

Safety Data Sheet

according to UK REACH Regulation

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Print date: 13.03.2023

Revision date: 03.03.2023

VGS 170 S

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

1.1. Product identifier

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

Use of the substance/mixture

Aerosol

Lubricant, lubricants and release products

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	Meusburger Georg GmbH & Co KG	
Street:	Kesselstrasse 42	
Place:	A-6960 Wolfurt	
Telephone:	+43 5574 6706-0	Telefax: +43 5574 6706-12
e-mail:	office@meusburger.com	
Internet:	www.meusburger.com	
Responsible Department:	Dr. Gans-Eichler Chemieberatung GmbH Otto-Hahn-Str. 36 D-48161 Muenster	e-mail: info@tge-consult.de Tel.: +49 2534 41594-0 www.tge-consult.de

1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

Further Information

Safety Data Sheet according to UK-REACH Regulation

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Aerosol 1; H222-H229

Asp. Tox. 1; H304

STOT SE 3; H336

Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

pentane

Hydrocarbons, C10-12, iso-alkanes, <2% aromatics

Signal word: Danger

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Pictograms:



Hazard statements

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
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.
P312	Call a POISON CENTER/doctor if you feel unwell.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Special labelling of certain mixtures

EUH066	Repeated exposure may cause skin dryness or cracking.
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2.3. Other hazards

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.
 The substances in the mixture (> 0.1%) do not meet the PBT/vPvB criteria according to UK REACH.
 This product does not contain a substance (> 0.1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name	Quantity
EC No	GHS Classification	
REACH No		
Index No		
109-66-0	pentane	10 - < 25 %
203-692-4	Flam. Liq. 1, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H224 H336	
01-2119459286-30	H304 H411 EUH066	
601-006-00-1		
106-97-8	butane	10 - 25 %
203-448-7	Flam. Gas 1, Compressed gas; H220 H280	
01-2119474691-32		
601-004-00-0		

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923-037-2 01-2119471991-29	Hydrocarbons, C10-12, iso-alkanes, <2% aromatics	10 - < 25 %
	Flam. Liq. 3, Asp. Tox. 1, Aquatic Chronic 2; H226 H304 H411 EUH066	
74-98-6 200-827-9 01-2119486944-21 601-003-00-5	propane	2,5 - 10 %
	Flam. Gas 1, Compressed gas; H220 H280	
75-28-5 200-857-2 01-2119485395-27 601-004-00-0	isobutane	2,5 - 10 %
	Flam. Gas 1, Compressed gas; H220 H280	
9002-84-0 618-337-2	Polytetrafluoroethylene	2,5 - 10 %
61789-86-4 263-093-9 01-2119488992-18	Sulfonic acids, petroleum, calcium salts	> 0,1 - < 1 %
	Skin Sens. 1B; H317	
68584-23-6 271-529-4 01-2119492627-25	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	> 0,1 - < 1 %
	Skin Sens. 1B; H317	
70024-69-0 274-263-7	Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	> 0,1 - < 1 %
	Skin Sens. 1B; H317	

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
109-66-0	203-692-4	pentane	10 - < 25 %
		inhalation: LC50 = > 25,3 mg/l (vapours); oral: LD50 = > 5000 mg/kg	
106-97-8	203-448-7	butane	10 - 25 %
		inhalation: LC50 = >800000 (15min) ppm (gases)	
	923-037-2	Hydrocarbons, C10-12, iso-alkanes, <2% aromatics	10 - < 25 %

