SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

BRAKE CLEANER 500

Creation date	03rd February 2025		
Revision date		Version	5.0

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

1.1. Product identifier — BRAKE CLEANER 500

Substance / mixture	mixture
Number	R 34216
UFI	6T3P-RUYM-X909-D1YX

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

Mixture's intended use

Cleaning agent. For professional use only.

Main intended use

PC-CLN-17.5 Brake cleaners

Mixture uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name	RETECH, s.r.o.
Address	Vackova 1541/4, Praha 5 - Stodůlky, 155 00 Czech Republic
Identification number (CRN)	25018205
VAT Reg No	CZ25018205
Phone	+420327596428
E-mail	info@retech.cz
Web address	www.retech.com

Competent person responsible for the safety data sheet

Name	RETECH, s.r.o.
E-mail	info@retech.cz

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Aerosol 1, H222, H229
Asp. Tox. 1, H304
Skin Irrit. 2, H315
STOT SE 3, H336
Aquatic Chronic 2, H411

Most serious adverse physico-chemical effects

Pressurised container: May burst if heated. Extremely flammable aerosol.

Most serious adverse effects on human health and the environment

May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard pictogram

Signal word

Danger

Hazardous substances

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P302+P352	IF ON SKIN: Wash with plenty of water.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C/122 °F.

2.3. Other hazards

Vapours mixed up with air can be explosive.
Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Does not contain any PMT or vPvM components.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
EC: 921-024-6 Registration number: 01-2119475514-35	hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	80-100	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411	
	heptane and isomers	<30	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	1
Index: 601-004-00-0 CAS: 75-28-5 EC: 200-857-2	isobutane	10-15	Flam. Gas 1, H220 Press. Gas (liquefied gas), H280	1, 2
Index: 601-017-00-1 CAS: 110-82-7 EC: 203-806-2	cyclohexane	<10	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	3, 4

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 601-018-00-7 CAS: 108-87-2 EC: 203-624-3	methylcyclohexane	<6	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411	
CAS: 124-38-9 EC: 204-696-9	carbon-dioxide	<5	Press. Gas (compressed gas), H280	3
Index: 601-037-00-0 CAS: 110-54-3 EC: 203-777-6	n-hexane	<5	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Repr. 2 (***), H361f STOT RE 2 (**), H373 Aquatic Chronic 2, H411 Specific concentration limit: STOT RE 2, H373: C ≥ 5 %	3
Index: 601-003-00-5 CAS: 74-98-6 EC: 200-827-9	propane	2-5	Flam. Gas 1A, H220 Press. Gas (liquefied gas), H280	2

Notes

** *another exposure route cannot be ruled out*

** *reproductive toxicity: supplementary letters specify whether fetal harm (d) or fertility harm (f) may*

* *occur*

1 *Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.*

2 *Note U (Table 3): When put on the market gases have to be classified as "Gases under pressure", in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned:*

Press. Gas (Comp.)
Press. Gas (Liq.)
Press. Gas (Ref. Liq.)
Press. Gas (Diss.)

Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2).

3 *A substance for which exposure limits are set.*

4 *The use of the substance is restricted by Annex XVII of REACH Regulation*

Full text of all classifications and hazard statements is given in the section 16.

Additional information

n-Hexane, cyclohexane, methylcyclohexane, heptane, and isomers: UVCB constituents of EC substance: 921-024-6. The classification of these substances is already included in the classification of the UVCB substance.
Interchangeable Component Group (ICG) for substance EC 921-024-61: Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics, <5 % n-hexane; UVCB substance, EC 921-024-61, Reg. No 01-2119475515-33.
Aerosols and containers fitted with a fixed spray containing substances or mixtures classified as hazardous by inhalation do not need to be labelled for this hazard.

SECTION 4: First aid measures

4.1. Description of first aid measures

In any case, avoid chaotic behaviour. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards. Always ensure the safety of a person providing aid and a person receiving aid. Personal protective equipment must be donned before entering the contaminated area. Appropriate personal protective equipment, including gloves, must be worn when handling contaminated clothing or other items. First aid should not be performed at the scene where the accident occurred if there is a risk of contamination of the rescuer.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Keep the affected person warm and at rest.

