



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

Page 1 of 30

LOCTITE LB 8191 known as Loctite 8191

SDS No. : 283258

V007.0

Revision: 25.07.2023

printing date: 08.11.2023

Replaces version from: 24.07.2023

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

#### 1.1. Product identifier

LOCTITE LB 8191 known as Loctite 8191

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

Intended use:

Lubricant

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

Henkel Ltd

Adhesives

Wood Lane End

HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

SDSinfo.Adhesive@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

24 Hours Emergency Tel: +44 (0)1442 278497

### SECTION 2: Hazards identification

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

##### Classification (CLP):

Aerosols

Category 1

H222 Extremely flammable aerosol.

H229 Pressurized container: May burst if heated.

Serious eye irritation

Category 2

H319 Causes serious eye irritation.

Specific target organ toxicity - single exposure

Category 3

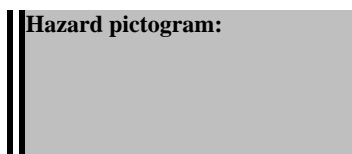
H336 May cause drowsiness or dizziness.

Target organ: Central nervous system

#### 2.2. Label elements

##### Label elements (CLP):

Hazard pictogram:



Contains

acetone

## Butanone

<b>Signal word:</b>	Danger
<b>Hazard statement:</b>	H222 Extremely flammable aerosol. H229 Pressurized container: May burst if heated. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
<b>Supplemental information</b>	EUH066 Repeated exposure may cause skin dryness or cracking.
<b>Precautionary statement:</b>	P251 Do not pierce or burn, even after use. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50.DEGREE.C/122.DEGREE.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.
<b>Precautionary statement:</b> <b>Prevention</b>	P261 Avoid breathing spray.
<b>Precautionary statement:</b> <b>Response</b>	P337+P313 If eye irritation persists: Get medical advice/attention.

### 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		
acetone 67-64-1 200-662-2 01-2119471330-49	25- < 50 %	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336		EU OEL EUEXPL2D
Ethanol 64-17-5 200-578-6 01-2119457610-43	10- < 25 %	Eye Irrit. 2, H319 Flam. Liq. 2, H225	Eye Irrit. 2; H319; C >= 50 %	
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		
Butanone 78-93-3 201-159-0 01-2119457290-43	2,5- < 10 %	STOT SE 3, H336 Eye Irrit. 2, H319 Flam. Liq. 2, H225		EU OEL
methanol 67-56-1 200-659-6 01-2119433307-44	0,1- < 1 %	Flam. Liq. 2, H225 Acute Tox. 3, Inhalation, H331 Acute Tox. 3, Dermal, H311 Acute Tox. 3, Oral, H301 STOT SE 1, H370	STOT SE 1; H370; C >= 10 % STOT SE 2; H371; C 3 - < 10 % ===== mg/kg oral:ATE = 300 mg/kg	EU OEL
2-Butoxyethanol 111-76-2 203-905-0 01-2119475108-36	0,1- < 1 %	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 4, Oral, H302 Acute Tox. 3, Inhalation, H331	dermal:ATE = > 5.000 mg/kg oral:ATE = 1.200 mg/kg inhalation:ATE = 3 mg/l; vapour	EU OEL
(2-Methoxymethylethoxy)propanol 34590-94-8 252-104-2 01-2119450011-60	1- < 2,5 %			EU OEL

If no ATE values are displayed, please refer to LD/LC50 values in Section 11.

For full text of the H - statements and other abbreviations see section 16 "Other information".

The hazard classification of this product is based solely on the mixture present within the aerosol, excluding the propellant gases. The information provided in Section 3 is based on the combination of the mixture and propellant gases.

## 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**

EYE: Irritation, conjunctivitis.

Vapors may cause drowsiness and dizziness.

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:**

water, carbon dioxide, foam, powder

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

High pressure waterjet

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

In the event of a fire, carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</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**

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.

Dispose of contaminated material as waste according to Section 13.

#### **6.4. Reference to other sections**

See advice in section 8

### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Avoid skin and eye contact.