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	dermal: LD50 = > 5000 mg/kg; oral: LD50 = > 5000 mg/kg		
74-98-6	200-827-9	propane	2,5 - 10 %
	inhalation: LC50 = 800000 ppm (gases)		
75-28-5	200-857-2	isobutane	2,5 - 10 %
	inhalation: LC50 = 520400 (120 min) ppm (gases)		
61789-86-4	263-093-9	Sulfonic acids, petroleum, calcium salts	> 0,1 - < 1 %
	inhalation: LC50 = >1,9 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg Skin Sens. 1B; H317: >= 10 - 100		
68584-23-6	271-529-4	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	> 0,1 - < 1 %
	inhalation: LC50 = >1,9 mg/l (vapours); dermal: LD50 = >5000 mg/kg; oral: LD50 = >5000 mg/kg Skin Sens. 1B; H317: >= 10 - 100		
70024-69-0	274-263-7	Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	> 0,1 - < 1 %
	inhalation: LC50 = [>1,9] mg/l (vapours); dermal: LD50 = >4000 mg/kg; oral: LD50 = >5000 mg/kg Skin Sens. 1B; H317: >= 10 - 100		

Further Information

Product does not contain listed SVHC substances > 0.1 % according to UK REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

If swallowed, immediately drink: Water. Never give anything by mouth to an unconscious person or a person with cramps. Do NOT induce vomiting. Caution if victim vomits: Risk of aspiration! Call a physician immediately.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂). Dry extinguishing powder. Alcohol resistant foam. Atomized water.

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Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air. Can be released in case of fire: Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Contaminated fire-fighting water must be collected separately. Do not allow to enter into surface water or drains. In case of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Ventilate affected area. Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Explosion hazard. Eliminate leaks immediately. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Use only in well-ventilated areas. Take precautionary measures against static discharges. Do not spray on naked flames or any incandescent material. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Wear suitable protective clothing. (See section 8.)

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Advice on protection against fire and explosion

Keep away from sources of ignition. - No smoking. Heating causes rise in pressure with risk of bursting.

Advice on general occupational hygiene

Always close containers tightly after the removal of product.

Do not eat, drink, smoke or sneeze at the workplace.

Wash hands before breaks and after work.

Further information on handling

General protection and hygiene measures: refer to chapter 8

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep away from sources of ignition. - No smoking.

Provide adequate ventilation.

Hints on joint storage

Do not store together with: Explosives. Flammable solids. Pyrophoric liquids and solids. Self-heating substances and mixtures. Substances and mixtures which, in contact with water, emit flammable gases.

Oxidizing liquids. Oxidizing solids. Self-reactive substances and mixtures. Organic peroxides. Radioactive substances.

Infectious substances.

Further information on storage conditions

Recommended storage temperature: 10-30 °C. Do not store at temperatures over: 50 °C

Note: Storage requirements for flammable aerosols.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
106-97-8	Butane	600	1450		TWA (8 h)	WEL
		750	1810		STEL (15 min)	WEL
109-66-0	Pentane	600	1800		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
109-66-0	pentane			
	Worker DNEL, long-term	inhalation	systemic	3000 mg/m ³
	Worker DNEL, long-term	dermal	systemic	432 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	643 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	214 mg/kg bw/day
	Consumer DNEL, long-term	oral	systemic	214 mg/kg bw/day
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Worker DNEL, long-term	inhalation	systemic	11,75 mg/m ³
Worker DNEL, long-term	dermal	systemic	3,33 mg/kg bw/day
Worker DNEL, long-term	dermal	local	1,03 mg/cm ²
Consumer DNEL, long-term	inhalation	systemic	2,9 mg/m ³
Consumer DNEL, long-term	dermal	systemic	1,667 mg/kg bw/day
Consumer DNEL, long-term	dermal	local	0,513 mg/cm ²
Consumer DNEL, long-term	oral	systemic	0,833 mg/kg bw/day
68584-23-6	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts		
Worker DNEL, long-term	inhalation	systemic	11,75 mg/m ³
Worker DNEL, long-term	dermal	systemic	3,33 mg/kg bw/day
Worker DNEL, long-term	dermal	local	1,03 mg/cm ²
Consumer DNEL, long-term	inhalation	systemic	2,9 mg/m ³
Consumer DNEL, long-term	dermal	systemic	1,667 mg/kg bw/day
Consumer DNEL, long-term	dermal	local	0,513 mg/cm ²
Consumer DNEL, long-term	oral	systemic	0,833 mg/kg bw/day

