SAFETY DATA SHEET

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

M - Wave Brake Guard

Date of creation	21. July 2003	Revision no.	
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Substance / mixture	mixture
Number	200/750
Other names of the mixture	Cleaner

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

Intended use of the mixture	means for cleaning and degreasing metals
Not recommended use of the mixture	The product should not be used in ways other then those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Distributor

Name or trade name	Messingschlager GmbH
Address	Hassbergstr. 45, Baunach, 96148 Germany
Phone	+49 9544/944445
E-mail	sa@messingschlager.com
Web address	WWW.messingschlager.com

Manufacturer

Name or trade name	[redacted]
Address	
Phone	
Fax	
E-mail	
Web address	

Competent person responsible for the safety data sheet

Name	
E-mail	

1.4. Emergency telephone number

National Poisons Information Service Ireland, tel.: +353 1 809 2566. National poisoning information centre Scotland, tel.: 08454 242424 or 111. National poisoning information centre UK, tel.: +44 844 892 0111. National Poisons Information Service Edinburgh, Royal Infirmary of Edinburgh, Little France Crescent, Edinburgh, EH16 4SA, tel.: +44 131 242 1383.

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
STOT SE 3, H336
Aquatic Chronic 3, H412

Full text of all classifications and H-phrases is given in the section 16.

The most serious adverse physico-chemical effects

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

The most serious adverse effects on human health and the environment

May be fatal if swallowed and enters airways. 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, isoakenes, <5% n-hexane

Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P102	Keep out of reach of children.
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.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C.
P501	Dispose of contents/container to according to applicable regulations.

Supplemental information

EUH 066	Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

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.

Pozn.: The calculation method has taken into account the requirements of the CLP Regulation for Aerosol Classification in accordance with 1.1.3.7 of Annex I Part 1 of the CLP Regulation, ie the aerosol mixture is assigned to the same hazard category as a non-aerosolized mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of substances and additives specified below.
complex and variable combinations of isoparaffinic hydrocarbons having carbon numbers predominantly of 6 carbon atoms and boiling in the range of approximately 48 ° C to 70 ° C. N-hexane content <5%. Note on the stated concentration range: These values cover concentrations of substances in the liquid and in the aerosol. Classification calculations for hazard classes other than those listed in section 1.1.3.7 of Annex I, Part 1 of the CLP Regulation are based on the lower values of the concentration ranges.

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

Identification numbers	Name of the substance	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note.
EC: 931-254-9 Registration number: 01-2119484651-34	Hydrocarbons, C6, isoakenes, <5% n-hexane	30-80	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411	
Index: 601-004-00-0b CAS: 75-28-5 EC: 200-857-2	Isobutane	30-40	Flam. Gas 1, H220 Press. Gas, H280	1, 2
EC: 932-020-9 Registration number: 01-2119548395-31	Hydrocarbons, C8-C9, isoalkanes	10-30	Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411	
Index: 601-003-00-5 CAS: 74-98-6 EC: 200-827-9 Registration number: 01-2119486944-21	Propane	10-15	Flam. Gas 1, H220 Press. Gas (liquefied gas), H280	2
Index: 601-006-00-1 CAS: 109-66-0 EC: 203-692-4 Registration number: 01-2119459286-30-XXXX	pentane	4-10	Flam. Liq. 2, H225 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411	1, 3
Index: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 Registration number: 01-2119457558-25	isopropanol	1-5	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	
Index: 601-037-00-0 CAS: 110-54-3 EC: 203-777-6 Registration number: 01-2119474209-33	n-hexane	1-2,5	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: 601-004-00-0 CAS: 106-97-8 EC: 203-448-7 Registration number: 01-2119474691-32	butane	1-2	Flam. Gas 1, H220 Press. Gas (liquefied gas), H280	1, 2

Notes

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 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 Substance for which exposure limits of Community for working environment exist.

Full text of all classifications and H-phrases is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. 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.

Inhalation

Terminate the exposure immediately; move the affected person to fresh air. Remove contaminated clothes. Protect the person against growing cold. Ensure medical treatment considering the frequent need of further observation for at least 24 hours.

Skin contact

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Provide medical treatment.

Eye contact

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 10 minutes. Provide medical treatment, specialized if possible.

Ingestion

Aerosol products are not expected to be ingested.
Keep the affected person at rest. Rinse mouth with water (only if the person is conscious), do not induce vomiting. When the affected person vomits to make sure he does not breathe vomit. Do not eat or drink. Get medical help immediately and show this Safety Data Sheet or product label.

