

SAFETY DATA SHEET

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

Carsystem 2K-High Speed Klarlack

Version		Revision Date:	Date of last issue: 05.10.2023
1.2	DE / EN	20.02.2024	Date of first issue: 08.06.2022

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

1.1 Product identifier

Trade name : Carsystem 2K-High Speed Klarlack
Product code : 149.421

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

Use of the Sub-
stance/Mixture : Solvent-borne coatings
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)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
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	:	Danger
Hazard Statements	:	H222 Extremely flammable aerosol. H229 Pressurised container: May burst if heated. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H412 Harmful to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking. Buildup of explosive mixtures possible without sufficient ventilation.
Precautionary Statements	:	Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use. P261 Avoid breathing mist.

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P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER/ doctor if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

P501 Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazardous ingredients which must be listed on the label:

acetone
n-butyl acetate
Hexamethylene-di-isocyanate, polymer
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

Additional Labeling

EUH204 Contains isocyanates. May produce an allergic reaction.

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

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Chemical nature : aerosol

contains
butane
propane

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
acetone	67-64-1 200-662-2 606-001-00-8 01-2119471330-49	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system) EUH066	>= 10 - < 25
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 - < 15
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 <hr/> Acute toxicity estimate Acute inhalation toxicity (vapor): 11 mg/l	>= 5 - < 15
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)	>= 2,5 - < 10
Hydrocarbons, C9, Aromatics	Not Assigned 918-668-5 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335	>= 2,5 - < 5

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		(Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	
Hexamethylene-di-isocyanate, polymer	28182-81-2 500-060-2 01-2119485796-17	Acute Tox. 4; H332 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system) <hr/> Acute toxicity estimate Acute inhalation toxicity (dust/mist): 1,5 mg/l	>= 2,5 - < 5
2-butoxyethyl acetate	112-07-2 203-933-3 607-038-00-2 01-2119475112-47	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 <hr/> Acute toxicity estimate Acute oral toxicity: 1.880 mg/kg Acute inhalation toxicity (vapor): 11 mg/l Acute dermal toxicity: 1.500 mg/kg	>= 1 - < 2,5
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5 915-687-0 01-2119491304-40	Skin Sens. 1A; H317 Repr. 2; H361f Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0,1 - < 0,25
Substances with a workplace exposure limit :			
dimethyl ether	115-10-6 204-065-8 603-019-00-8 01-2119472128-37	Flam. Gas 1A; H220 Press. Gas Compr. Gas; H280	>= 10 - < 25

For explanation of abbreviations see section 16.

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SECTION 4: First aid measures

4.1 Description of first-aid measures

- General advice : First aider needs to protect himself.
Remove from exposure, lie down.
If unconscious, place in recovery position and seek medical advice.
Take off contaminated clothing and shoes immediately.
Symptoms of poisoning may appear several hours later.
- If inhaled : Move to fresh air.
If symptoms persist, call a physician.
- In case of skin contact : Wash off immediately with soap and plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : Swallowing is not regarded as a possible method for exposure.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.
-

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO₂)
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 : Vapors may form explosive mixtures with air.
Build-up of dangerous/toxic fumes possible in cases of

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fire/high temperature.

Hazardous combustion products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Use personal protective equipment. Wear suitable respiratory protection equipment.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use water spray to cool unopened containers.
In the event of fire and/or explosion do not breathe fumes.

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.
Remove all sources of ignition.
Ensure adequate ventilation.
Avoid inhalation of vapor or mist.
Avoid contact with skin, eyes and clothing.

6.2 Environmental precautions

Environmental precautions : Should not be released into the environment.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Ventilate the area.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Local/Total ventilation : Ensure adequate ventilation.

Advice on safe handling : Pressurized container: Protect from sunlight and do not expose to temperatures exceeding 50°C / 122 °F. Also after use, do not open with force or burn.
Provide sufficient air exchange and/or exhaust in work rooms.

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Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight.

Hygiene measures : Do not inhale aerosol.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Please observe the storage instructions for aerosols! Keep containers tightly closed in a cool, well-ventilated place. Solvent vapors are heavier than air and may spread along floors. Keep away from direct sunlight. Keep away from heat and sources of ignition.

Further information on storage conditions : Storage must be in accordance with the BetrSichV (Germany).

Advice on common storage : Keep away from food and drink.