PNEC values

CAS No	Substance	Value
109-66-0	pentane	
	Freshwater	0,23 mg/l
	Freshwater (intermittent releases)	0,88 mg/l
	Marine water	0,23 mg/l
	Freshwater sediment	1,2 mg/kg
	Marine sediment	1,2 mg/kg
	Micro-organisms in sewage treatment plants (STP)	3,6 mg/l
	Soil	0,55 mg/kg
61789-86-4	Sulfonic acids, petroleum, calcium salts	
	Freshwater	1 mg/l
	Marine water	1 mg/l
	Freshwater sediment	226000000 mg/kg
	Marine sediment	226000000 mg/kg
	Secondary poisoning	16,667 mg/kg
	Micro-organisms in sewage treatment plants (STP)	1000 mg/l
	Soil	271000000 mg/kg
68584-23-6	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	
	Freshwater	1 mg/l

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Freshwater (intermittent releases)	10 mg/l
Marine water	1 mg/l
Freshwater sediment	226000000 mg/kg
Marine sediment	226000000 mg/kg
Secondary poisoning	16,667 mg/kg
Micro-organisms in sewage treatment plants (STP)	1000 mg/l
Soil	271000000 mg/kg

8.2. Exposure controls



Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible).

Hand protection

In case of prolonged or frequently repeated skin contact:

Wear suitable gloves.

Suitable material:

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time \geq 8 h

The selected protective gloves have to satisfy the specifications of the Personal Protective Equipment at Work (Amendment) Regulations 2022 and the standard EN ISO 374.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Protective clothing.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

Recommended breathing protection brand: Class: FFA2P3D DIN-/EN-Norms: EN405: 2002

Thermal hazards

No special precautionary measures are necessary.

Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:

Aerosol

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Colour:	beige	
Odour:	characteristic	
Odour threshold:	not determined	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined
Lower explosion limits:		1,4 vol. %
Upper explosion limits:		10,9 vol. %
Flash point:		-60 °C
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value:		not determined
Viscosity / kinematic:		not determined
Water solubility:		insoluble
Solubility in other solvents		
Soluble in hydrocarbons.		
Dissolution rate:		not relevant
Partition coefficient n-octanol/water:		not determined
Dispersion stability:		not relevant
Vapour pressure:		2500 hPa
(at 20 °C)		
Density (at 20 °C):		0,72 g/cm ³
Bulk density:		not determined
Relative vapour density:		not determined
Particle characteristics:		not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Sustaining combustion:

No data available

Self-ignition temperature

Solid:

not relevant

Gas:

not determined

Oxidizing properties

none

Other safety characteristics

Evaporation rate:

not determined

Solvent separation test:

not determined

Solvent content:

not determined

Solid content:

not determined

Sublimation point:

not determined

Softening point:

not determined

Pour point:

not determined

Viscosity / dynamic:

not determined

Flow time:

not determined

SECTION 10: Stability and reactivity

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10.1. Reactivity

No information available.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.
Refer to chapter 10.5.

10.4. Conditions to avoid

Keep away from heat.
Ignition hazard.
Heating causes rise in pressure with risk of bursting.

10.5. Incompatible materials

Oxidizing agents, strong.

10.6. Hazardous decomposition products

Hydrocarbons. Carbon dioxide (CO₂). Carbon monoxide (CO).
Does not decompose when used for intended uses.

Further information

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

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicokinetics, metabolism and distribution

No information available.

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
109-66-0	pentane				
	oral	LD50 > 5000 mg/kg	Rat	ECHA dossier	
	inhalation (4 h) vapour	LC50 > 25,3 mg/l	Rat	ECHA dossier	
106-97-8	butane				
	inhalation gas	LC50 >800000 (15min) ppm		ECHA dossier	
	Hydrocarbons, C10-12, iso-alkanes, <2% aromatics				
	oral	LD50 > 5000 mg/kg	Rat	ECHA dossier	
	dermal	LD50 > 5000 mg/kg	Rabbit	ECHA dossier	
74-98-6	propane				
	inhalation gas	LC50 800000 ppm	Rat	ECHA dossier	15 min
75-28-5	isobutane				

