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

Carsystem Carbo Spray

Version		Revision Date:	Date of last issue: 17.08.2023
2.2	DE / EN	10.09.2024	Date of first issue: 29.06.2022

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

1.1 Product identifier

Trade name : Carsystem Carbo Spray

Product code : 148.019

This substance/ mixture contains nanoforms

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

Use of the Substance/Mixture : Body filler/stopper

Recommended restrictions on 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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 2	H225: Highly flammable liquid and vapor.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
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 :

H225	Highly flammable liquid and vapor.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust / mist / vapours.

P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Storage:

P405 Store locked up.

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:

styrene
cobalt bis(2-ethylhexanoate)
maleic anhydride

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 contains Resin

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
styrene	100-42-5 202-851-5	Flam. Liq. 3; H226 Acute Tox. 4; H332	>= 30 - < 50

	601-026-00-0 01-2119457861-32	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 (Respiratory system) STOT RE 1; H372 (hearing organs) Asp. Tox. 1; H304 Aquatic Chronic 3; H412 --- Acute toxicity estimate Acute inhalation toxicity (vapor): 11,8 mg/l	
ethyl acetate	141-78-6 205-500-4 607-022-00-5 01-2119475103-46	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system) EUH066	>= 1 - < 10
methanol	67-56-1 200-659-6 603-001-00-X 01-2119433307-44	Flam. Liq. 2; H225 Acute Tox. 3; H301 Acute Tox. 3; H331 Acute Tox. 3; H311 STOT SE 1; H370 --- specific concentration limit STOT SE 1; H370 >= 10 % STOT SE 2; H371 3 - < 10 % --- Acute toxicity estimate Acute oral toxicity: 100 mg/kg Acute inhalation toxicity (vapor): 3 mg/l Acute dermal toxicity: 300 mg/kg	>= 0,1 - < 1
oxybenzone	131-57-7 205-031-5 01-2119976330-39	Aquatic Acute 1; H400 Aquatic Chronic 2; H411 --- M-Factor (Acute	>= 0,1 - < 0,25

		aquatic toxicity): 1	
cobalt bis(2-ethylhexanoate)	136-52-7 205-250-6 01-2119524678-29	Eye Irrit. 2; H319 Skin Sens. 1A; H317 Repr. 1B; H360FD Aquatic Acute 1; H400 Aquatic Chronic 3; H412 _____ M-Factor (Acute aquatic toxicity): 1	>= 0,1 - < 0,25
maleic anhydride	108-31-6 203-571-6 607-096-00-9 01-2119472428-31	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1A; H317 STOT RE 1; H372 (Respiratory system) EUH071 _____ specific concentration limit Skin Sens. 1A; H317 >= 0,001 % _____ Acute toxicity esti-mate Acute oral toxicity: 1.090 mg/kg	>= 0,001 - < 0,1
Substances with a workplace exposure limit :			
Silicon dioxide	7631-86-9 231-545-4 01-2119379499-16		>= 1 - < 10

For explanation of abbreviations see section 16.

This substance/ mixture contains nanoforms

Components:

Silicon dioxide:

Particle characteristics

Particle size : 2,5 - 50 nm
single particles, (D50, number distribution), Transmission Electron Microscopy / Electron Microscopy (TEM/EM) calculation

Particle Size Distribution : Product characteristics, Substance, Contains agglomerates / aggregates of nanoparticles

Assessment	:	This substance/ mixture contains nanoforms
Shape	:	Shape: spheres
Crystallinity	:	Crystallinity: amorphous
Surface treatment /Coatings	:	Surface treatment /Coatings: no

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. 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 while removing all contaminated clothes and shoes. 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. Consult a physician.
If swallowed	:	Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. Suspected of damaging the unborn child.

Causes damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.
Keep under medical supervision for at least 48 hours.

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 : 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, wear self-contained breathing apparatus.
Use personal protective equipment.

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.

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.
Sweep up to prevent slipping hazard.
In the case of vapor formation use a respirator with an ap-

proved filter.

6.2 Environmental precautions

Environmental precautions : 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.

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.
Avoid contact with skin and eyes.
Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture.
Avoid inhalation of dust from sanding.

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 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. Do not store at temperatures above 30 °C / 86 °F.