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

Inhalation

Vapors inhaled in high concentration have narcotic effects on the central nervous system, nausea. Inhalation of vapors or aerosol may irritate the respiratory system and mucous membranes.

Skin contact

Repeated exposure may cause skin dryness or cracking.

Eye contact

Temporary feeling of burning and redness.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. It can cause depression in the central nervous system.

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

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

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. 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. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all ignition sources; provide sufficient ventilation.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

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. Dispose of the collected material according to the instructions in the section 13. Upon an escape of large quantities of the product, inform the Fire Department and the Environmental Department of the Municipal Authority with the extended scope of competencies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the occupational exposure limits. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. No smoking. Protect against direct sunlight. Electrostatic charge may be formed during use; use only earthed piping (tubing) when repumping. Use of antistatic clothes and footwear is recommended. Use non-sparking tools. Do not inhale gases and vapours. Prevent contact with skin and eyes. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

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.

Storage class	2B - Aerosols
Content	400 ml
Type of packaging	spray bottle / pressure vessel
Material of package	FE (40), Steel (Metals)

FE

Storage temperature	min 0 °C, max 40 °C

The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

7.3. Specific end use(s)

Follow the instructions on the product label.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

European Union

Name of the substance (component)	Type	Time of exposure	Value	Note	Source
pentane (CAS: 109-66-0)	OEL	8 hours	3000 mg/m³		EU limits
	OEL	8 hours	1000 ppm		
n-hexane (CAS: 110-54-3)	OEL	8 hours	72 mg/m³		EU limits
	OEL	8 hours	20 ppm		

United Kingdom of Great Britain and Northern Ireland

Name of the substance (component)	Type	Time of exposure	Value	Note	Source
pentane (CAS: 109-66-0)	WEL	8 hours	1800 mg/m³		Gestis
	WEL	8 hours	600 ppm		
isopropanol (CAS: 67-63-0)	WEL	8 hours	999 mg/m³		Gestis
	WEL	Short-term	1250 mg/m³		
	WEL	8 hours	400 ppm		
	WEL	Short-term	500 ppm		
n-hexane (CAS: 110-54-3)	WEL	8 hours	72 mg/m³		Gestis
	WEL	8 hours	20 ppm		
butane (CAS: 106-97-8)	WEL	8 hours	1450 mg/m³		Gestis
	WEL	Short-term	1810 mg/m³		
	WEL	8 hours	600 ppm		
	WEL	Short-term	750 ppm		

DNEL

Hydrocarbons, C6, isoakenes, <5% n-hexane

Workers / consumers	Route of exposure	Value	Effect	Determining the value of
Workers	Dermal	13964 mg/kg bw/day	Systemic chronic effects	
Workers	Inhalation	5306 mg/m³	Systemic chronic effects	
Consumers	Dermal	1377 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	1131 mg/kg	Systemic chronic effects	
Consumers	Oral	1301 mg/kg bw/day	Systemic chronic effects	

Hydrocarbons, C8-C9, isoalkanes

Workers / consumers	Route of exposure	Value	Effect	Determining the value of
Workers	Dermal	773 mg/kg bw/day		
Workers	Inhalation	2035 mg/m³		
Consumers	Dermal	699 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	608 mg/m³	Systemic chronic effects	
Consumers	Oral	699 mg/kg bw/day	Systemic chronic effects	

isopropanol

Workers / consumers	Route of exposure	Value	Effect	Determining the value of
Consumers	Oral	26 mg/kg bw/day	Systemic chronic effects	
Workers	Dermal	888 mg/kg bw/day	Systemic chronic effects	
Workers	Inhalation	500 mg/m³	Systemic chronic effects	
Consumers	Dermal	319 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	89 mg/m³	Systemic chronic effects	

pentane

Workers / consumers	Route of exposure	Value	Effect	Determining the value of
Workers	Dermal	432 mg/kg	Systemic chronic effects	
Workers	Inhalation	3000 mg/m³	Systemic chronic effects	
Consumers	Oral	214 mg/kg	Systemic chronic effects	
Consumers	Dermal	214 mg/kg	Systemic chronic effects	
Consumers	Inhalation	643 mg/m³	Systemic chronic effects	

PNEC

isopropanol

Route of exposure	Value	Determining the value of
Microorganisms in wastewater treatment plants	2251 mg/l	
Freshwater sediment	552 mg/kg	
Sea sediments	552 mg/kg	
Soil (agricultural)	28 mg/kg	
Seawater	140.9 mg/l	
Freshwater environment	140.9 mg/l	

pentane

Route of exposure	Value	Determining the value of
Freshwater environment	0.23 mg/l	
Seawater	0.23 mg/l	
Freshwater sediment	1.2 mg/kg	
Sea sediments	1.2 mg/kg	
Soil (agricultural)	0.55 mg/kg	
Water (occasional leak)	0.88 mg/l	

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. 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).