If on skin

Remove contaminated clothes. Wash with plenty of soap and water. Provide medical treatment if skin irritation persists.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 15 minutes. In the event of issues, find medical help.

If swallowed

Unlikely. Keep the affected person warm and at rest. Immediate medical attention is required. Bring an original container with the label and the Safety Data Sheet of the given substance as appropriate.

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

If inhaled

May cause respiratory irritation. Mucous membranes may be irritated. The following symptoms occur: Headache, dizziness, fatigue, malaise, general weakness, narcotic effect, falling unconscious in exceptional cases. Do not inhale vapours.

If on skin

Causes skin irritation. Itching.

If in eyes

not available

If swallowed

Unlikely. If the affected person vomits, make sure to prevent inhalation of the vomit (as there is a danger of lung damage after inhalation of these liquids in the airways also in infinitesimal amount). May be fatal if swallowed and enters airways.

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

Decontamination. Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media

Water in small quantities and a sharp water jet; this can only be used to cool products (containers) near the fire.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Aldehydes. Soot. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Use a self-contained breathing apparatus and full-body protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. Pressurised container: May burst if heated. Extremely flammable aerosol. Remove all ignition sources. Use personal protective equipment as per Section 8. Do not inhale vapours. Do not eat, drink or smoke when using this product. Keep unprotected persons away. Vapors from gases are heavier than air. Prevent vapors from entering drains.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains. Risk of formation of explosive vapours above water surface. Spilled product should be covered with suitable absorbing material.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use personal protective equipment as per Section 8. Use only outdoors or in a well-ventilated area. Do not inhale vapours. Do not inhale aerosols. Do not get in eyes, on skin, or on clothing.
Provide sufficient ventilation.
The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Keep away from heat,open flames. Use explosion-proof electrical equipment. Take action to prevent static discharges. Store in a dry place. Keep cool.

Hygienic requirements:
Observe valid legal regulations on safety and health protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Do not dry your hands with cloths that have been contaminated with the product. Do not use abrasives, solvents or petrol cleaners. Wash hands and exposed parts of the body thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Store at room temperature. Protect from sunlight. Do not expose to temperatures exceeding 50 °C. Use explosion-proof electrical equipment. Do not store in unlabeled containers. Protect against strong acids and oxidizing agents.

Storage class	2B - Aerosols
Storage temperature	min 0 °C, max 50 °C

7.3. Specific end use(s)

See the Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union **Commission Directive 2006/15/EC**

Substance name (component)	Type	Value
cyclohexane (CAS: 110−82−7)	OEL 8 hours	700 mg/m³
	OEL 8 hours	200 ppm
carbon−dioxide (CAS: 124−38−9)	OEL 8 hours	9000 mg/m³
	OEL 8 hours	5000 ppm
n−hexane (CAS: 110−54−3)	OEL 8 hours	72 mg/m³
	OEL 8 hours	20 ppm

DNEL

cyclohexane			
Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	700 mg/m³	Chronic effects systemic
Workers	Inhalation	700 mg/m³	Chronic effects local
Workers	Dermal	2016 mg/kg bw/day	Chronic effects systemic
Consumers	Inhalation	206 mg/m³	Chronic effects systemic
Consumers	Inhalation	206 mg/m³	Chronic effects local
Consumers	Dermal	1186 mg/kg bw/day	Chronic effects systemic
Consumers	Oral	59.4 mg/kg bw/day	Chronic effects systemic