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

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
styrene	100-42-5	AGW	20 ppm 86 mg/m3	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			
		MAK	20 ppm 86 mg/m3	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			
ethyl acetate	141-78-6	STEL	400 ppm 1.468 mg/m3	2017/164/EU
	Further information: Indicative			
		TWA	200 ppm 734 mg/m3	2017/164/EU
	Further information: Indicative			
		AGW	200 ppm 730 mg/m3	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	200 ppm 750 mg/m3	DE DFG MAK
	Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
Silicon dioxide	7631-86-9	TWA (Respirable dust)	0,1 mg/m3	2004/37/EC
	Further information: Carcinogens or mutagens			
		AGW (Inhalable fraction)	4 mg/m3 (Silica)	DE TRGS 900
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
methanol	67-56-1	TWA	200 ppm 260 mg/m3	2006/15/EC
	Further information: Indicative, Identifies the possibility of significant uptake through the skin			
		AGW	100 ppm 130 mg/m3	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	100 ppm	DE DFG MAK

			130 mg/m3	
	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			
maleic anhydride	108-31-6	AGW (Vapour and aerosols)	0,02 ppm 0,081 mg/m3	DE TRGS 900
	Peak-limit category: 1; =2.5=(I)			
	Further information: In well-found cases also a momentary value can be established, that never can be exceeded. This substance will be indicated by = = in combination with an exceeding value., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin and respiratory system			
		Mow	0,05 ppm 0,2 mg/m3	DE DFG MAK
	Further information: Danger of sensitization of the airways and the skin, Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
		MAK	0,02 ppm 0,081 mg/m3	DE DFG MAK
	Further information: Danger of sensitization of the airways and 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
styrene	100-42-5	mandelic acid + phenylglyoxylic acid: 600 mg/g creatinine (Urine)	In case of long-term exposure: after more than one shift, Immediately after exposure or after working hours	TRGS 903
		mandelic acid plus phenylglyoxylic acid: 600 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
methanol	67-56-1	Methanol: 15 mg/l (Urine)	In case of long-term exposure: after more than one shift, Immediately after exposure or after working hours	TRGS 903
		Methanol: 30 mg/l (Urine)	end of shift, for long-term exposures after several previous shifts, Immediately after exposition or after	DE DFG BAT

			working hours	

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

Substance name	End Use	Routes of exposure	Potential health effects	Value
styrene	Workers	Dermal	Long-term systemic effects, Chronic effects	406 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects, Chronic effects	85 mg/m3
	Workers	Inhalation	Acute systemic effects, Chronic effects	289 mg/m3
	Workers	Inhalation	Acute local effects, Short-term exposure	306 mg/m3
	Consumers	Oral	Long-term systemic effects, Chronic effects	2,1 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects, Chronic effects	343 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Chronic effects	10,2 mg/m3
	Consumers	Inhalation	Acute systemic effects, Short-term exposure	174,25 mg/m3
	Consumers	Inhalation	Acute local effects, Short-term exposure	182,75 mg/m3
ethyl acetate	Workers	Inhalation	Long-term systemic effects, Long-term local effects	734 mg/m3
	Workers	Inhalation	Acute systemic effects, Acute local effects	1468 mg/m3
	Workers	Skin contact	Long-term systemic effects	63 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	367 mg/m3
	Consumers	Inhalation	Acute systemic effects, Acute local effects	734 mg/m3
	Consumers	Skin contact	Long-term systemic effects	37 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	4,5 mg/kg bw/day
methanol	Consumers	Oral	Long-term systemic effects, Acute systemic effects	4 mg/kg bw/day
	Consumers	Skin contact	Long-term systemic effects, Acute sys-	4 mg/kg bw/day

			temic effects	
	Consumers	Inhalation	Long-term systemic effects, Acute systemic effects, Long-term local effects, Acute local effects	26 mg/m3
	Workers	Inhalation	Long-term systemic effects, Acute systemic effects, Acute local effects, Long-term local effects	130 mg/m3
	Workers	Skin contact	Long-term systemic effects, Acute systemic effects	20 mg/kg bw/day
oxybenzone	Workers	Inhalation	Long-term systemic effects	27,7 mg/m3
	Workers	Skin contact	Long-term systemic effects	39 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	6,8 mg/m3
	Consumers	Skin contact	Long-term systemic effects	20 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	2 mg/kg 2 mg/kg bw/day
cobalt bis(2-ethylhexanoate)	Workers	Inhalation	Long-term local effects	0,2351 mg/m3
	Consumers	Inhalation	Long-term local effects	0,037 mg/m3
	Consumers	Oral	Long-term systemic effects	0,175 mg/kg bw/day
maleic anhydride	Workers	Inhalation	Long-term systemic effects	0,081 mg/m3
	Workers	Inhalation	Acute systemic effects	0,2 mg/m3