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Use barrier creams for skin protection, they should, however, not be applied once exposure has occurred. Observe other recommendations of the manufacturer. Other protection: Protective antistatic clothing made of natural fibres (cotton) or synthetic fibres resistant to elevated temperatures. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

Thermal hazard

not available

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

Appearance	aerosol dispenser
Physical state	liquid at 20°C
color	transparent
Odour	characteristic
Odour threshold	data not available
pH	data not available
Melting point/freezing point	data not available
Initial boiling point and boiling range	130-162 °C (Hydrocarbons C8-C9)
Flash point	-35 °C (propellant gas)
Evaporation rate	data not available
Flammability (solid, gas)	Extremely flammable aerosol.
Upper/lower flammability or explosive limits	
flammability limits	data not available
explosive limits	Hydrocarbons C8-C9
bottom	0.7 %
upper	7 %
Vapour pressure	<10 hPa at 20 °C
Vapour density	data not available
Relative density	data not available
Solubility(ies)	
solubility in water	insoluble
solubility in fats	data not available
Partition coefficient: n-octanol/water	data not available
Auto-ignition temperature	>230 °C

Decomposition temperature	data not available
Viscosity	0.95 mm2/s při 25oC
Explosive properties	Vapours mixed up with air can be explosive.
Oxidising properties	data not available

data not available

9.2. Other information

Density	0.63 g/cm³ at 20 °C (včetně hnacího plynu)
ignition temperature	230 °C
content of organic solvents (VOC)	1.00 kg/kg
solid content (dry matter)	0 % volume

Follow the instructions on the product label.

SECTION 10: Stability and reactivity

10.1. Reactivity

The mixture is flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

The product is stable under normal conditions.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Chraňte před silnými kyselinami a oxidačními činidly. Thereby a dangerous exothermic reaction will be prevented.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide, heavy smoke and nitrogen oxides are formed at high temperature and in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

No toxicological data is available for the mixture.

Acute toxicity

Based on available data the classification criteria are not met.

butane

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Inhalation (gases)	LC_{50}		658 ppm	4 hour	Rat	

Hydrocarbons, C6, isoakenes, <5% n-hexane

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD_{50}	OECD 401	16750 mg/kg bw		Rat (Rattus norvegicus)	
Dermal	LD_{50}	OECD 402	3350 mg/kg bw	4 hour	Rabbit	
Inhalation (vapor)	LC_{50}	OECD 403	259354 mg/m³	4 hour	Rat (Rattus norvegicus)	
Oral	LD_{50}		>5000 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD_{50}		>3000 mg/kg		Rat (Rattus norvegicus)	
Inhalation (vapor)	LC_{50}		>20 mg/l	4 hour	Rat (Rattus norvegicus)	
	Log Pow		4			

Hydrocarbons, C6, isoakenes, <5% n-hexane

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
	NOELR		3 mg/l	72 hour	Pseudokirchneriella subcapitata	

Hydrocarbons, C8-C9, isoalkanes

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD_{50}	OECD 401	>7100 mg/kg bw			
Dermal	LD_{50}		>2200 mg/kg	24 hour	Rabbit	
Inhalation (vapor)	LC_{50}	OECD 403	17300-23300 mg/m³	4 hour	Rat (Rattus norvegicus)	

isopropanol

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD_{50}		4570 mg/kg		Rat	
Dermal	LD_{50}		13400 mg/kg		Rabbit	
Inhalation (vapor)	LC_{50}		72.6 mg/l	4 hour	Rat	
Oral	LD_{50}		5280 mg/kg		Rat	
Dermal	LD_{50}		12800 mg/kg		Rat	

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Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD_{50}		>2000 mg/kg		Rat	
Dermal	LD_{50}		>2000 mg/kg		Rat	
Inhalation	LC_{50}		>20 mg/kg	4 hour	Rat	

n-hexane

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD_{50}		>16000 mg/kg bw			
Dermal	LD_{50}		>20000 mg/kg bw			
Inhalation	LC_{50}		>17600 mg/m³		Rat	
Dermal	LD_{50}		>2000 mg/kg		Rat (Rattus norvegicus)	
Inhalation (gases)	LC_{50}		31.86 ppm	4 hour	Rat (Rattus norvegicus)	

pentane

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD_{50}		16000 mg/kg		Rat	
Dermal	LD_{50}		2500 mg/kg		Rat	
Dermal	LD_{50}		5000 mg/kg		Rabbit	
Inhalation	LC_{50}		100 mg/m³	4 hour	Rat	

Skin corrosion/irritation

Based on available data the classification criteria are not met.