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane			
Workers / consumers	Route of exposure	Value	Effect
Consumers	Oral	699 mg/kg bw/day	Chronic effects systemic
Consumers	Dermal	699 mg/kg bw/day	Chronic effects systemic
Workers	Dermal	773 mg/kg bw/day	Chronic effects systemic
Consumers	Inhalation	608 mg/m³	Chronic effects systemic
Workers	Inhalation	2035 mg/m³	Chronic effects systemic

methylcyclohexane			
Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	64.3 mg/m³	Chronic effects systemic
Workers	Dermal	1.7 mg/kg bw/day	Chronic effects systemic
Consumers	Inhalation	16 mg/m³	Chronic effects systemic
Consumers	Dermal	0.8 mg/kg bw/day	Chronic effects systemic
Consumers	Oral	0.4 mg/kg bw/day	Chronic effects systemic

n-hexane			
Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	75 mg/m³	Chronic effects systemic
Workers	Dermal	11 mg/kg bw/day	Chronic effects systemic
Consumers	Inhalation	16 mg/m³	Chronic effects systemic
Consumers	Dermal	5.3 mg/kg bw/day	Chronic effects systemic
Consumers	Oral	4 mg/kg bw/day	Chronic effects systemic

PNEC

cyclohexane	
Route of exposure	Value
Freshwater environment	44.7 µg/l
Marine water	4.47 µg/l
Water (intermittent release)	9 µg/l
Microorganisms in sewage treatment	3.24 mg/l
Freshwater sediment	3.6 mg/kg of dry substance of sediment
Sea sediments	0.36 mg/kg of dry substance of sediment
Soil (agricultural)	0.694 mg/kg of dry substance of soil

methylcyclohexane	
Route of exposure	Value
Freshwater environment	1.34 µg/l
Water (intermittent release)	13.4 µg/l
Freshwater sediment	0.0362 mg/kg of dry substance of sediment
Marine water	0.134 µg/l
Sea sediments	0.00362 mg/kg of dry substance of sediment
Microorganisms in sewage treatment	273 µg/l
Soil (agricultural)	0.0097 mg/kg of dry substance of soil

8.2. Exposure controls

Technical precautions and appropriate working practices take precedence over personal protective equipment. Follow the usual measures intended for health protection at work and especially for good ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed). EN166 - Personal Eye Protection Standard.

Skin protection

Hand protection: Protective gloves resistant to the product. EN ISO 374-1. Material of gloves: Nitrile rubber, NBR. Recommended thickness of the material: >0.45 mm. Penetration time of glove material: > 480 min. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Protective gloves shall be replaced immediately when damaged.
Other protection: protective workwear and footwear.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Filter AX. Filter A/P2. The protection provided by masks is in any case limited.

Thermal hazard

There is no risk when used under standard conditions.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	after solvents
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	data not available
Flammability	Extremely flammable aerosol.
Lower and upper explosion limit	
bottom	1.1 % (hnací plyn)
upper	13 % (hnací plyn)
Flash point	data not available
Auto-ignition temperature	>200 °C (uhlovodíky)
Decomposition temperature	data not available
pH	non-soluble (in water)
Kinematic viscosity	data not available
Solubility in water	insoluble
Solubility in fats	data not available
Partition coefficient n-octanol/water (log value)	data not available

Vapour pressure	<0.7 MPa at 20 °C
Density and/or relative density	
Density	0.7 g/cm³ at 20 °C
Relative vapour density	data not available
Particle characteristics	data not available
Form	spray

data not available

9.2. Other information

not available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under normal conditions.

10.2. Chemical stability

The product is stable under normal conditions. Protect against overheating.

10.3. Possibility of hazardous reactions

The product is stable under normal conditions. Reacts with strong acids and oxidizing agents. Alkali metals. Peroxides. Chlorides.

10.4. Conditions to avoid

Protect against flames, sparks, overheating. Take action to prevent static discharges.

10.5. Incompatible materials

Reacts with strong acids and oxidizing agents.

10.6. Hazardous decomposition products

Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

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

No toxicological data is available for the mixture.

