Carsystem Liquid Putty

Version		Revision Date:	Date of last issue: 28.06.2022
3.0AUS	DE / EN	26.09.2023	Date of first issue: 28.06.2022

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

1.1 Product identifier

Trade name : Carsystem Liquid Putty

Product code : CS143496

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 : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : Vosschemie GmbH
Esinger Steinweg 50
25436 Uetersen
Germany

info@vosschemie.de

Telephone : 04122 717 0
Telefax : 04122 717158

Responsible Department : Laboratory

04122 717 0
sds@vosschemie.de

1.4 Emergency telephone

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

IMPORTED BY:

Sydney Automotive Paints & Equipment PTY LTD Unit A3, 366 Edgar St. Condell Park NSW 2200 AUSTRALIA, Tel. +02 9772 9000 , +02 9772 9001 ·

Emergency telephone number: If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 131 126, New Zealand 0800 764 766

Carsystem Liquid Putty

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
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.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H226 Flammable liquid and vapor.
H315 Causes skin irritation.
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.

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

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	100-42-5 202-851-5 601-026-00-0 01-2119457861-32	Flam. Liq. 3; H226 Acute Tox. 4; H332 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	>= 20 - < 25

		Acute toxicity estimate Acute inhalation toxicity (vapor): 11,8 mg/l	
1,4-naphthoquinone	130-15-4 204-977-6 01-2120760462-57	Acute Tox. 3; H301 Acute Tox. 1; H330 Skin Corr. 1C; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0,025 - < 0,1
		M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	
		Acute toxicity estimate Acute oral toxicity: 124 mg/kg Acute inhalation toxicity (dust/mist): 0,046 mg/l	
Substances with a workplace exposure limit :			
Talc	14807-96-6 238-877-9		>= 10 - < 20

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
Move out of dangerous area.
Take off contaminated clothing and shoes immediately.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
Show this material safety data sheet to the doctor in attendance.

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
If inhaled	:	Move to fresh air. 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. 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 (CO_2) 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 approved 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			
Talc	14807-96-6	AGW (Inhalable fraction)	10 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			
		AGW (Alveolate fraction)	1,25 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			
		TWA (Respirable	0,1 mg/m3	2004/37/EC

		dust)		
	Further information: Carcinogens or mutagens			
Titanium dioxide	13463-67-7	AGW (Inhalable fraction)	10 mg/m3 (Titanium dioxide)	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW (Alveolate fraction)	1,25 mg/m3 (Titanium dioxide)	DE TRGS 900
	Peak-limit category: 2;(II)			
	Further information: When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			

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

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

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

8.2 Exposure controls

Personal protective equipment

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

Hand protection
- Material : Fluorinated rubber
- Break through time : > 480 min
- Glove thickness : >= 0,4 mm
- Directive : DIN EN 374
- Protective index : Class 6

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	:	paste
Color	:	beige
Odor	:	characteristic
Melting point/range	:	-30 °C Literary value styrene
Boiling point/boiling range	:	145 °C (1.013 hPa) Literary value styrene
Upper explosion limit / Upper flammability limit	:	6,1 %(V) Literary value styrene
Lower explosion limit / Lower flammability limit	:	1,1 %(V) Literary value styrene
Flash point	:	31 °C(1.013 hPa) Literary value styrene
Autoignition temperature	:	490 °C (1.013 hPa) Literary value styrene
Decomposition temperature	:	No data available
pH	:	Not applicable substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Solubility(ies)		
Water solubility	:	0,32 g/l (25 °C) Literary value styrene
Partition coefficient: n-octanol/water	:	log Pow: 2,96 (25 °C) Literary value styrene
Vapor pressure	:	6,67 hPa (20 °C) Literary value styrene
Density	:	ca. 1,1 g/cm3 (20 °C)

Relative vapor density	:	No data available

9.2 Other information

Explosives	:	Not explosive In use, may form flammable/explosive vapor-air mixture.
Flammability (liquids)	:	Flammable
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 based on available information.

Product:

Acute inhalation toxicity	:	Acute toxicity estimate: > 20 mg/l

Exposure time: 4 h
Test atmosphere: vapor
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

1,4-naphthoquinone:

Acute oral toxicity	:	LD50 Oral (Rat): 124 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0,046 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	Assessment: The substance or mixture has no acute dermal toxicity Remarks: Effects of skin contacts may include: Causes burns.