See advice in section 8

##### **Hygiene measures:**

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

Good industrial hygiene practices should be observed.

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

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)**

Lubricant

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational Exposure Limits

Valid for  
Great Britain

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Butane 106-97-8 [Butane]	600	1.450	Time Weighted Average (TWA):		EH40 WEL
Butane 106-97-8 [Butane]	750	1.810	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Acetone 67-64-1 [ACETONE]	500	1.210	Time Weighted Average (TWA):		EH40 WEL
Acetone 67-64-1 [ACETONE]	500	1.210	Time Weighted Average (TWA):	Indicative	ECTLV
Acetone 67-64-1 [ACETONE]	1.500	3.620	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Ethanol 64-17-5 [ETHANOL]	1.000	1.920	Time Weighted Average (TWA):		EH40 WEL
Butanone 78-93-3 [BUTAN-2-ONE (METHYL ETHYL KETONE)]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Butanone 78-93-3 [BUTAN-2-ONE (METHYL ETHYL KETONE)]	200	600	Time Weighted Average (TWA):		EH40 WEL
Butanone 78-93-3 [BUTANONE]	200	600	Time Weighted Average (TWA):	Indicative	ECTLV
Butanone 78-93-3 [BUTANONE]	300	900	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Butanone 78-93-3 [BUTAN-2-ONE (METHYL ETHYL KETONE)]	300	899	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
(2-Methoxymethylethoxy)propanol 34590-94-8 [(2-METHOXYMETHYLETHOXY)PROPANOL]	50	308	Time Weighted Average (TWA):		EH40 WEL
(2-Methoxymethylethoxy)propanol 34590-94-8 [(2-METHOXYMETHYLETHOXY)PROPANOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
(2-Methoxymethylethoxy)propanol 34590-94-8 [(2-METHOXYMETHYLETHOXY)-PROPANOL]	50	308	Time Weighted Average (TWA):	Indicative	ECTLV
Methanol 67-56-1 [METHANOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Methanol 67-56-1 [METHANOL]	200	266	Time Weighted Average (TWA):		EH40 WEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECTLV
Methanol 67-56-1 [METHANOL]	250	333	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
2-Butoxyethanol 111-76-2	25	123	Time Weighted Average (TWA):		EH40 WEL

[2-BUTOXYETHANOL]					
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]	20	98	Time Weighted Average (TWA):	Indicative	ECTLV
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]	50	246	Short Term Exposure Limit (STEL):	Indicative	ECTLV
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]	50	246	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL

### Occupational Exposure Limits

Valid for  
Ireland

Ingredient [Regulated substance]	ppm	mg/m <sup>3</sup>	Value type	Short term exposure limit category / Remarks	Regulatory list
Butane 106-97-8 [N-BUTANE]	1.000		Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Acetone 67-64-1 [ACETONE]	500	1.210	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Acetone 67-64-1 [ACETONE]	500	1.210	Time Weighted Average (TWA):	Indicative	ECTLV
Ethanol 64-17-5 [ETHANOL]	1.000		Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
Butanone 78-93-3 [METHYL ETHYL KETONE (MEK)]	200	600	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Butanone 78-93-3 [METHYL ETHYL KETONE (MEK)]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Butanone 78-93-3 [BUTANONE]	200	600	Time Weighted Average (TWA):	Indicative	ECTLV
Butanone 78-93-3 [BUTANONE]	300	900	Short Term Exposure Limit (STEL):	Indicative	ECTLV
Butanone 78-93-3 [METHYL ETHYL KETONE (MEK)]	300	900	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
Isobutane 75-28-5 [ISOBUTANE]	1.000		Short Term Exposure Limit (STEL):	15 minutes	IR_OEL
(2-Methoxymethylethoxy)propanol 34590-94-8 [(2-METHOXYMETHYLETHOXY)-1-PROPANOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
(2-Methoxymethylethoxy)propanol 34590-94-8 [(2-METHOXYMETHYLETHOXY)-1-PROPANOL]	50	308	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
(2-Methoxymethylethoxy)propanol 34590-94-8 [(2-METHOXYMETHYLETHOXY)-PROPANOL]	50	308	Time Weighted Average (TWA):	Indicative	ECTLV
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Methanol 67-56-1 [METHANOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Methanol 67-56-1 [METHANOL]	200	260	Time Weighted Average (TWA):	Indicative	ECTLV
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL (EGBE)]	50	246	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL

2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL (EGBE)]	20	98	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL (EGBE)]			Skin designation:	Can be absorbed through the skin.	IR_OEL
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]	20	98	Time Weighted Average (TWA):	Indicative	ECLTV
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]	50	246	Short Term Exposure Limit (STEL):	Indicative	ECLTV



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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
acetone 67-64-1	aqua (intermittent releases)		21 mg/l				
acetone 67-64-1	sewage treatment plant (STP)		100 mg/l				
acetone 67-64-1	sediment (freshwater)				30,4 mg/kg		
acetone 67-64-1	sediment (marine water)				3,04 mg/kg		
acetone 67-64-1	Soil				29,5 mg/kg		
acetone 67-64-1	aqua (freshwater)		10,6 mg/l				
acetone 67-64-1	aqua (marine water)		1,06 mg/l				
Ethanol 64-17-5	aqua (freshwater)		0,96 mg/l				
Ethanol 64-17-5	aqua (marine water)		0,79 mg/l				
Ethanol 64-17-5	aqua (intermittent releases)		2,75 mg/l				
Ethanol 64-17-5	sewage treatment plant (STP)		580 mg/l				
Ethanol 64-17-5	sediment (freshwater)				3,6 mg/kg		
Ethanol 64-17-5	sediment (marine water)				2,9 mg/kg		
Ethanol 64-17-5	Soil				0,63 mg/kg		
Ethanol 64-17-5	oral				380 mg/kg		
Butanone 78-93-3	aqua (freshwater)		55,8 mg/l				
Butanone 78-93-3	aqua (marine water)		55,8 mg/l				
Butanone 78-93-3	aqua (intermittent releases)		55,8 mg/l				
Butanone 78-93-3	sewage treatment plant (STP)		709 mg/l				
Butanone 78-93-3	sediment (freshwater)				284,74 mg/kg		
Butanone 78-93-3	sediment (marine water)				284,7 mg/kg		
Butanone 78-93-3	Soil				22,5 mg/kg		
Butanone 78-93-3	oral				1000 mg/kg		
methanol 67-56-1	aqua (freshwater)						no hazard identified
methanol 67-56-1	sediment (freshwater)						no hazard identified
methanol 67-56-1	aqua (marine water)						no hazard identified
methanol 67-56-1	Soil						no hazard identified
methanol 67-56-1	sewage treatment plant (STP)						no hazard identified
methanol 67-56-1	aqua (intermittent releases)						no hazard identified
methanol 67-56-1	sediment (marine water)						no hazard identified
2-butoxyethanol	aqua		8,8 mg/l				

111-76-2	(freshwater)						
2-butoxyethanol 111-76-2	aqua (marine water)		0,88 mg/l				
2-butoxyethanol 111-76-2	sewage treatment plant (STP)		463 mg/l				
2-butoxyethanol 111-76-2	sediment (freshwater)				34,6 mg/kg		
2-butoxyethanol 111-76-2	sediment (marine water)				3,46 mg/kg		
2-butoxyethanol 111-76-2	Soil				2,33 mg/kg		
2-butoxyethanol 111-76-2	oral				20 mg/kg		
2-butoxyethanol 111-76-2	Freshwater - intermittent		26,4 mg/l				
(2-Methoxymethylethoxy)propanol 34590-94-8	aqua (freshwater)		19 mg/l				
(2-Methoxymethylethoxy)propanol 34590-94-8	aqua (marine water)		1,9 mg/l				
(2-Methoxymethylethoxy)propanol 34590-94-8	sewage treatment plant (STP)		4168 mg/l				
(2-Methoxymethylethoxy)propanol 34590-94-8	sediment (freshwater)				70,2 mg/kg		
(2-Methoxymethylethoxy)propanol 34590-94-8	sediment (marine water)				7,02 mg/kg		
(2-Methoxymethylethoxy)propanol 34590-94-8	Soil				2,74 mg/kg		
(2-Methoxymethylethoxy)propanol 34590-94-8	aqua (intermittent releases)		190 mg/l				