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

Substance name	Environmental Compartment	Value
styrene	Fresh water	0,028 mg/l
	Sea water	0,014 mg/l
	Fresh water sediment	0,614 mg/kg dry weight (d.w.)
	Sea sediment	0,307 mg/kg dry weight (d.w.)
	Soil	0,2 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	5 mg/l
ethyl acetate	Fresh water	0,24 mg/l
	Sea water	0,024 mg/l
	Fresh water sediment	1,15 mg/kg dry weight (d.w.)
	Sea sediment	0,115 mg/kg dry

		weight (d.w.)
	Sewage treatment plant (STP)	650 mg/l
	Soil	0,148 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	200 mg/kg food
oxybenzone	Fresh water	0,00067 mg/l
	Sea water	0,000067 mg/l
	Sewage treatment plant (STP)	10 mg/l
	Fresh water sediment	0,066 mg/kg dry weight (d.w.)
	Sea sediment	0,0066 mg/kg dry weight (d.w.)
	Soil	0,013 mg/kg dry weight (d.w.)
cobalt bis(2-ethylhexanoate)	Fresh water	0,00106 mg/l
	Sea water	0,00236 mg/l
	Sewage treatment plant (STP)	0,37 mg/l
	Fresh water sediment	53,8 mg/kg dry weight (d.w.)
	Sea sediment	69,8 mg/kg dry weight (d.w.)
	Soil	10,9 mg/kg dry weight (d.w.)
maleic anhydride	Fresh water	0,038 mg/l
	Sea water	0,004 mg/l
	Fresh water sediment	0,296 mg/kg dry weight (d.w.)
	Sea sediment	0,03 mg/kg dry weight (d.w.)
	Soil	0,037 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	44,6 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Safety glasses with side-shields conforming to EN166

Hand protection

Directive : Equipment should conform to EN 374

Material : PVA
Break through time : > 480 min
Glove thickness : 0,2 - 0,3 mm

Material : Fluorinated rubber
Break through time : > 480 min
Glove thickness : >= 0,4 mm

Remarks : Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The data about break through time/strength of material are standard

values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. 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. Preventive skin protection Butyl gloves are not suitable. Nitrile gloves are not suitable. Avoid natural rubber gloves.

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.
If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.
Dry sanding, flame cutting and/or welding of the cured material will give rise to dust and/or hazardous fumes.
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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Color	:	transparent
Odor	:	characteristic
Melting point/freezing point	:	not determined
Boiling point/boiling range	:	>= 77 °C (1.013 hPa)
Upper explosion limit / Upper flammability limit	:	8,9 %(V)

Lower explosion limit / Lower flammability limit	:	1,2 %(V)
Flash point	:	< 21 °C
Autoignition temperature	:	>= 460 °C (1.013 hPa)
pH	:	Not applicable substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Solubility(ies)		
Water solubility	:	immiscible
Partition coefficient: n-octanol/water	:	No data available
Vapor pressure	:	6,67 hPa (20 °C) Literary value styrene
Density	:	ca. 1,1 g/cm3 (20 °C)
Particle characteristics		
Assessment	:	This substance/ mixture contains nanoforms
Particle size	:	Further particle properties for nanomaterials see section 3

9.2 Other information

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

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 : Avoid radical-forming starting agents, peroxides and reactive metals.
Polymerization can occur.Polymerization is a highly exothermic reaction and may generate sufficient heat to cause thermal decomposition and/or rupture containers.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.
Strong sunlight for prolonged periods.

10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents
polymerization initiators
Copper
Copper alloys
Brass

10.6 Hazardous decomposition products

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

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

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

Components:

styrene:

Acute oral toxicity	:	LD50 Oral (Rat): 5.000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 11,8 mg/l Exposure time: 4 h Test atmosphere: vapor
Acute dermal toxicity	:	LD50 Dermal (Rat): > 2.000 mg/kg Method: OECD Test Guideline 402

ethyl acetate:

Acute oral toxicity	:	LD50 Oral (Rat): 4.934 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC0 (Rat): 22,5 mg/l, > 6000 ppm Exposure time: 6 h Test atmosphere: vapor Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 20.000 mg/kg

methanol:

Acute oral toxicity	:	Acute toxicity estimate: 100 mg/kg Method: Expert judgment LD50 (Rat): 1.187 - 2.769 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Expert judgment
Acute dermal toxicity	:	Acute toxicity estimate: 300 mg/kg Method: Expert judgment LD50 Dermal (Rabbit): 17.100 mg/kg

oxybenzone:

Acute oral toxicity	:	LD50 Oral (Rat): > 12.800 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 16.000 mg/kg Method: OECD Test Guideline 402

cobalt bis(2-ethylhexanoate):

Acute oral toxicity	:	LD50 (Rat): 3.129 mg/kg Method: OECD Test Guideline 425

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

maleic anhydride:

Acute oral toxicity	:	LD50 Oral (Rat): 1.090 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 4,35 mg/l Exposure time: 1 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 2.620 mg/kg

Silicon dioxide:

Acute oral toxicity	:	LD50 Oral (Rat): > 5.000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat): > 5,01 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 2.000 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Components:

styrene:

Species	:	Rabbit
Result	:	irritating

ethyl acetate:

Result	:	Repeated exposure may cause skin dryness or cracking.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

styrene:

Species	:	Rabbit
Result	:	irritating

cobalt bis(2-ethylhexanoate):

Result : Moderate eye irritation

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Components:

styrene:

Species : Guinea pig
Result : Does not cause skin sensitization.

cobalt bis(2-ethylhexanoate):

Routes of exposure : Skin contact
Result : The product is a skin sensitizer, sub-category 1A.

maleic anhydride:

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

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

styrene:

Reproductive toxicity - Assessment : Suspected of damaging the unborn child., Some evidence of adverse effects on development, based on animal experiments.

cobalt bis(2-ethylhexanoate):

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

STOT-single exposure

May cause respiratory irritation.

Components:

styrene:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Causes damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Components:

styrene:

Routes of exposure	:	Inhalation
Target Organs	:	hearing organs
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

maleic anhydride:

Routes of exposure	:	Inhalation
Target Organs	:	Respiratory system
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Not classified due to lack of data.

Components:

styrene:

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.

SECTION 12: Ecological information

12.1 Toxicity

Components:

styrene:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 4,02 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4,7 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 4,9 mg/l Exposure time: 72 h EC10 (Selenastrum capricornutum (green algae)): 0,28 mg/l Exposure time: 96 h
Toxicity to microorganisms	:	EC50 (Natural microorganism): ca. 500 mg/l Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1,01 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Ecotoxicology Assessment

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

ethyl acetate:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 230 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 610 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): 650 mg/l Exposure time: 16 h
Toxicity to fish (Chronic toxicity)	:	NOEC: > 9,65 mg/l Exposure time: 32 d Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 2,4 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

methanol:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 15.400 mg/l Exposure time: 96 h Method: EPA-660/3-75-00
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10.000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): ca. 22.000 mg/l End point: Growth rate Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC: 450 mg/l Exposure time: 90 d Species: Fish
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 208 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

oxybenzone:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): 3,8 mg/l End point: mortality Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1,87 mg/l End point: Immobilization Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0,67 mg/l End point: Growth rate Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0,18 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC50 (Bacteria): > 100 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,72 mg/l Exposure time: 96 d Species: Oryzias latipes (Japanese medaka)

cobalt bis(2-ethylhexanoate):

Toxicity to fish	:	LC50 (Fish): 0,8 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia dubia (Water flea)): 0,61 mg/l Exposure time: 48 h
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC: 0,21 mg/l End point: mortality Exposure time: 34 d Species: Pimephales promelas (fathead minnow)

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.

maleic anhydride:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 75 mg/l Exposure time: 96 h Method: EPA-660/3-75-00
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 37,9 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 65,78 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

Ecotoxicology Assessment

Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

Silicon dioxide:

Toxicity to fish	:	LC0 (Brachydanio rerio (zebrafish)): > 10.000 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): > 1.000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

12.2 Persistence and degradability

Components:

styrene:

Biodegradability	:	Result: Readily biodegradable.

Biodegradation: 70,9 %
Exposure time: 28 d

ethyl acetate:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 79 %
Related to: Biochemical oxygen demand
Exposure time: 20 d
Method: OECD Test Guideline 301D

methanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 71,5 - 95 %
Method: OECD Test Guideline 301D

oxybenzone:

Biodegradability : Result: Partially biodegradable.
Biodegradation: 60 - 70 %
Exposure time: 28 d

maleic anhydride:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 90 %
Exposure time: 225 d
Method: OECD Test Guideline 301B

12.3 Bioaccumulative potential

Components:

styrene:

Partition coefficient: n-octanol/water : log Pow: 2,96 (25 °C)

ethyl acetate:

Partition coefficient: n-octanol/water : log Pow: 0,68 (25 °C)

methanol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 10

Partition coefficient: n-octanol/water : log Pow: -0,77 (20 °C)

oxybenzone:

Bioaccumulation : Species: Cyprinus carpio (Carp)

Exposure time: 70 d
Concentration:> 1 mg/l
Bioconcentration factor (BCF): 39 - < 160
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 3,45 (40 °C)
pH: 7,71

cobalt bis(2-ethylhexanoate):

Partition coefficient: n-octanol/water : log Pow: 2,96 (20 °C)
pH: 7

maleic anhydride:

Partition coefficient: n-octanol/water : log Pow: -2,61 (20 °C)

Silicon dioxide:

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

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

Global warming potential

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

Components:

dodecamethylcyclohexasiloxane:

20-year global warming potential: 0,51
100-year global warming potential: 0,142
500-year global warming potential: 0,04
Atmospheric lifetime: 0,011 yr
Radiative efficiency: 0,086 Wm2ppb
Further information: Miscellaneous compounds

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. Dispose of wastes in an approved waste disposal facility. Send to a licensed waste management company.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. 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: 07 02 08, other still bottoms and reaction residues

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1866
ADR	:	UN 1866
RID	:	UN 1866
IMDG	:	UN 1866
IATA	:	UN 1866

14.2 UN proper shipping name

ADN	:	RESIN SOLUTION
ADR	:	RESIN SOLUTION

RID	:	RESIN SOLUTION
IMDG	:	RESIN SOLUTION
IATA	:	Resin solution

14.3 Transport hazard class(es)

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

14.4 Packing group

ADN

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

ADR

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

RID

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

IMDG

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

IATA (Cargo)

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

IATA (Passenger)

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

14.5 Environmental hazards

ADN
Environmentally hazardous : no

ADR
Environmentally hazardous : no

RID
Environmentally hazardous : no

IMDG
Marine pollutant : no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 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, 3 If you intend to use this product as tattoo ink, please contact your vendor. cumene (Number on list 28)
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: < 250 g/l VOC content for the product in a ready to use condition.

Other regulations:

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.

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 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

H225	:	Highly flammable liquid and vapor.
H226	:	Flammable liquid and vapor.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H360FD	:	May damage fertility. May damage the unborn child.
H361d	:	Suspected of damaging the unborn child.
H370	:	Causes damage to organs.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H372	:	Causes damage to organs through prolonged or repeated exposure if inhaled.
H400	:	Very toxic to aquatic life.

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.
EUH071	:	Corrosive to the respiratory tract.

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 Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Resp. Sens.	:	Respiratory sensitization
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitization
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2004/37/EC	:	Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
2006/15/EC	:	Europe. Indicative occupational exposure limit values
2017/164/EU	:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
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.
TRGS 903	:	c - Biological limit values
2004/37/EC / TWA	:	Long term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
2017/164/EU / STEL	:	Short term exposure limit
2017/164/EU / TWA	:	Limit Value - eight hours
DE DFG MAK / Mow	:	Momentary value
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:		**Classification procedure:**
Flam. Liq. 2	H225	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 1	H372	Calculation method
Aquatic Chronic 3	H412	Calculation method

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

DE / EN

SAFETY DATA SHEET

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

MEKP FL 505 SN

Version		Revision Date:	Date of last issue: 17.08.2023
1.2	DE / EN	16.07.2024	Date of first issue: 16.08.2022

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

1.1 Product identifier

Trade name : MEKP FL 505 SN

Product code : 133.887

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

Use of the Sub-stance/Mixture : Curing chemical

Recommended restrictions on use : Industrial use, professional use, public use

1.3 Details of the supplier of the safety data sheet

Company : A.Förster & Co.KG
Esinger Steinweg 50
25436 Uetersen
Germany

info@foerster-co.de

Telephone : 04122-3682

Responsible Department : Laboratory

04122-3682
info@foerster-co.de

1.4 Emergency telephone

Telephone : Giftinformationszentrum (GIZ)-Nord,
Göttingen, Deutschland
0551 19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Organic peroxides, Type D	H242: Heating may cause a fire.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :

H242 Heating may cause a fire.
H302 + H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.

Precautionary Statements :

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.
P260 Do not breathe mist or vapors.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rins-

ing. Immediately call a POISON CENTER/ doctor.

P310 Immediately call a POISON CENTER/ doctor.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

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:

Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide
hydrogen peroxide solution
tributylamine

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
contains
Organic Peroxide

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide	1338-23-4 700-954-4 01-2119514691-43	Org. Perox. D; H242 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318 --- Acute toxicity estimate	>= 25 - < 40