Talc:

Acute oral toxicity	:	LD50 Oral (Rat): 5.000 mg/kg Method: OECD Test Guideline 423
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 Dermal (Rat): > 2.000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes skin irritation.

Components:

styrene:

Species	:	Rabbit
Result	:	irritating

1,4-naphthoquinone:

Result	:	Causes burns.

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

styrene:

Species	:	Rabbit
Result	:	irritating

1,4-naphthoquinone:

Result	:	Risk of serious damage to eyes.

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

styrene:

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

1,4-naphthoquinone:

Result	:	May cause sensitization by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

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.

STOT-single exposure

May cause respiratory irritation.

Components:

styrene:

Assessment : May cause respiratory irritation.

1,4-naphthoquinone:

Assessment : May cause respiratory irritation.

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Components:

styrene:

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

Aspiration toxicity

Not classified based on available information.

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.

1,4-naphthoquinone:

Toxicity to fish	:	(Oryzias latipes (Japanese medaka)): 0,045 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,0261 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (algae)): 0,42 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
M-Factor (Chronic aquatic toxicity)	:	1

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

Components:

styrene:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 70,9 % Exposure time: 28 d

1,4-naphthoquinone:

Biodegradability	:	Result: Not rapidly biodegradable Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 301

12.3 Bioaccumulative potential

Components:

styrene:

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

1,4-naphthoquinone:

Partition coefficient: n-octanol/water	:	log Pow: 1,77 (25 °C)

Talc:

Partition coefficient: n-octanol/water	:	log Pow: -9,4 (25 °C) pH: 7

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 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

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

14.2 UN proper shipping name

ADG	:	RESIN SOLUTION
ADN	:	RESIN SOLUTION
ADR	:	RESIN SOLUTION
RID	:	RESIN SOLUTION
IMDG	:	RESIN SOLUTION
IATA	:	RESIN SOLUTION

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADG	:	3	

ADN : 3

ADR : 3

RID : 3

IMDG : 3

IATA : 3

14.4 Packing group

ADG
Packing group : III

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

ADR
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : (D/E)

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

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

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

IATA (Passenger)
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

14.5 Environmental hazards

ADG
Environmentally hazardous : no

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

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.

This Product is considered compliant to AIIC (Australian Inventory of Industrial Chemicals).

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapor.
H301	:	Toxic if swallowed.
H304	:	May be fatal if swallowed and enters airways.
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.
H330	:	Fatal if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H361d	:	Suspected of damaging the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

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
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
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
TRGS 903	:	c - Biological limit values
2004/37/EC / TWA	:	Long term exposure limit
DE TRGS 900 / AGW	:	Time Weighted Average

ADG – Australian Dangerous Goods; 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 as- sociated 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) Ef- fect 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 sub- stance; 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 Re- striction 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. 3	H226	Based on product data or assessment
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Repr. 2	H361d	Calculation method

Carsystem Liquid Putty

Version		Revision Date:	Date of last issue: 28.06.2022
3.0AUS	DE / EN	26.09.2023	Date of first issue: 28.06.2022

STOT SE 3	H335	Calculation method
STOT RE 1	H372	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

CHP Härter

Version		Revision Date:	Date of last issue: 01.07.2022
2.1AUS	DE / EN	05.12.2023	Date of first issue: 01.07.2022

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

1.1 Product identifier

Trade name : CHP Härter

Product code : CS147473

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

Use of the Substance/Mixture : Curing chemical

Recommended restrictions on use : Industrial use, professional 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

IMPORTED BY:

Sydney Automotive Paints & Equipment PTY LTD Unit A3, 366 Edgar St. Condell Park NSW 2200 AUSTRALIA, Tel. +02 9772 9000 , +02 9772 9001 ·

Emergency telephone number: If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 131 126, New Zealand 0800 764 766

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.
Organic peroxides, Type D	H242: Heating may cause a fire.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H225 Highly flammable liquid and vapor.
H242 Heating may cause a fire.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H361d Suspected of damaging the unborn child.

Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.