Acute toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

cyclohexane								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Oral	LD_{50}	OECD 401	>5000 mg/kg bw		Rat		Experimentally	Key study
Dermal	LD_{50}	OECD 402	>2000 mg/kg bw		Rabbit		Experimentally	Key study
Inhalation (vapor)	LC_{50}	OECD 403	>32880 mg/l of air	4 hours	Rat		Experimentally	Key study

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Oral	LD_{50}		>8 ml/kg bw		Rat		Experimentally	Key study
Oral	LD_{0}		>8 ml/kg bw		Rat		Experimentally	Key study
Dermal	LD_{50}		≥4 ml/kg bw		Rat		Experimentally	Key study

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Dermal	LD_{50}		>2800-3100 mg/kg bw		Rat		Experimentally	Key study
Inhalation (vapor)			>25.2 mg/l of air		Rat		Experimentally	Key study

isobutane								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Inhalation	EC_{50} (CNS)		>800000 ppm		Rat		Experimentally	Key study
Inhalation			1442738 mg/m^3 of air		Rat		Experimentally	Key study
Inhalation			1443 mg/l of air		Rat		Experimentally	Key study
Inhalation			280000 ppm		Rat		Experimentally	Key study

methylcyclohexane								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Oral			4000-4500 mg/kg bw		Rabbit		Based on evidence	
Dermal		OECD 402	>2000 mg/kg bw		Rabbit		Experimentally	Key study
Inhalation (vapor)			40-50 mg/l of air		Mouse		Based on evidence	
Inhalation (vapor)			30-40 mg/l of air		Mouse		Based on evidence	

n-hexane								
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex	Value determination	Source
Oral	LD_{50}	OECD 401	24 ml/kg bw		Rat		Experimentally	Key study
Oral	LD_{50}		49 ml/kg bw		Rat		Experimentally	Key study
Dermal	LD_{50}	OECD 402	>5 ml/kg bw		Rabbit		Experimentally	Key study
Inhalation (vapor)	LC_{50}	OECD 403	>5000 ppm	4 hours	Rat		Experimentally	Key study
Oral	LD_{50}	OECD 401	43.5 ml/kg bw		Rat		Experimentally	Key study

Skin corrosion/irritation

Causes skin irritation.

cyclohexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Dermal	Not irritating			Rabbit	Based on evidence	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Dermal	Irritating	OECD 404		Rabbit	Experimentally	Key study

methylcyclohexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Dermal	Not irritating			Rabbit	Based on evidence	

n-hexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Dermal	Not irritating	OECD 404		Rabbit	Experimentally	Supporting study

Serious eye damage/irritation

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

cyclohexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Eye	Slightly irritating	OECD 405		Rabbit	Based on evidence	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Eye	Not irritating			Rabbit	Experimentally	Key study

methylcyclohexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Eye	Not irritating	OECD 405		Rabbit	Experimentally	Key study

n-hexane						
Route of exposure	Result	Method	Exposure time	Species	Value determination	Source
Eye	Not irritating	OECD 405		Rabbit	Experimentally	Key study

Respiratory or skin sensitisation

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

cyclohexane							
Route of exposure	Result	Method	Exposure time	Species	Sex	Value determination	Source
Dermal	Not sensitizing			Guinea-pig		Experimentally	Key study

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane							
Route of exposure	Result	Method	Exposure time	Species	Sex	Value determination	Source
Dermal	Not sensitizing	OECD 406		Guinea-pig		Experimentally	Key study

methylcyclohexane							
Route of exposure	Result	Method	Exposure time	Species	Sex	Value determination	Source
Dermal	Not sensitizing	OECD 406		Guinea-pig		Experimentally	Key study

n-hexane							
Route of exposure	Result	Method	Exposure time	Species	Sex	Value determination	Source
Dermal	Not sensitizing	OECD 429		Mouse		Experimentally	Key study

Germ cell mutagenicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

cyclohexane							
Result	Method	Exposure time	Specific target organ	Species	Sex	Value determination	Source
Negative	OECD 475			Rat		Experimentally	Key study

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane							
Result	Method	Exposure time	Specific target organ	Species	Sex	Value determination	Source
Negative	OECD 473		Liver	Rat		Experimentally	Key study, in vitro

isobutane							
Result	Method	Exposure time	Specific target organ	Species	Sex	Value determination	Source
Negative	OECD 474			Rat		Experimentally	Key study

n-hexane							
Result	Method	Exposure time	Specific target organ	Species	Sex	Value determination	Source
Negative				Mouse		Experimentally	Key study

Carcinogenicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

n-hexane								
Route of exposure	Parameter	Method	Value	Result	Species	Sex	Value determination	Source
Inhalation (vapor)	NOAEC	OECD 451	3000 ppm		Mouse		Experimentally	Key study
Inhalation (vapor)	LOAEC	OECD 451	9018 ppm		Mouse		Experimentally	Key study
Inhalation (vapor)	NOAEC	OECD 451	9018 ppm		Mouse		Experimentally	Key study

Reproductive toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

cyclohexane								
Effect	Parameter	Method	Value	Result	Species	Sex	Value determination	Source
	NOAEC	OECD 416	≥500-≤2000 ppm		Rat		Experimentally	Key study
	NOAEC	OECD 416	7000 ppm		Rat		Experimentally	Key study
	NOAEC	OECD 416	7000 ppm		Rat		Experimentally	Key study

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane								
Effect	Parameter	Method	Value	Result	Species	Sex	Value determination	Source
	NOAEL	OECD 416	31680 mg/m³ of air		Rat		Experimentally	Key study
	NOAEL	OECD 416	10560 mg/m³ of air		Rat		Experimentally	Key study
	LOAEL	OECD 416	31680 mg/m³ of air		Rat		Experimentally	Key study

isobutane								
Effect	Parameter	Method	Value	Result	Species	Sex	Value determination	Source
	NOAEC		10000 ppm		Rat		Experimentally	Key study

methylcyclohexane								
Effect	Parameter	Method	Value	Result	Species	Sex	Value determination	Source
	NOAEL	OECD 422	1000 mg/kg bw/day		Rat		Experimentally	Key study
	NOAEL	OECD 422	250 mg/kg bw/day		Rat		Experimentally	Key study
	NOAEL	OECD 422	1000 mg/kg bw/day		Rat		Experimentally	Key study

n-hexane								
Effect	Parameter	Method	Value	Result	Species	Sex	Value determination	Source
	NOAEL	OECD 416	3000 ppm		Rat		Experimentally	Key study
	LOAEL	OECD 416	9000 ppm		Rat		Experimentally	Key study
	NOAEL	OECD 416	9000 ppm		Rat		Experimentally	Key study

Toxicity for specific target organ - single exposure

May cause drowsiness or dizziness. Data for the components of the mixture are not available.

Toxicity for specific target organ - repeated exposure

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

cyclohexane									
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex	Value determination	Source
Inhalation	NOAEC		500 ppm			Mouse		Experimentally	Key study
Inhalation	NOAEC		2000 ppm			Mouse		Experimentally	Key study

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane									
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex	Value determination	Source
Inhalation	NOAEC	OECD 413	24300 mg/m³ of air			Rat		Experimentally	Key study

isobutane									
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex	Value determination	Source
Inhalation	NOAEC	OECD 413	10000 ppm			Rat		Experimentally	Key study

methylcyclohexane									
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex	Value determination	Source
Oral	NOAEL	OECD 422	250 mg/kg bw/day			Rat		Experimentally	Key study
Oral	LOAEL	OECD 422	1000 mg/kg bw/day			Rat		Experimentally	Key study
Inhalation	NOAEC		1600 mg/m³ of air			Rat		Experimentally	Key study
Inhalation	NOAEC		8000 mg/m³ of air			Rat		Experimentally	Key study
Inhalation	LOAEC		8000 mg/m³ of air			Rat		Experimentally	Key study
Dermal			300 mg/cm²	1 day		Rabbit			Supporting study
Dermal			14450 mg/kg bw/day			Rabbit			Supporting study

n-hexane									
Route of exposure	Parameter	Method	Value	Exposure time	Result	Species	Sex	Value determination	Source
Oral	NOAEL		6.6			Rat		Experimentally	Key study
Oral	NOAEL		13.2			Rat		Experimentally	Key study
Oral	LOAEL		46.2			Rat		Experimentally	Key study
Inhalation	LOAEC		3000 ppm			Rat		Experimentally	Key study

Aspiration hazard
May be fatal if swallowed and enters airways. Data for the components of the mixture are not available.