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	inhalation gas	LC50 520400 (120 min) ppm	Mouse.	ECHA dossier	
61789-86-4	Sulfonic acids, petroleum, calcium salts				
	oral	LD50 >5000 mg/kg	Rat	ECHA dossier	
	dermal	LD50 >5000 mg/kg	Rabbit	ECHA dossier	
	inhalation (4 h) vapour	LC50 >1,9 mg/l	Rat	ECHA dossier	
68584-23-6	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts				
	oral	LD50 >5000 mg/kg	Rat	ECHA dossier	
	dermal	LD50 >5000 mg/kg	Rabbit	ECHA dossier	
	inhalation (4 h) vapour	LC50 >1,9 mg/l	Rat	ECHA dossier	
70024-69-0	Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts				
	oral	LD50 >5000 mg/kg	Rat	ECHA dossier	
	dermal	LD50 >4000 mg/kg	Rabbit	ECHA dossier	
	inhalation (4 h) vapour	LC50 [>1,9]	Rat	ECHA dossier	

Irritation and corrosivity

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

Sensitising effects

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

Sulfonic acids, petroleum, calcium salts
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts
Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Specific concentration limit (SCL): 10% (Skin Sens. 1B)

Carcinogenic/mutagenic/toxic effects for reproduction

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

butane:

In-vitro mutagenicity:

Method: OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)

Result: negative.

Literature information: ECHA dossier

Reproductive toxicity:

Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Species: Rat

Results: NOAEC = 9000 ppm(21394 mg/m3)

Literature information: ECHA dossier

Developmental toxicity/teratogenicity:

Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

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Species: Rat
Results: NOAEC = 9000 ppm.
Literature information: ECHA dossier

propane:
In-vitro mutagenicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay) Result: negative.
Literature information: ECHA dossier
Reproductive toxicity: Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Species: Rat Exposure duration: 6 w. Results: NOAEC = 12000 ppm.
Literature information: ECHA dossier
Developmental toxicity/teratogenicity: Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) Species: Rat Results: NOAEC = 12000 ppm.
Literature information: ECHA dossier

isobutane:
In vitro mutagenicity/genotoxicity: No experimental indications of mutagenicity in-vitro exist. Reproductive toxicity: NOAEC = 3000 ppm (OECD Guideline 422) Developmental toxicity/teratogenicity: NOAEC = 9000 ppm (OECD Guideline 422)
Literature information: ECHA dossier

Sulfonic acids, petroleum, calcium salts:
In-vitro mutagenicity:
Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Result: negative.
Literature information: ECHA dossier

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:
In vitro mutagenicity/genotoxicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay); Result: negative.
Literature information: ECHA dossier

STOT-single exposure

May cause drowsiness or dizziness. (pentane)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

butane:
Subacute inhalative toxicity:
Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Species: Rat
Exposure duration: 6 w.
Result: NOAEC = 9000 ppm (21394 mg/m³)
Literature information: ECHA dossier

propane:
Subacute inhalative toxicity: Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) Species: Rat Exposure duration: 6 w. Result: NOAEC = 94000 ppm (7214 mg/m³)
Literature information: ECHA dossier

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isobutane:

Method: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test); Result: NOAEC = 4000 ppm

Literature information: ECHA dossier

Sulfonic acids, petroleum, calcium salts:

Subacute dermal toxicity:

Method: -

Species: Rat (Sprague-Dawley)

Results: NOAEL = 1000 mg/kg

Literature information: ECHA dossier

Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts:

Subchronic oral toxicity: Method: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents);

Species: Rat; Results: NOAEL 500 mg/kg

Literature information: ECHA dossier

Aspiration hazard

May be fatal if swallowed and enters airways.

Specific effects in experiment on an animal

No information available.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance (> 0.1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other information

No data available.