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.
P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible

materials.
P234 Keep only in original packaging.
P271 Use only outdoors or in a well-ventilated area.
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 rinsing. Immediately call a POISON CENTER/ doctor.

Storage:

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

ethyl acetate
4-hydroxy-4-methylpentan-2-one
cyclohexanone, peroxide

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

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)

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	>= 50 - < 70
4-hydroxy-4-methylpentan-2-one	123-42-2 204-626-7 603-016-00-1 01-2119473975-21	Flam. Liq. 3; H226 Eye Irrit. 2; H319 Repr. 2; H361d STOT SE 3; H335 (Respiratory system) --- specific concentration limit Eye Irrit. 2; H319 >= 10 %	>= 20 - < 30
cyclohexanone, peroxide	12262-58-7 235-527-7 617-010-00-1 01-2120762253-58	Org. Perox. A; H240 Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) --- specific concentration limit STOT SE 3; H335 >= 5 % STOT SE 3; H335 >= 5 % --- Acute toxicity estimate Acute oral toxicity: 1.242 mg/kg	>= 10 - < 20

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.
Show this material safety data sheet to the doctor in attendance.
First aider needs to protect himself.

If inhaled	:	Move to fresh air. Get medical attention.
In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water. 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	:	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician immediately. Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. 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.
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. Remove all sources of ignition. Do not smoke. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Wear respiratory protection.

6.2 Environmental precautions

Environmental precautions	:	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 and dispose of as hazardous waste. Sweep up and shovel into suitable containers for disposal. Contact with incompatible substances can cause decomposition at or below SADT.

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

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
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			
4-hydroxy-4-methylpentan-2-one	123-42-2	AGW	20 ppm 96 mg/m3	DE TRGS 900
	Peak-limit category: 2;(I)			
	Further information: Skin absorption			

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

Substance name	End Use	Routes of exposure	Potential health effects	Value
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
4-hydroxy-4-methylpentan-2-one	Workers	Inhalation	Long-term systemic effects	59,2 mg/m3
	Workers	Inhalation	Acute local effects	240 mg/m3
	Workers	Skin contact	Long-term systemic effects	840 mg/kg
	Consumers	Inhalation	Long-term systemic effects	10,4 mg/m3
	Consumers	Skin contact	Long-term systemic effects	60 mg/kg
	Consumers	Oral	Long-term systemic effects	3 mg/kg

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

Substance name	Environmental Compartment	Value
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
4-hydroxy-4-methylpentan-2-one	Fresh water	2 mg/l
	Sea water	0,2 mg/l
	Sewage treatment plant (STP)	10 mg/l
	Fresh water sediment	9,06 mg/kg
	Sea sediment	0,91 mg/kg
	Soil	0,63 mg/kg

8.2 Exposure controls

Personal protective equipment

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

Hand protection
- Material : Neoprene
- Directive : DIN EN 374

- Material : Nitrile rubber
- 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.
In case of inadequate ventilation wear respiratory protection.

- 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	:	colorless
Odor	:	characteristic
Melting point/range	:	not determined
Boiling point/boiling range	:	77 °C
Upper explosion limit / Upper flammability limit	:	11,5 %(V)
Lower explosion limit / Lower flammability limit	:	1,4 %(V)
Flash point	:	-4 °C
Self-Accelerating decomposition temperature (SADT)	:	50 °C
pH	:	4 - 6 Concentration: 10 %
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	partly miscible
Partition coefficient: n-octanol/water	:	No data available
Vapor pressure	:	not determined
Density	:	ca. 1 g/cm3 (20 °C)

9.2 Other information

Oxidizing properties	:	Organic peroxide Sustains combustion
Organic peroxides	:	Peroxide content: 10 % The substance or mixture is an organic peroxide classified as type D.

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.
Decomposes on heating.

10.3 Possibility of hazardous reactions

Hazardous reactions : 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 : Do not expose to temperatures above: > 25 °C
Extremes of temperature and direct sunlight.
Keep away from heat and sources of ignition.
Contact with incompatible substances can cause decomposition at or below SADT.

10.5 Incompatible materials

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

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

Not classified based on available information.