11.2. Information on other hazards

Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption for humans.

Other information

Aerosols and containers fitted with a fixed spray containing substances or mixtures classified as hazardous by inhalation do not need to be labelled for this hazard.

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

Acute toxicity

cyclohexane					
Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}	OECD 203	4.53 mg/l	96 hours	Fish (Pimephales promelas)	
EL_{50}		4.36 mg/l	48 hours	Crustaceans	
EC_{50}	OECD 201	9.317 mg/l	72 hours	Algae (Raphidocelis subcapitata)	
EC_{50}	OECD 201	>4.425 mg/l	72 hours	Algae (Raphidocelis subcapitata)	
NOEC	OECD 201	0.952 mg/l	72 hours	Algae (Raphidocelis subcapitata)	
EC_{50}	OECD 201	3.428 mg/l	72 hours	Algae (Raphidocelis subcapitata)	
NOEC	OECD 201	0.952 mg/l	72 hours	Algae (Raphidocelis subcapitata)	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane					
Parameter	Method	Value	Exposure time	Species	Environment
LL_{50}	OECD 203	11.4 mg/l	96 hours	Fish (Oncorhynchus mykiss)	
EL_{50}	OECD 202	3 mg/l	48 hours	Daphnia (Daphnia magna)	
EL_{50}	OECD 201	30-100 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	
EL_{0}	OECD 201	3 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	
EL_{50}	OECD 201	10-30 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	
EL_{0}	OECD 201	3 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	
LL_{50}	OECD 203	15.8 mg/l	72 hours	Fish (Oncorhynchus mykiss)	
LL_{0}	OECD 203	5.1 mg/l	96 hours	Fish (Oncorhynchus mykiss)	
EL_{50}	OECD 202	12 mg/l	24 hours	Daphnia (Daphnia magna)	

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane					
Parameter	Method	Value	Exposure time	Species	Environment
EL_{50}	OECD 202	10 mg/l	24 hours	Daphnia (Daphnia magna)	
EL_{50}	OECD 202	2 mg/l	48 hours	Daphnia (Daphnia magna)	

isobutane					
Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}		49.9 mg/l	96 hours	Fish	
LC_{50}		14.22 mg/l	48 hours	Daphnia	
EC_{50}		16.47 mg/l	96 hours	Algae	

methylcyclohexane					
Parameter	Method	Value	Exposure time	Species	Environment
LC_{50}		2.07 mg/l	96 hours	Fish (Oryzias latipes)	
EC_{50}		0.326 mg/l	48 hours	Crustaceans (Daphnia magna)	
EC_{0}		0.037 mg/l	48 hours	Crustaceans (Daphnia magna)	
EC_{100}		0.603 mg/l	48 hours	Crustaceans (Daphnia magna)	
EC_{50}		>0.603 mg/l	24 hours	Crustaceans (Daphnia magna)	
EC_{50}		0.134 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	
NOEC		0.022 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	

n-hexane					
Parameter	Method	Value	Exposure time	Species	Environment
LL_{50}		12.51 mg/l	96 hours	Fish (Oncorhynchus mykiss)	
EL_{50}		21.85 mg/l	48 hours	Crustaceans (Daphnia magna)	
EL_{50}		9.285 mg/l	72 hours	Algae (Pseudokirchneriella subcapitata)	

12.2. Persistence and degradability

Data for the mixture are not available.

Biodegradability

cyclohexane					
Parameter	Method	Value	Exposure time	Environment	Result
		100 %			Easily biodegradable

hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane					
Parameter	Method	Value	Exposure time	Environment	Result
	OECD 301F	98 %	28 days		Easily biodegradable

methylcyclohexane					
Parameter	Method	Value	Exposure time	Environment	Result
					Hardly biodegradable

n-hexane					
Parameter	Method	Value	Exposure time	Environment	Result
		100 %			Easily biodegradable

12.3. Bioaccumulative potential

Data for the mixture are not available.

cyclohexane					
Parameter	Value	Exposure time	Species	Environment	Temperature [°C]
	167 l/kg				
Log Kow	3.44				20°C

methylcyclohexane					
Parameter	Value	Exposure time	Species	Environment	Temperature [°C]
Log Kow	3.88				

12.4. Mobility in soil

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any PMT or vPvM components.