Storage class (TRGS 510) : 2B

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
dimethyl ether	115-10-6	TWA	1.000 ppm 1.920 mg/m ³	2000/39/EC
		Further information: Indicative		
		AGW	1.000 ppm 1.900 mg/m ³	DE TRGS 900
		Peak-limit category: 8;(II)		
		MAK	1.000 ppm 1.900 mg/m ³	DE DFG MAK
		Further information: 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		
acetone	67-64-1	TWA	500 ppm 1.210 mg/m ³	2000/39/EC
		Further information: Indicative		
		AGW	500 ppm 1.200 mg/m ³	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		

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		MAK	500 ppm 1.200 mg/m ³	DE DFG MAK
	Further information: According to currently available information damage to the embryo or foetus cannot be excluded after exposure to concentrations at the level of the MAK and BAT values			
n-butyl acetate	123-86-4	STEL	150 ppm 723 mg/m ³	2019/1831/E U
	Further information: Indicative			
		TWA	50 ppm 241 mg/m ³	2019/1831/E U
	Further information: Indicative			
		AGW	62 ppm 300 mg/m ³	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 ³	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 ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	50 ppm 220 mg/m ³	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: Skin absorption			
		MAK	50 ppm 220 mg/m ³	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			
propane	74-98-6	AGW	1.000 ppm 1.800 mg/m ³	DE TRGS 900
	Peak-limit category: 4;(II)			
		MAK	1.000 ppm 1.800 mg/m ³	DE DFG MAK
	Further information: 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			
2-methoxy-1-methylethyl acetate	108-65-6	STEL	100 ppm 550 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

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		TWA	50 ppm 275 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		AGW	50 ppm 270 mg/m ³	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 ³	DE DFG MAK
	Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
butane (containing < 0,1 % butadiene (203-450-8))	106-97-8	AGW	1.000 ppm 2.400 mg/m ³	DE TRGS 900
	Peak-limit category: 4;(II)			
isobutane (< 0,1% 1,3-butadiene (203-450-8))	75-28-5	AGW	1.000 ppm 2.400 mg/m ³	DE TRGS 900
	Peak-limit category: 4;(II)			
2-butoxyethyl ace- tate	112-07-2	TWA	20 ppm 133 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	50 ppm 333 mg/m ³	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		AGW (Vapour and aerosols)	10 ppm 65 mg/m ³	DE TRGS 900
	Peak-limit category: 2;(I)			
	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	10 ppm 66 mg/m ³	DE DFG MAK
	Further information: Danger of absorption through the skin, 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
acetone	67-64-1	Acetone: 50 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
		Acetone: 50 mg/l (Urine)	Immediately after exposition or after working hours	DE DFG BAT
xylene	1330-20-7	methylhippuric acid (all isomers): 2.000 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903

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		Methylhippuric acid (toluric acid) (all isomers): 2.000 mg/l (Urine)	Immediately after exposition or after working hours	DE DFG BAT
2-butoxyethyl acetate	112-07-2	butoxy acetic acid: 150 mg/g creatinine (Urine)	In case of long-term exposure: after more than one shift, Immediately after exposure or after working hours	TRGS 903
		butoxy acetic acid: 150 mg/g creatinine (Urine)	end of shift, for long-term exposures after several previous shifts, 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
acetone	Workers	Inhalation	Long-term systemic effects	1210 mg/m ³
	Workers	Inhalation	Long-term local effects	2420 mg/m ³
	Workers	Skin contact	Long-term systemic effects	186 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	200 mg/m ³
	Consumers	Skin contact, Oral	Long-term systemic effects	62 mg/kg bw/day
	n-butyl acetate	Workers	Inhalation	Long-term systemic effects, Long-term local effects
	Workers	Inhalation	Acute systemic effects	600 mg/m ³
	Workers	Dermal	Long-term systemic effects, Acute systemic effects	11 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	35,7 mg/m ³
	Consumers	Inhalation	Acute systemic effects	300 mg/m ³
	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
xylene	Workers	Inhalation	Long-term systemic	221 mg/m ³

