



## Safety Data Sheet according to (EC) No 1907/2006 as amended

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LOCTITE LB 8151

SDS No. : 280434  
V003.0

Revision: 30.01.2023

printing date: 31.01.2023

Replaces version from: 03.11.2021

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

#### 1.1. Product identifier

LOCTITE LB 8151

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

Intended use:

Antiseize

#### 1.3. Details of the supplier of the safety data sheet

Henkel AG & Co. KGaA

Henkelstr. 67

40589 Düsseldorf

Germany

Phone: +49 211 797 0

ua-productsafety.de@henkel.com

For Safety Data Sheet updates please visit our website <https://mysds.henkel.com/index.html#/appSelection> or [www.henkel-adhesives.com](http://www.henkel-adhesives.com).

#### 1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (CLP):

Specific target organ toxicity - single exposure Category 3

H336 May cause drowsiness or dizziness.

Target organ: Central nervous system

Chronic hazards to the aquatic environment Category 3

H412 Harmful to aquatic life with long lasting effects.

Aerosol

H222 Extremely flammable aerosol. Category 1

H229 Pressurized container: May burst if heated. Category 3

#### 2.2. Label elements

##### Label elements (CLP):

**Hazard pictogram:****Contains**

pentane

Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, &lt;2% aromatics

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, &lt;5% n-hexane

**Signal word:**

Danger

**Hazard statement:**

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

**Supplemental information**

EUH066 Repeated exposure may cause skin dryness or cracking.

**Precautionary statement:**

\*\*\*\* \*\*For consumer use only: P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P501 Dispose of contents/container in accordance with national regulation.\*\*  
 P251 Do not pierce or burn, even after use.  
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.  
 P211 Do not spray on an open flame or other ignition source.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
 No smoking.  
 P102 Keep out of reach of children.

**Precautionary statement:**

P261 Avoid breathing spray.

**Prevention**

P273 Avoid release to the environment.

**2.3. Other hazards**

None if used properly.

Following substances are present in a concentration  $\geq$  the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):

This mixture does not contain any substances in a concentration  $\geq$  the concentration limit for depiction in Section 3 that are assessed to be a PBT, vPvB or ED.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

Hazardous components CAS-No. EC Number REACH-Reg No.	Concentration	Classification	Specific Conc. Limits, M-factors and ATEs	Add. Information
Butane, n- (< 0.1 % butadiene) 106-97-8 203-448-7 01-2119474691-32	25- < 50 %	Press. Gas H280 Flam. Gas 1A, H220		
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics  927-241-2 01-2119471843-32	10- < 25 %	Asp. Tox. 1, H304 Flam. Liq. 3, H226 STOT SE 3, H336 Aquatic Chronic 3, H412		
pentane 109-66-0 203-692-4 01-2119459286-30	10- < 25 %	Flam. Liq. 2, H225 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 2, H411		EU OEL
Propane 74-98-6 200-827-9 01-2119486944-21	2,5- < 10 %	Flam. Gas 1A, H220 Press. Gas H280		
Isobutane 75-28-5 200-857-2 01-2119485395-27	2,5- < 10 %	Flam. Gas 1A, H220 Press. Gas Liquef. Gas, H280		
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane  921-024-6 01-2119475514-35	2,5- < 10 %	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Chronic 2, H411		
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7 265-157-1 01-2119484627-25	1- < 2,5 %	Asp. Tox. 1, H304		

**For full text of the H - statements and other abbreviations see section 16 "Other information".  
Substances without classification may have community workplace exposure limits available.**

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation:**

Move to fresh air. If symptoms persist, seek medical advice.

**Skin contact:**

Rinse with running water and soap.

Obtain medical attention if irritation persists.

**Eye contact:**

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

**Ingestion:**

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

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

Vapors may cause drowsiness and dizziness.

Prolonged or repeated contact may cause eye irritation.

Prolonged or repeated contact may cause skin irritation.

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

See section: Description of first aid measures

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media:**

Carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:**

None known

**5.2. Special hazards arising from the substance or mixture**

In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) can be released.

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Additional information:**

In case of fire, keep containers cool with water spray.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Wear protective equipment.

**6.2. Environmental precautions**

Do not empty into drains / surface water / ground water.

**6.3. Methods and material for containment and cleaning up**

Dispose of contaminated material as waste according to Section 13.

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

**6.4. Reference to other sections**

See advice in section 8

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Keep away from sources of ignition - no smoking.

Vapours should be extracted to avoid inhalation.

Use only in well-ventilated areas.

Avoid skin and eye contact.

See advice in section 8

**Hygiene measures:**

Good industrial hygiene practices should be observed.

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

**7.2. Conditions for safe storage, including any incompatibilities**

Ensure good ventilation/extraction.

Store in a cool, dry place.