		Acute oral toxicity: 1.017 mg/kg Acute inhalation toxicity (dust/mist): 1,5 mg/l	
butanone	78-93-3 201-159-0 606-002-00-3 01-2119457290-43	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system) EUH066	>= 1 - < 10
hydrogen peroxide solution	7722-84-1 231-765-0 008-003-00-9	Ox. Liq. 1; H271 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1A; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412 --- specific concentration limit Ox. Liq. 1; H271 >= 70 % Ox. Liq. 2; H272 50 - < 70 % Skin Corr. 1A; H314 >= 70 % Skin Corr. 1B; H314 50 - < 70 % Skin Irrit. 2; H315 35 - < 50 % Eye Dam. 1; H318 8 - < 50 % Eye Irrit. 2; H319 5 - < 8 % STOT SE 3; H335 >= 35 %	>= 1 - < 5
tributylamine	102-82-9 203-058-7	Acute Tox. 4; H302 Acute Tox. 1; H330 Acute Tox. 2; H310 Skin Irrit. 2; H315 --- Acute toxicity estimate Acute oral toxicity: 420 mg/kg Acute inhalation toxicity (vapor): 0,5 mg/l	>= 0,1 - < 1

		Acute dermal toxicity: 190 mg/kg	

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.
Wash contaminated clothing before re-use.
Show this material safety data sheet to the doctor in attendance.
First aider needs to protect himself.

If inhaled : Move to fresh air.
Oxygen or artificial respiration if needed.
Get medical attention immediately.

In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

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.
Remove contact lenses.
Protect unharmed eye.
Call a physician immediately.

If swallowed : Do NOT induce vomiting.
Call a physician immediately.
Take victim immediately to hospital.
Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if swallowed or if inhaled.
Causes serious eye damage.
Causes severe burns.

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 : Hazardous decomposition products formed under fire conditions.

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

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.
Exposure to decomposition products may be a hazard to health.

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
Use water spray to cool unopened containers.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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.
Do not smoke.
Ensure adequate ventilation.
Avoid contact with skin, eyes and clothing.
Wear respiratory protection.
Avoid inhalation of vapor or mist.

6.2 Environmental precautions

Environmental precautions : Should not be released into the environment.
Do not flush into surface water or sanitary sewer system.
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 : Soak up with inert absorbent material.
Cover with sand or earth. Scoop up and store in non-combustible container.
Keep in suitable, closed containers for disposal.
Non-sparking tools should be used.

After cleaning, flush away traces with water.

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

Technical measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Advice on safe handling : Wear personal protective equipment.
Keep away from heat and sources of ignition.
Handle and open container with care.
Keep container tightly closed and dry.
Never return unused material to storage receptacle.
Risk of decomposition.
Prevent contamination with readily oxidizable materials and polymerization accelerators.
In case of insufficient ventilation, wear suitable respiratory equipment.
Do not breathe vapors/dust.
Avoid formation of aerosol.
Avoid contact with eyes.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight. Avoid shock and friction. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Vapors may form explosive mixtures with air.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Store in cool place. Store between 41 and 77 °F in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store away from other materials.

Advice on common storage : Keep away from strong acids, bases, heavy metal salts and other reducing substances.
Keep away from food, drink and animal feedingstuffs.
Organic peroxides

Keep away from oxidizing agents, strongly acid or alkaline materials and amines.

Storage class (TRGS 510) : 5.2

7.3 Specific end use(s)

Specific use(s) : No data available
The rules which cover amongst other things the requirement for ventilation, protective clothing, personal protective equipment etc. can be obtained from the National Occupational Health and Safety Board.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-(2-ethoxyethoxy)ethanol	111-90-0	AGW (Vapour and aerosols)	6 ppm 35 mg/m3	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 (inhalable fraction)	50 mg/m3	DE DFG MAK
	Further information: Damage to the embryo or foetus is unlikely when the MAK value or the BAT value is observed			
butanone	78-93-3	TWA	200 ppm 600 mg/m3	2000/39/EC
	Further information: Indicative			
		STEL	300 ppm 900 mg/m3	2000/39/EC
	Further information: Indicative			
		AGW	200 ppm 600 mg/m3	DE TRGS 900
	Peak-limit category: 1;(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	200 ppm 600 mg/m3	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			
hydrogen peroxide solution	7722-84-1	AGW	0,5 ppm 0,71 mg/m3	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	0,5 ppm 0,71 mg/m3	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			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
butanone	78-93-3	2-butanone: 2 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
		2-butanon: 5 mg/l (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
Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide	Workers	Inhalation	Long-term systemic effects	5288 mg/m3
	Workers	Dermal	Long-term systemic effects	3 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,75 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1,125 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1,5 mg/kg bw/day
butanone	Workers	Inhalation	Long-term systemic effects	600 mg/m3
	Workers	Skin contact	Long-term systemic effects	1161 mg/kg
	Consumers	Inhalation	Long-term systemic effects	106 mg/m3
	Consumers	Skin contact	Long-term systemic effects	412 mg/kg
	Consumers	Oral	Long-term systemic effects	31 mg/kg
Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide	Workers	Inhalation	Long-term systemic effects	5288 mg/m3
	Workers	Dermal	Long-term systemic effects	3 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,75 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1,125 mg/m3

