU / TWA : Limit Value - eight hours  
2019/1831/EU / STEL : Short term exposure limit  
DE DFG MAK / MAK : MAK value  
DE TRGS 527 / BM : Assessment scale  
DE TRGS 900 / AGW : Time Weighted Average

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; TECl - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Flam. Liq. 3	H226
Eye Irrit. 2	H319
Aquatic Chronic 3	H412

#### Classification procedure:

Based on product data or assessment
Calculation method
Calculation method

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