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
109-66-0	pentane					
	Acute fish toxicity	LC50 mg/l	4,26	96 h	Oncorhynchus mykiss	ECHA dossier
	Acute algae toxicity	ErC50 mg/l	1,26	72 h	Scenedesmus subspicatus	ECHA dossier
	Acute crustacea toxicity	EC50	2,7 mg/l	48 h	Daphnia magna	ECHA dossier
	Fish toxicity	NOEC mg/l	6,165	28 d	Oncorhynchus mykiss	ECHA dossier
	Crustacea toxicity	NOEC mg/l	10,76	21 d	Daphnia magna	ECHA dossier
106-97-8	butane					
	Acute fish toxicity	LC50 mg/l	49,9	96 h	Fish	ECHA dossier

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	Acute algae toxicity	ErC50 mg/l	19,37	96 h	algae	ECHA dossier	
	Acute crustacea toxicity	EC50 mg/l	69,43	48 h	Daphnia magna	ECHA dossier	
Hydrocarbons, C10-12, iso-alkanes, <2% aromatics							
	Acute fish toxicity	LC50 >1000 mg/l	LL50:	96 h	Oncorhynchus mykiss (Rainbow trout)	ECHA dossier	
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Pseudokirchneriella subcapitata	ECHA dossier	
	Acute crustacea toxicity	EC50 >1000 mg/l	LL50:	48 h	Daphnia magna	ECHA dossier	
	Fish toxicity	NOEC mg/l	0,192	28 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2010)	
	Crustacea toxicity	NOEC	< 1 mg/l	21 d	Daphnia magna	ECHA dossier	
74-98-6	propane						
	Acute fish toxicity	LC50 mg/l	49,9	96 h	Fish	ECHA dossier	
	Acute algae toxicity	ErC50 mg/l	19,37	96 h	algae	ECHA dossier	
	Acute crustacea toxicity	EC50 mg/l	69,43	48 h	Daphnia magna	ECHA dossier	
75-28-5	isobutane						
	Acute fish toxicity	LC50 mg/l	49,9	96 h	Fish	ECHA dossier	
	Acute algae toxicity	ErC50 mg/l	19,37	96 h	algae	ECHA dossier	
	Acute crustacea toxicity	EC50 mg/l	69,43	48 h	Daphnia magna	ECHA dossier	
61789-86-4	Sulfonic acids, petroleum, calcium salts						
	Acute fish toxicity	LC50 mg/l	>1000	96 h		ECHA dossier	
	Acute algae toxicity	ErC50 mg/l	>1000	96 h		ECHA dossier	
	Acute crustacea toxicity	EC50 mg/l	>1000	48 h	Daphnia magna	ECHA dossier	
	Acute bacteria toxicity	(EC50 mg/l)	>10000	3 h		ECHA dossier	
68584-23-6	Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts						
	Acute fish toxicity	LC50 mg/l	>1000	96 h		ECHA dossier	
	Acute algae toxicity	ErC50 mg/l	>1000	96 h		ECHA dossier	
	Acute crustacea toxicity	EC50 mg/l	>1000	48 h		ECHA dossier	
	Acute bacteria toxicity	(EC50 mg/l)	10000	3 h		ECHA dossier	
70024-69-0	Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts						

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	Acute fish toxicity	LC50 >10000 mg/l	LL50	96 h	Cyprinodon variegatus	ECHA dossier	
	Acute algae toxicity	ErC50 mg/l	>1000	96 h	Pseudokirchneriella subcapitata	ECHA dossier	
	Acute crustacea toxicity	EC50 mg/l	>1000	48 h	Daphnia magna	ECHA dossier	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name	Method	Value	d	Source
		Evaluation			
109-66-0	pentane				
	OECD 301F / ISO 9408 / EEC 92/69 annex V, C.4-D	87%		28	ECHA dossier
	Easily biodegradable (concerning to the criteria of the OECD)				
	Hydrocarbons, C10-12, iso-alkanes, <2% aromatics				
	OECD 301F/ ISO 9408/ EEC 92/69/V, C.4-D	31%		28	ECHA dossier
	Not readily biodegradable (according to OECD criteria)				
61789-86-4	Sulfonic acids, petroleum, calcium salts				
	OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C	1,5 %		28	ECHA dossier
	Product is not easily biodegradable.				
70024-69-0	Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts				
	OECD 301D / EEC 92/69 annex V, C.4-E	8 %		28	ECHA dossier
	Not readily biodegradable (according to OECD criteria)				