12.5. Results of PBT and vPvB assessment

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any PBT or vPvB components.

12.6. Endocrine disrupting properties

Based on the available data, the criteria for classification of the mixture are not met. Does not contain any components that may cause endocrine disruption in the environment.

12.7. Other adverse effects

not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose unused product as hazardous waste. Proceed in accordance with valid regulations on waste disposal. Perfectly cleaned containers can be submitted for recycling. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Secure against the weather. Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains. In the event of substantial pollution, contact respective authorities. Pressurised container: May burst if heated.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

14 06 03* other solvents and solvent mixtures

Packaging waste type code

15 01 10* packaging containing residues of or contaminated by hazardous substances

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number or ID number

UN 1950

14.2. UN proper shipping name

AEROSOLS

14.3. Transport hazard class(es)

2 Gases

14.4. Packing group

not relevant

14.5. Environmental hazards

Yes

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

Hazard identification No.	
UN number	1950
Classification code	5F
Safety signs	2.1+hazardous for the environment

Road transport - ADR

Limited quantities	1L
Excepted quantities	E0
Packaging	
Packing instructions	LP200, P207
Tunnel restriction code	(D)

Railway transport - RID

Air transport - ICAO/IATA

Cargo packaging instructions	203

Marine transport - IMDG

EmS (emergency plan)	F-D, S-U
Marine pollutant	Yes

SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents, as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Restrictions pursuant to Annex XVII of Regulation (EC) No. 1907/2006 (REACH), as amended

cyclohexane

Restriction	Conditions of restriction
57	1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of neoprene-based contact adhesives in concentrations equal to or greater than 0,1 % by weight in package sizes greater than 350 g. 2. Neoprene-based contact adhesives containing cyclohexane and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010. 3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that neoprene-based contact adhesives containing cyclohexane in concentrations equal to or greater than 0,1 % by weight that are placed on the market for supply to the general public after 27 December 2010 are visibly, legibly and indelibly marked as follows: "— This product is not to be used under conditions of poor ventilation. — This product is not to be used for carpet laying.".

Additional information in accordance with Regulation (EC) no. 648/2004 on detergents, as amended

Composition according to (EC) No 648/2004, as amended: >=30 % aliphatic hydrocarbons

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Guidelines for safe handling used in the safety data sheet

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P261	Avoid breathing spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P302+P352	IF ON SKIN: Wash with plenty of water.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C/122 °F.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
Aerosol	Aerosol
Aquatic Acute	Hazardous to the aquatic environment
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Asp. Tox.	Aspiration hazard
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EC_0	Concentration of a substance when it is affected 0 % of the population
EC_{100}	Concentration of a substance when it is affected 100 % of the population
EC_{50}	Concentration of a substance when it is affected 50 % of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EL_0	Effective Loading for 0 % of the tested organisms
EL_{50}	Effective Loading for 50 % of the tested organisms
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
Flam. Gas	Flammable gas
Flam. Liq.	Flammable liquid
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD_0	Lethal dose of a substance in which it can be expected death of 0% of the population
LD_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
LL_0	Lethal Loading for 0 % of tested organisms
LL_{50}	Lethal Loading for 50 % of tested organisms
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log Kow	Octanol-water partition coefficient

NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million
Press. Gas	Gases under pressure
Press. Gas (Comp.)	Gas under pressure: compressed gas
Press. Gas (Diss.)	Gas under pressure: dissolved gas
Press. Gas (Liq.)	Gas under pressure: liquefied gas
Press. Gas (Ref. Liq.)	Gas under pressure: refrigerated liquefied gas
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Agreement on the transport of dangerous goods by rail
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 5.0 replaces the SDS version from Tuesday, 16 July 2024. Changes were made in sections 1, 2, 3, 8, 9, 11, 12, 13 and 16.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.