Product:

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

Components:

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

4-hydroxy-4-methylpentan-2-one:

Acute oral toxicity : LD50 Oral (Rat): 3.002 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat): >= 7,6 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 : LD0 (Rat): > 1.875 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

cyclohexanone, peroxide:

Acute oral toxicity : LD50 Oral (Rat): 1.242 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Causes severe burns.

Components:

ethyl acetate:

Result : Repeated exposure may cause skin dryness or cracking.

cyclohexanone, peroxide:

Species : Rabbit
Result : Corrosive
Remarks : Category 1B

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

cyclohexanone, peroxide:

Species : Rabbit
Result : Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

4-hydroxy-4-methylpentan-2-one:

Reproductive toxicity - Assessment	:	Some evidence of adverse effects on development, based on animal experiments.

STOT-single exposure

May cause respiratory irritation.
May cause drowsiness or dizziness.

Components:

4-hydroxy-4-methylpentan-2-one:

Assessment	:	May cause respiratory irritation.

cyclohexanone, peroxide:

Assessment	:	May cause respiratory irritation.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

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:

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

4-hydroxy-4-methylpentan-2-one:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): > 100 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)): > 1.000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l End point: Growth rate Exposure time: 72 h Method: OECD Test Guideline 201
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

cyclohexanone, peroxide:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 48 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to microorganisms	:	EC50 (Bacteria): 11,1 mg/l Exposure time: 0,5 h

Ecotoxicology Assessment

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

12.2 Persistence and degradability

Components:

ethyl acetate:

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

4-hydroxy-4-methylpentan-2-one:

Biodegradability	:	Result: rapidly biodegradable Biodegradation: 98,51 % Exposure time: 28 d Method: OECD Test Guideline 301A

12.3 Bioaccumulative potential

Components:

ethyl acetate:

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

4-hydroxy-4-methylpentan-2-one:

Partition coefficient: n-octanol/water	:	log Pow: -0,09 (20 °C)

cyclohexanone, peroxide:

Partition coefficient: n-octanol/water	:	Pow: 1,2 (29 °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

ADG : UN 3105

ADN : UN 3105

ADR : UN 3105

RID	:	UN 3105
IMDG	:	UN 3105
IATA	:	UN 3105

14.2 UN proper shipping name

ADG	:	ORGANIC PEROXIDE TYPE D, LIQUID (cyclohexanone, peroxide)
ADN	:	ORGANIC PEROXIDE TYPE D, LIQUID (cyclohexanone, peroxide)
ADR	:	ORGANIC PEROXIDE TYPE D, LIQUID (cyclohexanone, peroxide)
RID	:	ORGANIC PEROXIDE TYPE D, LIQUID (cyclohexanone, peroxide)
IMDG	:	ORGANIC PEROXIDE TYPE D, LIQUID (cyclohexanone, peroxide)
IATA	:	ORGANIC PEROXIDE TYPE D, LIQUID (cyclohexanone, peroxide)

14.3 Transport hazard class(es)

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

14.4 Packing group

ADG

Packing group	:	Not assigned by regulation

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

ADG

Environmentally hazardous	:	no

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

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 2 obviously hazardous to water Classification according to AwSV, Annex 1 (5.2)

Other regulations:

BG-Merkblatt M001 beachten (German regulatory requirements)
BGV B4 organische Peroxide. (German regulatory requirements)

Gefahrengruppe nach § 3 BGV B4: III (German regulatory requirements)

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)

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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).

15.2 Chemical Safety Assessment

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

This Product is considered compliant to AIIC (Australian Inventory of Industrial Chemicals).

SECTION 16: Other information

Full text of H-Statements

H225	:	Highly flammable liquid and vapor.
H226	:	Flammable liquid and vapor.
H240	:	Heating may cause an explosion.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H361d	:	Suspected of damaging the unborn child.
EUH066	:	Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Org. Perox.	:	Organic peroxides
Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
STOT SE	:	Specific target organ toxicity - single exposure
2017/164/EU	:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
2017/164/EU / STEL	:	Short term exposure limit
2017/164/EU / TWA	:	Limit Value - eight hours
DE TRGS 900 / AGW	:	Time Weighted Average

ADG – Australian Dangerous Goods; 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 as- sociated 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 sub- stance; 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 Re- striction 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
Org. Perox. D	H242	Based on product data or assessment
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H336	Calculation method
STOT SE 3	H335	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.

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