Do not store near sources of heat or ignition, or reactive materials.

Refer to Technical Data Sheet

**7.3. Specific end use(s)**

Antiseize

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**

Valid for  
Germany

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Butane 106-97-8	1.000	2.400	Exposure limit(s):	4	TRGS 900
Butane 106-97-8			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Pentane 109-66-0 [PENTANE]	1.000	3.000	Time Weighted Average (TWA):	Indicative	ECTLV
Pentane 109-66-0	1.000	3.000	Exposure limit(s):	2 If the AGW and BGW values are complied with, there should be no risk of reproductive damage (see Number 2.7).	TRGS 900
Pentane 109-66-0			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Propane 74-98-6	1.000	1.800	Exposure limit(s):	4	TRGS 900
Propane 74-98-6			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Isobutane 75-28-5			Short Term Exposure Classification:	Category II: substances with a resorptive effect.	TRGS 900
Isobutane 75-28-5	1.000	2.400	Exposure limit(s):	4	TRGS 900

**Predicted No-Effect Concentration (PNEC):**

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	aqua (freshwater)						
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	aqua (marine water)						
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	sediment (freshwater)						
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	sediment (marine water)						
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Air						no hazard identified
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	soil						
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Predator						
pentane 109-66-0	aqua (freshwater)		0,23 mg/l				
pentane 109-66-0	aqua (marine water)		0,23 mg/l				
pentane 109-66-0	aqua (intermittent releases)		0,88 mg/l				
pentane 109-66-0	sediment (freshwater)				1,2 mg/kg		
pentane 109-66-0	sediment (marine water)				1,2 mg/kg		
pentane 109-66-0	Soil				0,55 mg/kg		
pentane 109-66-0	sewage treatment plant (STP)		3,6 mg/l				
pentane 109-66-0	Air						no hazard identified
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	oral				9,33 mg/kg		

**Derived No-Effect Level (DNEL):**

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Workers	inhalation	Long term exposure - systemic effects		871 mg/m3	no hazard identified
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Workers	dermal	Long term exposure - systemic effects		77 mg/kg	no hazard identified
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	General population	inhalation	Long term exposure - systemic effects		185 mg/m3	no hazard identified
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	General population	dermal	Long term exposure - systemic effects		46 mg/kg	no hazard identified
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	General population	oral	Long term exposure - systemic effects		46 mg/kg	no hazard identified
pentane 109-66-0	Workers	dermal	Long term exposure - systemic effects		432 mg/kg	no hazard identified
pentane 109-66-0	Workers	inhalation	Long term exposure - systemic effects		3000 mg/m3	no hazard identified
pentane 109-66-0	General population	dermal	Long term exposure - systemic effects		214 mg/kg	no hazard identified
pentane 109-66-0	General population	inhalation	Long term exposure - systemic effects		643 mg/m3	no hazard identified
pentane 109-66-0	General population	oral	Long term exposure - systemic effects		214 mg/kg	no hazard identified
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Workers	dermal	Long term exposure - systemic effects		773 mg/kg	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Workers	inhalation	Long term exposure - systemic effects		2035 mg/m3	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	General population	dermal	Long term exposure - systemic effects		699 mg/kg	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	General population	inhalation	Long term exposure - systemic effects		608 mg/m3	
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	General population	oral	Long term exposure - systemic effects		699 mg/kg	
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	Workers	inhalation	Long term exposure - local effects		5,4 mg/m3	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

Engineering controls:

Ensure good ventilation/extraction.

Respiratory protection:

Do not inhale vapors and fumes.

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Use filter A-P2 if vapours/aerosols occur which may be inhaled.

**Hand protection:**

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq$  0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR;  $\geq$  0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

**Eye protection:**

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Protective eye equipment should conform to EN166.

**Skin protection:**

Wear suitable protective clothing.

Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

**Advices to personal protection equipment:**

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

**SECTION 9: Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Physical state	liquid
Delivery form	aerosol
Colour	grey
Odor	characteristic
Melting point	Not applicable, Product is a liquid
Initial boiling point	-44,5 °C (-48.1 °F)
Flammability	Currently under determination
Explosive limits	
lower	0,8 %(V);
upper	10,9 %(V);
Flash point	-60 °C (-76 °F)
Auto-ignition temperature	Currently under determination
Decomposition temperature	Not applicable, Substance/mixture is not self-reactive, no organic peroxide and does not decompose under foreseen conditions of use
pH	Not applicable, Product is non-polar/aprotic.
Viscosity (kinematic)	Currently under determination
Solubility (qualitative)	Not miscible or difficult to mix
(20 °C (68 °F); Solvent: Water)	
Partition coefficient: n-octanol/water	Not applicable
	Mixture
Vapour pressure	2100 hPa
(20 °C (68 °F))	
Density	0,692 g/cm <sup>3</sup> None
(20 °C (68 °F))	
Relative vapour density:	Currently under determination
Particle characteristics	Not applicable
	Product is a liquid

**9.2. Other information**

Other information not applicable for this product



## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None known

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Stable under normal conditions of storage and use.