Serious eye damage/irritation

Based on available data the classification criteria are not met.

Respiratory or skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

Reproductive toxicity
Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure
May cause drowsiness or dizziness.

Toxicity for specific target organ - repeated exposure
Central nervous system: Couples can cause drowsiness and dizziness.

Aspiration hazard
Fluid can cause lung damage in the lungs (chemical pneumonia, potentially fatal). In the form of aerosols, this danger is not expected.
Data not available.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity
Harmful to aquatic life with long lasting effects.

butane

Parameter	Method	Value	Time of exposure	Species	Environment
Log Pow		2.89			

Hydrocarbons, C6, isoakenes, <5% n-hexane

Parameter	Method	Value	Time of exposure	Species	Environment
ErL 50		13.6 mg/l	72 hour	Pseudokirchneriella subcapitata	
EL 50		31.9 mg/l	48 hour	Daphnia (Daphnia magna)	

Hydrocarbons, C8-C9, isoalkanes

Parameter	Method	Value	Time of exposure	Species	Environment
ErL50	OECD 201	10-30 mg/l	72 hour	Algae (Selenastrum capricornutum)	
EbL50	OECD 201	10-30 mg/l	72 hour	Algae (Selenastrum capricornutum)	
NOELR	OECD 201	6.3 mg/l	72 hour	Algae (Selenastrum capricornutum)	
EL50		2.4 mg/l	48 hour	Daphnia (Daphnia magna)	
LL50	OECD 203	18.4 mg/l	96 hour	Fishes (Oncorhynchus mykiss)	

Hydrocarbons, C8-C9, isoalkanes

Parameter	Method	Value	Time of exposure	Species	Environment
NOELR	OECD 211	1 mg/l	21 day	Daphnia (Daphnia magna)	
NOELR		0.46 mg/l	28 day	Oncorhynchus mykiss	

isopropanol

Parameter	Method	Value	Time of exposure	Species	Environment
LC_{50}		6550 mg/l	96 hour	Fishes	
EC_{50}		>100 mg/l	48 hour	Daphnia	
EC_{50}		>100 mg/l	72 hour	Algae	
LD_{50}		>100 mg/l	48 hour	Fishes (Leuciscus idus)	

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Parameter	Method	Value	Time of exposure	Species	Environment
LC_{50}		19 mg/l	96 hour	Fishes	

n-hexane

Parameter	Method	Value	Time of exposure	Species	Environment
LC_{50}		2.5 mg/l		Fishes (Oncorhynchus mykiss)	
EC_{50}		50 mg/kg		Other aquatic organisms	
EC_{50}		2.1 mg/l	48 hour	Daphnia (Daphnia magna)	
Log Pow		3.9			

pentane

Parameter	Method	Value	Time of exposure	Species	Environment
		9.74 mg/l	48 hour	Daphnia (Daphnia magna)	
Log Pow		3.39			

Chronic toxicity

Hydrocarbons, C6, isoakenes, <5% n-hexane

Parameter	Value	Time of exposure	Species	Environment
NOEL	7.14 mg/l	21 hour	Daphnia (Daphnia magna)	
NOEL	4.09 mg/l	28 day	Fishes (Oncorhynchus mykiss)	

data not available

12.2. Persistence and degradability

Biodegradability

Hydrocarbons, C6, isoakenes, <5% n-hexane

Parameter	Value	Time of exposure	Environment	Result
	98 %	28 day		

Hydrocarbons, C8-C9, isoalkanes

Parameter	Value	Time of exposure	Environment	Result
	22 %	28 day		
	60 %	60 day		

isopropanol

Parameter	Value	Time of exposure	Environment	Result
	53 %	5 day		

pentane

Parameter	Value	Time of exposure	Environment	Result
	96 %	28 day		

The substance is not biodegradable.