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
109-66-0	pentane	3,45
106-97-8	butane	1,09
74-98-6	propane	2,36
75-28-5	isobutane	1,09
70024-69-0	Benzenesulfonic acid, mono-C16-24-alkyl derivs., calcium salts	>4,46

BCF

CAS No	Chemical name	BCF	Species	Source
109-66-0	pentane	171	Pimephales promelas	QSAR
	Hydrocarbons, C10-12, iso-alkanes, <2% aromatics	144,3	calculated	

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.6. Endocrine disrupting properties

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This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1 %.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation.

Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

List of Wastes Code - used product

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number or ID number:</u>	UN 1950
<u>14.2. UN proper shipping name:</u>	AEROSOLS
<u>14.3. Transport hazard class(es):</u>	2
<u>14.4. Packing group:</u>	-
Hazard label:	2.1



Classification code:	5F
Special Provisions:	190 327 344 625
Limited quantity:	1 L
Excepted quantity:	E0
Transport category:	2

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Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Marine pollutant: YES
 Special Provisions: 63, 190, 277, 327, 344, 381, 959
 Limited quantity: 1000 mL
 Excepted quantity: E0
 EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS, FLAMMABLE
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Special Provisions: A145 A167 A802
 Limited quantity Passenger: 30 kg G
 Passenger LQ: Y203
 Excepted quantity: E0
 IATA-packing instructions - Passenger: 203
 IATA-max. quantity - Passenger: 75 kg
 IATA-packing instructions - Cargo: 203
 IATA-max. quantity - Cargo: 150 kg

14.5. Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: Yes



Danger releasing substance: pentane
Hydrocarbons, C10-12, iso-alkanes, <2% aromatics

14.6. Special precautions for user

Refer to section 6 - 8

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 28, Entry 29, Entry 40

2010/75/EU (VOC): not determined

2004/42/EC (VOC): >= 30 %

Information according to 2012/18/EU (SEVESO III): P3a FLAMMABLE AEROSOLS

Additional information: E2

Additional information

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UK Aerosols Regulation

UK REACH Appendix XVII, No (mixture): 3, 40

The mixture is classified as hazardous according to GHS (GB CLP).

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

pentane

Hydrocarbons, C10-12, iso-alkanes, <2% aromatics

propane

isobutane

Sulfonic acids, petroleum, calcium salts

Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts

SECTION 16: Other information

Changes

Rev. 1,0; Initial release: 11.02.2022

Rev. 2,0; Revision 19.12.2022, Changes in chapter: 1-16

Rev. 2,1; Revision 03.03.2023, Changes in chapter: 1-3,8-11,15,16

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement

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concerning the International Carriage of Dangerous Goods by Road)
 CAS: Chemical Abstracts Service
 CLP: Classification, Labelling and Packaging of substances and mixtures
 DNEL: Derived No Effect Level
 d: day(s)
 EINECS: European INventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 ECHA: European Chemicals Agency
 EWC: European Waste Catalogue
 IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
 h: hour
 LOAEL: Lowest observed adverse effect level
 LOAEC: Lowest observed adverse effect concentration
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 NOAEL: No observed adverse effect level
 NOAEC: No observed adverse effect concentration
 NLP: No-Longer Polymers
 N/A: not applicable
 OECD: Organisation for Economic Co-operation and Development
 PNEC: predicted no effect concentration
 PBT: Persistent bioaccumulative toxic
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 REACH: Registration, Evaluation, Authorisation of Chemicals
 SVHC: substance of very high concern
 TRGS: Technische Regeln für Gefahrstoffe
 UN: United Nations
 VOC: Volatile Organic Compounds

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Aerosol 1; H222-H229	On basis of test data
Asp. Tox. 1; H304	Calculation method
STOT SE 3; H336	Bridging principle "Aerosols"
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H224	Extremely 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.

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H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)