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			effects, Long-term local effects	
	Workers	Inhalation	Acute systemic effects, Acute local effects	442 mg/m ³
	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 ³
	Consumers	Inhalation	Acute systemic effects, Acute local effects	260 mg/m ³
	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 ³
	Workers	Skin contact	Long-term systemic effects	796 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	33 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	320 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	36 mg/kg bw/day
Hydrocarbons, C ₉ , Aromatics	Workers	Inhalation	Long-term systemic effects	150 mg/m ³
	Workers	Skin contact	Long-term systemic effects	25 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	11 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects	11 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	32 mg/m ³
Hexamethylene-diisocyanate, polymer	Workers	Inhalation	Long-term local effects	0,5 mg/m ³
	Workers	Inhalation	Acute local effects	1 mg/m ³
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Workers	Inhalation	Long-term systemic effects	0,68 mg/m ³
	Workers	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,17 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0,25 mg/kg

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			effects	bw/day
	Consumers	Oral	Long-term systemic effects	0,05 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
acetone	Fresh water	10,6 mg/l
	Sea water	1,06 mg/l
	Sewage treatment plant (STP)	100 mg/l
	Fresh water sediment	30,4 mg/kg dry weight (d.w.)
	Sea sediment	3,04 mg/kg dry weight (d.w.)
n-butyl acetate	Soil	29,5 mg/kg dry weight (d.w.)
	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.)
xylene	Sewage treatment plant (STP)	35,6 mg/l
	Soil	0,09 mg/kg dry weight (d.w.)
	Fresh water	0,327 mg/l
	Sea water	0,327 mg/l
	Fresh water sediment	12,46 mg/kg dry weight (d.w.)
2-methoxy-1-methylethyl acetate	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
	Fresh water	0,635 mg/l
	Sea water	0,064 mg/l
Hexamethylene-di-isocyanate, polymer	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.)
	Fresh water	0,1 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-	Sea water	0,01 mg/l
	Sewage treatment plant (STP)	100 mg/l
	Fresh water sediment	2530 mg/kg
	Sea sediment	253 mg/kg
	Soil	505 mg/kg

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pentamethyl-4-piperidyl sebacate		
	Fresh water sediment	1,05 mg/kg dry weight (d.w.)
	Sea sediment	0,11 mg/kg dry weight (d.w.)
	Soil	0,21 mg/kg dry weight (d.w.)

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles
Safety glasses with side-shields conforming to EN166

Hand protection

Material : Nitrile rubber
Directive : DIN EN 374

Material : butyl-rubber
Glove thickness : 0,7 mm
Directive : DIN EN 374
Wearing time : 15 min

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 exact break through time can be obtained from the protective glove producer and this has to be observed. 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 : No personal respiratory protective equipment normally required.
In case of inadequate ventilation wear respiratory protection.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Filter type : Filter type A-P

Protective measures : Use only with adequate ventilation.
When using do not eat, drink or smoke.
Avoid contact with skin, eyes and clothing.
Do not breathe vapors or spray mist.

Environmental exposure controls

Soil : Avoid subsoil penetration.
Water : Do not flush into surface water or sanitary sewer system.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	aerosol
Color	:	transparent
Odor	:	characteristic
Odor Threshold	:	not determined
Melting point/range	:	No data available
Boiling point/boiling range	:	-44 °C
Upper explosion limit / Upper flammability limit	:	18,6 %(V)
Lower explosion limit / Lower flammability limit	:	2,6 %(V)
Flash point	:	< 0 °C Flash point is only valid for liquid portion in the aerosol can.
Autoignition temperature	:	235 °C
pH	:	Not applicable substance/mixture reacts with water
Viscosity	:	
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Solubility(ies)	:	
Water solubility	:	immiscible
Partition coefficient: n-octanol/water	:	No data available

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Vapor pressure : 3.400 hPa (20 °C)

Density : No data available

9.2 Other information

Explosives : In use, may form flammable/explosive vapour-air mixture.

Flammability (liquids) : Extremely flammable aerosol.

Self-ignition : not auto-flammable

Substances and mixtures
which in contact with water
emit flammable gases : Vapors may form explosive mixture with air.

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 : Vapors may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Keep away from heat and sources of ignition.
Strong sunlight for prolonged periods.

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

Build-up of dangerous/toxic fumes possible in cases of fire/high temperature.