12.3. Bioaccumulative potential

Hydrocarbons, C6, isoakenes, <5% n-hexane

Parameter	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
Log Pow	3.6				

isopropanol

Parameter	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
BCF	3				

pentane

Parameter	Value	Time of exposure	Species	Environment	Surrounding temperature [°C]
BCF	171				

Insignificant.

12.4. Mobility in soil

isopropanol

Parameter	Value	Environment	Surrounding temperature
Log Pow	0.05		
Koc	1.5		

Not available.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Other adverse effects

not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling. Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations.

Legislation of waste

Council Directive 75/442/EEC on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended. Decree No. 93/2016 Coll., (waste catalogue) as amended. Decree No. 383/2001 Coll., on details regarding waste handling as amended.

Code of type of waste

14 06 03	other solvents and solvent mixtures
16 05 04	gases in pressure containers (including halons) containing dangerous substances

Code of type of waste packaging

15 01 10	packaging containing residues of or contaminated by dangerous substances
15 01 04	metallic packaging

SECTION 14: Transport information

14.1. UN number

UN 1950

14.2. UN proper shipping name

AEROSOLS

14.3. Transport hazard class(es)

2 Gases

14.4. Packing group

not available

14.5. Environmental hazards

not available

14.6. Special precautions for user

not available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not available

Additional information

Do not transport on a vehicle that does not have a separate load compartment from the driver's compartment. Ensure that the vehicle driver is aware of the potential risks associated with the load and knows what to do in the event of an accident or danger.

The hazard identification number	(Kemler Code)
UN number	1950
Classification code	5F
Safety signs	2.1

Road transport ADR

Special provision	190, 327, 344, 625
Limited amount	1 L
Packaging	
Packaging instruction	P207, LP02
Special provision for packaging	PP87, RR6, L2
Packing provisions	MP9
Transport category	2
Tunnel restriction code	D
Special provision for	
transport of pieces	V14
loading, unloading and manipulation	CV9, CV12

Railway transport - RID

Special provision	190, 327, 344, 625
Packaging	
Packaging instruction	P207, LP02
Special provision for packaging	PP87, RR6, L2
Packing provisions	MP9
Transport category	0
Special provision for	
transport of pieces	W 14
loading, unloading and manipulation	CW 9, CW 12

Marine transport - IMDG

EmS (emergency plan)	F-D, S-U
MFAG	620
Marine pollution	No

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 of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. The Act No. 350/2011 Coll., on Chemical Substances and Chemical Preparations as amended (the Chemical Act). Decree No. 361/2007 Coll., determining conditions of occupational health protection as amended. The Act No. 258/2000 Coll., on Protection of Public Health as amended. Decree No. 415/2012 Coll., on the permissible level of pollution and its determination and implementation of certain other provisions of the Air Protection Act as amended. The Act No. 185/2001 Coll., on Waste and the Amendment of Some Other Acts as amended. The Act No. 201/2012 Coll., on the Protection of Atmosphere – Clean Air Act as amended. Decree No. 80/2014 Coll., amending the Decree No. 194/2001 Coll., laying down technical requirements for aerosol sprays as amended. Decree No. 432/2003 Coll., laying down conditions for assigning categories to individual jobs, limit values of indices from biological exposure tests, conditions for the sampling of biological materials for biological exposure and the particulars of the reports on work with asbestos and biological agents as amended.

15.2. Chemical safety assessment

has not been done yet

More information

It contains more than 30% aliphatic hydrocarbons.

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.
H226	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.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C.
P102	Keep out of reach of children.
P211	Do not spray on an open flame or other ignition source.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P261	Avoid breathing spray.
P271	Use only outdoors or in a well-ventilated area.
P501	Dispose of contents/container to according to applicable regulations.

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

EUH 066	Repeated exposure may cause skin dryness or cracking.

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
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC_{50}	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC_{50}	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
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_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log Kow	Octanol-water partition coefficient

MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
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

Aerosol	Flammable aerosol
Aquatic Chronic	Hazardous to the aquatic environment
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
Flam. Gas	Flammable gas
Flam. Liq.	Flammable liquid
Press. Gas	Gases under pressure
Repr.	Reproductive toxicity
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

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. The Act No. 350/2011 Coll., on Chemical Substances and Chemical Preparations as amended. First aid principles after the exposure to the chemicals (Zásady pro poskytování první pomoci při expozici chemickým látkám, doc. MUDr. Daniela Pelclová, CSc., MUDr. Alexandr Fuchs, CSc., MUDr. Miroslava Hornychová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

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.