### 10.5. Incompatible materials

None if used properly.

### 10.6. Hazardous decomposition products

carbon oxides.

## SECTION 11: Toxicological information

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

#### Acute oral toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
pentane 109-66-0	LD50	> 2.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	LD50	> 5.840 mg/kg	rat	not specified
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	LD50	> 5.000 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)

#### Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Species	Method
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	LD50	> 5.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	LD50	> 2.800 mg/kg	rat	not specified
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	LD50	> 5.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)

**Acute inhalative toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Test atmosphere	Exposure time	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	LC50	274200 ppm	gas	4 h	rat	not specified
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	LC50	> 6,1 mg/l	vapour	4 h	rat	equivalent or similar to OECD Guideline 403 (Acute Inhalation Toxicity)
pentane 109-66-0	LC50	21000 ppm	vapour	4 h	rat	not specified
Propane 74-98-6	LC50	> 800000 ppm	gas	15 min	rat	not specified
Isobutane 75-28-5	LC50	260200 ppm	gas	4 h	mouse	not specified
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	LC50	> 25,2 mg/l	vapour	4 h	rat	not specified
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	LC50	> 5,53 mg/l	dust/mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
pentane 109-66-0	not irritating	4 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	not irritating	24 h	rabbit	not specified

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result	Exposure time	Species	Method
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
pentane 109-66-0	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Test type</b>	<b>Species</b>	<b>Method</b>
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
pentane 109-66-0	not sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	not sensitising	Buehler test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

<b>Hazardous substances CAS-No.</b>	<b>Result</b>	<b>Type of study / Route of administration</b>	<b>Metabolic activation / Exposure time</b>	<b>Species</b>	<b>Method</b>
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 479 (Genetic Toxicology: In Vitro Sister Chromatid Exchange Assay in Mammalian Cells)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
pentane 109-66-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
pentane 109-66-0	negative	in vitro mammalian chromosome aberration test	with and without		EU Method B.10 (Mutagenicity)
Propane 74-98-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Propane 74-98-6	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Isobutane 75-28-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Isobutane 75-28-5	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	negative	inhalation: vapour		rat	equivalent or similar to OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	negative	oral: gavage		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
pentane 109-66-0	negative	inhalation: vapour		rat	EU Method B.12 (Mutagenicity)
Propane 74-98-6	negative			Drosophila melanogaster	not specified
Propane 74-98-6	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Isobutane 75-28-5	negative	oral: feed		Drosophila melanogaster	not specified
Isobutane 75-28-5	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

**Carcinogenicity**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Sex	Method
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	not carcinogenic	inhalation: vapour	6 hours plus T90 (12 minutes) 5 days per week for 105 weeks	rat	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	not carcinogenic	dermal	78 w various	mouse	female	OECD Guideline 451 (Carcinogenicity Studies)

**Reproductive toxicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Test type	Route of application	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	NOAEL P 21,4 mg/l NOAEL F1 21,4 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
pentane 109-66-0	NOAEL P >= 1.000 mg/kg NOAEL F1 >= 1.000 mg/kg	one- generation study	oral: gavage	rat	OECD Guideline 415 (One- Generation Reproduction Toxicity Study)
Propane 74-98-6	NOAEL P 21,6 mg/l NOAEL F1 21,6 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Isobutane 75-28-5	NOAEL P 21,4 mg/l NOAEL F1 21,4 mg/l	screening	inhalation: gas	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

**STOT-single exposure:**

No data available.

**STOT-repeated exposure:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Result / Value	Route of application	Exposure time / Frequency of treatment	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8		inhalation: gas	28 d 6 h/d	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	NOAEL >= 1.000 mg/kg	oral: gavage	7 days/week	rat	equivalent or similar to OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reprod./Develop. Tox. Screening Test)
pentane 109-66-0		inhalation: gas	13 w 6 h/d, 5 d/w	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
Propane 74-98-6		inhalation: gas	28 d 6 h/d, 7 d/w	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Isobutane 75-28-5	NOAEL 9000 ppm	inhalation: gas	28 d 6 h/d, 7 d/w	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

**Aspiration hazard:**

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	0,61 mm <sup>2</sup> /s	25 °C	not specified	
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	20 mm <sup>2</sup> /s	40 °C	not specified	

**11.2 Information on other hazards**

not applicable

## SECTION 12: Ecological information

### General ecological information:

Do not empty into drains / surface water / ground water.