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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 oral toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method
- Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method
- Acute dermal toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Components:

acetone:

- Acute oral toxicity : LD50 Oral (Rat): 5.800 mg/kg
- Acute inhalation toxicity : LC50 (Rat): ca. 76 mg/l
Exposure time: 4 h
Test atmosphere: vapor
- Acute dermal toxicity : LD50 Dermal (Rabbit): > 7.400 mg/kg

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

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

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

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

Hydrocarbons, C9, Aromatics:

Acute oral toxicity : LD50 Oral (Rat, female): ca. 3.492 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 6,193 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 Dermal (Rabbit): > 3.160 mg/kg
Method: OECD Test Guideline 402

Hexamethylene-di-isocyanate, polymer:

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity : Acute toxicity estimate: 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgment

LC50 (Rat): 0,39 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 Dermal (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

2-butoxyethyl acetate:

Acute oral toxicity : LD50 Oral (Rat): 1.880 mg/kg
Method: OECD Test Guideline 401

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

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Method: Expert judgment

Acute dermal toxicity : LD50 Dermal (Rabbit): 1.500 mg/kg

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

xylene:

Result : Skin irritation

Hydrocarbons, C9, Aromatics:

Result : Repeated exposure may cause skin dryness or cracking.

Hexamethylene-di-isocyanate, polymer:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

xylene:

Result : Moderate eye irritation

Hexamethylene-di-isocyanate, polymer:

Species : Rabbit
Assessment : No eye irritation
Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Components:

Hexamethylene-di-isocyanate, polymer:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Assessment : May cause sensitization by skin contact.
Method : OECD Test Guideline 429
Result : positive

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

Assessment : The product is a skin sensitizer, sub-category 1A.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

Hydrocarbons, C9, Aromatics:

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Hexamethylene-di-isocyanate, polymer:

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: Not mutagenic in Ames Test.

Carcinogenicity

Not classified due to lack of data.

Components:

Hydrocarbons, C9, Aromatics:

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

Reproductive toxicity

Not classified due to lack of data.

Components:

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

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

STOT-single exposure

May cause drowsiness or dizziness.

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.

Hydrocarbons, C9, Aromatics:

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

Hexamethylene-di-isocyanate, polymer:

Routes of exposure : Inhalation
Assessment : May cause respiratory irritation.

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.

Repeated dose toxicity

Components:

Hexamethylene-di-isocyanate, polymer:

Species : Rat, male and female
NOAEL : 0,0033 mg/l
Application Route : Inhalation
Test atmosphere : dust/mist
Exposure time : 90d
Number of exposures : 6h / d
Dose : 0 - 0,0005 - 0,003 - 0,0264
Method : OECD Test Guideline 413

Aspiration toxicity

Not classified due to lack of data.

Components:

xylene:

May be fatal if swallowed and enters airways.

Hydrocarbons, C9, Aromatics:

May be fatal if swallowed and enters airways.

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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.

SECTION 12: Ecological information

12.1 Toxicity

Components:

acetone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5.540 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 8.800 mg/l
End point: mortality
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (algae): 430 mg/l
Exposure time: 96 h

Toxicity to microorganisms : EC10 (Bacteria): 1.000 mg/l
Exposure time: 0,5 h
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 2.212 mg/l
Exposure time: 28 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

n-butyl acetate:

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

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Method: OECD Test Guideline 211

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

2-methoxy-1-methylethyl acetate:

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

Hydrocarbons, C9, Aromatics:

- Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9,2 mg/l

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Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3,2 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOELR: 1,228 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 2,144 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Hexamethylene-di-isocyanate, polymer:

Toxicity to fish : LC0 (Danio rerio (zebra fish)): >= 100 mg/l
End point: mortality
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC0 (Daphnia magna (Water flea)): >= 100 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOEC (Desmodesmus subspicatus (green algae)): 50 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 201

2-butoxyethyl acetate:

Toxicity to fish : LC50 (Fish): 28 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 30 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)
Method: OECD Test Guideline 211

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

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 0,9 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
		NOEC (Danio rerio (zebra fish)): 0,22 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 1,68 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1,0 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	:	1

12.2 Persistence and degradability

Components:

acetone:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 90,9 % Exposure time: 28 d Method: OECD Test Guideline 301B
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n-butyl acetate:

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

xylene:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301
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2-methoxy-1-methylethyl acetate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 90 % Exposure time: 28 d Method: OECD Test Guideline 301F
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Hydrocarbons, C9, Aromatics:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Hexamethylene-di-isocyanate, polymer:

Biodegradability : Result: Not rapidly biodegradable
Biodegradation: 2 %
Exposure time: 28 d
Method: Regulation (EC) No. 440/2008, Annex, C.4-E

2-butoxyethyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 88 %
Exposure time: 28 d