	Consumers	Skin contact	Long-term systemic effects	1,5 mg/kg bw/day
2-(2-ethoxyethoxy)ethanol	Workers	Inhalation	Long-term local effects	30 mg/m3
	Consumers	Inhalation	Long-term local effects	18 mg/m3
	Consumers	Oral	Long-term systemic effects	50 mg/kg bw/day
butanone	Workers	Inhalation	Long-term systemic effects	600 mg/m3
	Workers	Skin contact	Long-term systemic effects	1161 mg/kg
	Consumers	Inhalation	Long-term systemic effects	106 mg/m3
	Consumers	Skin contact	Long-term systemic effects	412 mg/kg
	Consumers	Oral	Long-term systemic effects	31 mg/kg

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

Substance name	Environmental Compartment	Value
Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide	Fresh water	0,006 mg/l
	Fresh water sediment	0,088 mg/kg dry weight (d.w.)
	Soil	0,014 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	1,2 mg/l
butanone	Fresh water	55,8 mg/l
	Sea water	55,8 mg/l
	Sewage treatment plant (STP)	709 mg/l
	Fresh water sediment	284,74 mg/kg
	Sea sediment	284,7 mg/kg
	Soil	22,5 mg/kg
Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide	Fresh water	0,006 mg/l
	Fresh water sediment	0,088 mg/kg dry weight (d.w.)
	Soil	0,014 mg/kg dry weight (d.w.)
	Sewage treatment plant (STP)	1,2 mg/l
butanone	Fresh water	55,8 mg/l
	Sea water	55,8 mg/l
	Sewage treatment plant (STP)	709 mg/l
	Fresh water sediment	284,74 mg/kg
	Sea sediment	284,7 mg/kg
	Soil	22,5 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection	:	Safety glasses with side-shields conforming to EN166
Hand protection		
Material	:	Nitrile rubber
Directive	:	DIN EN 374
Material	:	Neoprene
Directive	:	DIN EN 374
Material	:	PVC
Directive	:	DIN EN 374
Remarks	:	Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. 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.
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. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapor/particulate (EN 141) In the case of hazardous fumes, wear self contained breathing apparatus.
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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Color	:	colorless
Odor	:	pungent

Melting point/freezing point	:	Not applicable
Boiling point/boiling range	:	Not applicable Decomposition
Flash point	:	61 °C Method: ISO 3679, closed cup
Self-Accelerating decomposition temperature (SADT)	:	60 °C Method: The value is calculated Packaging size (Mass): 25 kg
pH	:	4,7 (20 °C) Concentration: 100 %
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapor pressure	:	No data available
Density	:	ca. 1,1 g/cm3 (20 °C)

9.2 Other information

Oxidizing properties	:	Organic peroxide Sustains combustion
Available oxygen content	:	9,0 - 9,4 %

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.
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Heating may cause a fire.
Risk of decomposition.
Reacts violently in contact with acids, amines, driers, polymerization accelerators and easily oxidized materials.

10.4 Conditions to avoid

Conditions to avoid : Temperature < -10 °C
Protect from frost.

Temperature > 30 °C
Decomposes at elevated temperatures.
Extremes of temperature and direct sunlight.
Contact with incompatible substances can cause decomposition at or below SADT.
Keep away from heat and sources of ignition.

10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents
Rust
Strong oxidizing agents
Strong reducing agents

10.6 Hazardous decomposition products

Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition
Carbon oxides

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: <= 2.000 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: <= 20 mg/l
Exposure time: 4 h
Test atmosphere: vapor

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

Components:

Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide:

Acute oral toxicity	:	LD50 Oral (Rat): 1.017 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	Acute toxicity estimate: 1,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The component/mixture is moderately toxic after short term inhalation. Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 4.000 mg/kg Method: OECD Test Guideline 402

butanone:

Acute oral toxicity	:	LD50 Oral (Rat): 3.460 mg/kg Method: OECD Test Guideline 423
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 5.000 mg/kg Method: OECD Test Guideline 402

tributylamine:

Acute oral toxicity	:	LD50 Oral (Rat): 420 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0,5 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 190 mg/kg

Skin corrosion/irritation

Causes severe burns.

Components:

Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide:

Result	:	Corrosive after 3 minutes to 1 hour of exposure

tributylamine:

Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization
Not classified due to lack of data.

Respiratory sensitization
Not classified due to lack of data.

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:

butanone:
Assessment : May cause drowsiness or dizziness.

hydrogen peroxide solution:
Assessment : May cause respiratory irritation.