### 12.1. Toxicity

#### Toxicity (Fish):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	LC50	27,98 mg/l	96 h		not specified
Hydrocarbons , C9-C10, n- alkanes, isoalkanes, cyclics, <2% aromatics	LL50	> 10 - < 30 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	LL50	11,4 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	LL50	> 100 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)

#### Toxicity (Daphnia):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	EC50	14,22 mg/l	48 h		not specified
Hydrocarbons , C9-C10, n- alkanes, isoalkanes, cyclics, <2% aromatics	EL50	> 22 - < 46 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
pentane 109-66-0	EC50	9,74 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	EL50	3 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	EL50	> 10.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

#### Chronic toxicity to aquatic invertebrates

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	NOEC	0,17 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	NOELR	10 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)

#### Toxicity (Algae):

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	EC50	7,71 mg/l	96 h		not specified
Hydrocarbons , C9-C10, n- alkanes, isoalkanes, cyclics, <2% aromatics	EL50	> 1000 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons , C9-C10, n- alkanes, isoalkanes, cyclics, <2% aromatics	NOELR	< 1 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	EL50	> 30 - 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	NOELR	3 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	EL50	> 100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	NOELR	100 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity to microorganisms

No data available.

#### 12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Hydrocarbons , C9-C10, n- alkanes, isoalkanes, cyclics, <2% aromatics	readily biodegradable	aerobic	89 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
pentane 109-66-0	readily biodegradable	aerobic	87 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Propane 74-98-6	readily biodegradable	aerobic	> 60 %	28 d	OECD 301 A - F
Isobutane 75-28-5	readily biodegradable	aerobic	71,43 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Hydrocarbons, C6-C7, n- alkanes, isoalkanes, cyclics, <5% n-hexane	readily biodegradable	aerobic	98 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	not readily biodegradable.	aerobic	31 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

#### 12.3. Bioaccumulative potential

No data available.

#### 12.4. Mobility in soil



Hazardous substances CAS-No.	LogPow	Temperature	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	2,31	20 °C	other (measured)
pentane 109-66-0	3,45	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Isobutane 75-28-5	2,88	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

### 12.5. Results of PBT and vPvB assessment

Hazardous substances CAS-No.	PBT / vPvB
Butane, n- (< 0.1 % butadiene) 106-97-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Hydrocarbons , C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
pentane 109-66-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Propane 74-98-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Isobutane 75-28-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Distillates (petroleum), hydrotreated heavy paraffinic, <3% DMSO, <20.5mm <sup>2</sup> /sec (not cmr) 64742-54-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

### 12.6. Endocrine disrupting properties

not applicable

### 12.7. Other adverse effects

No data available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product disposal:

Do not empty into drains / surface water / ground water.

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

14 06 03 Other solvents and solvent mixtures

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

<b>SECTION 14: Transport information</b>
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**14.1. UN number or ID number**

ADR	1950
RID	1950
ADN	1950
IMDG	1950
IATA	1950

**14.2. UN proper shipping name**

ADR	AEROSOLS
RID	AEROSOLS
ADN	AEROSOLS
IMDG	AEROSOLS
IATA	Aerosols, flammable

**14.3. Transport hazard class(es)**

ADR	2.1
RID	2.1
ADN	2.1
IMDG	2.1
IATA	2.1

**14.4. Packing group**

ADR  
RID  
ADN  
IMDG  
IATA

**14.5. Environmental hazards**

ADR	not applicable
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

**14.6. Special precautions for user**

ADR	not applicable Tunnelcode: (D)
RID	not applicable
ADN	not applicable
IMDG	not applicable
IATA	not applicable

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

<b>SECTION 15: Regulatory information</b>
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**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Ozone Depleting Substance (ODS) (Regulation (EC) No 1005/2009):	Not applicable
Prior Informed Consent (PIC) (Regulation (EU) No 649/2012):	Not applicable
Persistent organic pollutants (Regulation (EU) 2019/1021):	Not applicable
VOC content (2010/75/EC)	73 %

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**National regulations/information (Germany):**

WGK: WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV) )  
Classification according to AwSV, Annex 1 (5.2)

Storage class according to TRGS 510: 2B

**SECTION 16: Other information**

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

H220 Extremely flammable gas.  
H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
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.  
H411 Toxic to aquatic life with long lasting effects.  
H412 Harmful to aquatic life with long lasting effects.

ED:	Substance identified as having endocrine disrupting properties
EU OEL:	Substance with a Union workplace exposure limit
EU EXPLD 1:	Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD 2	Substance listed in Annex II, Reg (EC) No. 2019/1148
SVHC:	Substance of very high concern (REACH Candidate List)
PBT:	Substance fulfilling persistent, bioaccumulative and toxic criteria
PBT/vPvB:	Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria
vPvB:	Substance fulfilling very persistent and very bioaccumulative criteria

**Further information:**

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