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

Biodegradability : Biodegradation: 38 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

12.3 Bioaccumulative potential

Components:

acetone:

Bioaccumulation : Bioconcentration factor (BCF): 3
Remarks: Calculation

Partition coefficient: n-octanol/water : log Pow: -0,24 (20 °C)

n-butyl acetate:

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

xylene:

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

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

2-methoxy-1-methylethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1,2 (20 °C)
pH: 6,8

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Method: OECD Test Guideline 117

Hexamethylene-di-isocyanate, polymer:

Bioaccumulation : Bioconcentration factor (BCF): 706

Partition coefficient: n-octanol/water : log Pow: 8,38

2-butoxyethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 1,51 (20 °C)

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

Bioaccumulation : Bioconcentration factor (BCF): < 9,7

Partition coefficient: n-octanol/water : log Pow: 2,37 - 2,77 (25 °C)
pH: 7
Method: OECD Test Guideline 107

dimethyl ether:

Partition coefficient: n-octanol/water : log Pow: 0,07 (25 °C)

12.4 Mobility in soil

Components:

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

Distribution among environmental compartments : log Koc: 5,31

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.

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12.7 Other adverse effects

Product:

Additional ecological information : No data available

Global warming potential

Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)

Components:

propane:

20-year global warming potential: 0,072
100-year global warming potential: 0,02
500-year global warming potential: 0,006
Atmospheric lifetime: 0,036 yr
Radiative efficiency: 0 Wm²ppb
Further information: Miscellaneous compounds

butane (containing < 0,1 % butadiene (203-450-8)):

20-year global warming potential: 0,022
100-year global warming potential: 0,006
500-year global warming potential: 0,002
Atmospheric lifetime: 0,019 yr
Radiative efficiency: 0 Wm²ppb
Further information: Miscellaneous compounds

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : According to the European Waste Catalog, Waste Codes are not product specific, but application specific.
Dispose of in conjunction with appropriate waste disposal authorities and in accordance with disposal regulations.

The product should not be allowed to enter drains, water courses or the soil.

Contaminated packaging : Dispose of in accordance with local regulations.

Waste Code : The following Waste Codes are only suggestions:
15 01 10, packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN number or ID number

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ADN : UN 1950
ADR : UN 1950
RID : UN 1950
IMDG : UN 1950
IATA : UN 1950

14.2 UN proper shipping name

ADN : AEROSOLS
ADR : AEROSOLS
RID : AEROSOLS
IMDG : AEROSOLS
IATA : Aerosols, flammable

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 2	2.1
ADR	: 2	2.1
RID	: 2	2.1
IMDG	: 2.1	
IATA	: 2.1	

14.4 Packing group

ADN
Packing group : Not assigned by regulation
Classification Code : 5F
Labels : 2.1

ADR
Packing group : Not assigned by regulation
Classification Code : 5F
Labels : 2.1
Tunnel restriction code : (D)

RID
Packing group : Not assigned by regulation
Classification Code : 5F
Hazard Identification Number : 23
Labels : 2.1

IMDG
Packing group : Not assigned by regulation
Labels : 2.1
EmS Code : F-D, S-U

IATA (Cargo)
Packing instruction (cargo aircraft) : 203

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Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Flammable Gas

IATA (Passenger)

Packing instruction (passenger aircraft) : 203
Packing instruction (LQ) : Y203
Packing group : Not assigned by regulation
Labels : Flammable Gas

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.

SECTION 15: Regulatory information

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

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

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

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. acetone (ANNEX II)

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

P3a FLAMMABLE AEROSOLS

P2

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

18 Liquefied flammable gases (including LPG) and natural gas

34 Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

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: < 840 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).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

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regulations, where applicable.

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

H220	: Extremely flammable gas.
H225	: Highly flammable liquid and vapor.
H226	: Flammable liquid and vapor.
H280	: Contains gas under pressure; may explode if heated.
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.
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.
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
Eye Irrit.	: Eye irritation
Flam. Gas	: Flammable gases
Flam. Liq.	: Flammable liquids
Press. Gas	: Gases under pressure
Repr.	: Reproductive toxicity
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 900	: Germany. TRGS 900 - Occupational exposure limit values.

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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 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 carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - 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:

Aerosol 1	H222, H229
Eye Irrit. 2	H319
Skin Sens. 1	H317
STOT SE 3	H336
Aquatic Chronic 3	H412

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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