STOT-repeated exposure
Not classified due to lack of data.

Aspiration toxicity
Not classified due to lack of data.

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:

Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide:

Toxicity to fish	:	LC50 (Poecilia reticulata (guppy)): 44,2 mg/l End point: mortality Exposure time: 96 h Method: Regulation (EC) No. 440/2008, Annex, C.1
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 39 mg/l Exposure time: 48 h Method: Regulation (EC) No. 440/2008, Annex, C.2
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 3,2 mg/l End point: Biomass Exposure time: 72 h Method: Regulation (EC) No. 440/2008, Annex, C.3

Ecotoxicology Assessment

Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

butanone:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 2.993 mg/l End point: mortality Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 308 mg/l End point: Immobilization Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 1.972 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Ecotoxicology Assessment

Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

hydrogen peroxide solution:

Ecotoxicology Assessment

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

tributylamine:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 10 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 8 mg/l Exposure time: 48 h

Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 1,4 mg/l Exposure time: 72 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 315 mg/l Exposure time: 28 d Species: Danio rerio (zebra fish)

Ecotoxicology Assessment

Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.

12.2 Persistence and degradability

Components:

Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide:

Biodegradability	:	Result: rapidly biodegradable Method: OECD Test Guideline 301B

12.3 Bioaccumulative potential

Components:

Reaction mass of butane-2,2-diyl dihydroperoxide and dioxydibutane-2,2-diyl dihydroperoxide:

Partition coefficient: n-octanol/water	:	log Pow: 2,04 (25 °C)

butanone:

Partition coefficient: n-octanol/water	:	log Pow: 0,3 (40 °C) pH: 7

hydrogen peroxide solution:

Partition coefficient: n-octanol/water	:	log Pow: -1,57 (20 °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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not mix waste streams during collection.
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.

Contaminated packaging : 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:
16 05 06, laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
16 09 03, peroxides, for example hydrogen peroxide

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 3105

ADR : UN 3105

RID : UN 3105

IMDG : UN 3105

IATA : UN 3105

14.2 UN proper shipping name

ADN : ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl Ethyl Ketone Peroxide)

ADR	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide)
RID	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide)
IMDG	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl Ethyl Ketone Peroxide)
IATA	:	Organic peroxide type D, liquid (Methyl Ethyl Ketone Peroxide)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	5.2	
ADR	:	5.2	
RID	:	5.2	
IMDG	:	5.2	
IATA	:	5.2	HEAT

14.4 Packing group

ADN

Packing group	:	Not assigned by regulation
Classification Code	:	P1
Labels	:	5.2

ADR

Packing group	:	Not assigned by regulation
Classification Code	:	P1
Labels	:	5.2
Tunnel restriction code	:	(D)

RID

Packing group	:	Not assigned by regulation
Classification Code	:	P1
Hazard Identification Number	:	539
Labels	:	5.2

IMDG

Packing group	:	Not assigned by regulation
Labels	:	5.2
EmS Code	:	F-J, S-R

IATA (Cargo)

Packing instruction (cargo aircraft)	:	570
Packing group	:	Not assigned by regulation
Labels	:	Organic Peroxides, Keep Away From Heat

IATA (Passenger)

Packing instruction (passenger aircraft)	:	570
Packing group	:	Not assigned by regulation

Labels : Organic Peroxides, Keep Away From Heat

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, 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

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

This product is regulated by Regulation (EU) 2019/1148: all suspi- hydrogen peroxide solution

cious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. (ANNEX I)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

Water hazard class (Germany) : WGK 1 slightly water endangering
Classification according to AwSV, Annex 1 (5.2)

Other regulations:

BG-Merkblatt M001 beachten (German regulatory requirements)
according to DGUV Regulation 13 (previously BGV B4) - Organic Peroxides
Hazard group: OP1b

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.
§ 5Abs. 4b : Derogation according to the Ordinance on the Prohibition of Chemicals (ChemVerbotsV)

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.

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

H225	:	Highly flammable liquid and vapor.
H242	:	Heating may cause a fire.
H271	:	May cause fire or explosion; strong oxidizer.
H302	:	Harmful if swallowed.
H310	:	Fatal in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
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 Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Org. Perox.	:	Organic peroxides
Ox. Liq.	:	Oxidizing liquids
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
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
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.
TRGS 903	:	c - Biological limit values
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / 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:		**Classification procedure:**
Org. Perox. D	H242	Based on product data or assessment
Acute Tox. 4	H302	Expert judgment and weight of evidence determination.
Acute Tox. 4	H332	Expert judgment and weight of evidence determination.
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method

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

DE / EN