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
acetone 67-64-1	Workers	Inhalation	Acute/short term exposure - local effects		2420 mg/m3	
acetone 67-64-1	Workers	dermal	Long term exposure - systemic effects		186 mg/kg	
acetone 67-64-1	Workers	Inhalation	Long term exposure - systemic effects		1210 mg/m3	
acetone 67-64-1	General population	dermal	Long term exposure - systemic effects		62 mg/kg	
acetone 67-64-1	General population	Inhalation	Long term exposure - systemic effects		200 mg/m3	
acetone 67-64-1	General population	oral	Long term exposure - systemic effects		62 mg/kg	
Ethanol 64-17-5	Workers	dermal	Long term exposure - systemic effects		343 mg/kg	
Ethanol 64-17-5	Workers	inhalation	Long term exposure - systemic effects		950 mg/m3	
Ethanol 64-17-5	General population	dermal	Long term exposure - systemic effects		206 mg/kg	
Ethanol 64-17-5	General population	inhalation	Long term exposure - systemic effects		114 mg/m3	
Ethanol 64-17-5	General population	oral	Long term exposure - systemic effects		87 mg/kg	
Butanone 78-93-3	Workers	dermal	Long term exposure - systemic effects		1161 mg/kg	
Butanone 78-93-3	Workers	inhalation	Long term exposure - systemic effects		600 mg/m3	
Butanone 78-93-3	General population	dermal	Long term exposure - systemic effects		412 mg/kg	
Butanone 78-93-3	General population	inhalation	Long term exposure - systemic effects		106 mg/m3	
Butanone 78-93-3	General population	oral	Long term exposure - systemic effects		31 mg/kg	
methanol 67-56-1	Workers	inhalation	Long term exposure - systemic effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Acute/short term exposure - systemic effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Long term exposure - local effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	inhalation	Acute/short term exposure - local effects		260 mg/m3	no hazard identified
methanol 67-56-1	Workers	dermal	Long term exposure - systemic effects		40 mg/kg	no hazard identified
methanol 67-56-1	Workers	dermal	Acute/short term exposure - systemic effects		40 mg/kg	no hazard identified
methanol 67-56-1	General population	inhalation	Long term exposure - systemic effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Acute/short term exposure -		50 mg/m3	no hazard identified

			systemic effects			
methanol 67-56-1	General population	inhalation	Long term exposure - local effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	inhalation	Acute/short term exposure - local effects		50 mg/m3	no hazard identified
methanol 67-56-1	General population	dermal	Long term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	dermal	Acute/short term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	oral	Long term exposure - systemic effects		8 mg/kg	no hazard identified
methanol 67-56-1	General population	oral	Acute/short term exposure - systemic effects		8 mg/kg	no hazard identified
2-butoxyethanol 111-76-2	Workers	inhalation	Long term exposure - systemic effects		98 mg/m3	
2-butoxyethanol 111-76-2	Workers	inhalation	Acute/short term exposure - local effects		246 mg/m3	
2-butoxyethanol 111-76-2	Workers	inhalation	Acute/short term exposure - systemic effects		1091 mg/m3	
2-butoxyethanol 111-76-2	General population	inhalation	Long term exposure - systemic effects		59 mg/m3	
2-butoxyethanol 111-76-2	General population	inhalation	Acute/short term exposure - systemic effects		426 mg/m3	
2-butoxyethanol 111-76-2	General population	inhalation	Acute/short term exposure - local effects		147 mg/m3	
2-butoxyethanol 111-76-2	General population	oral	Long term exposure - systemic effects		6,3 mg/kg	
2-butoxyethanol 111-76-2	General population	oral	Acute/short term exposure - systemic effects		26,7 mg/kg	
(2-Methoxymethylethoxy)propanol 34590-94-8	Workers	inhalation	Long term exposure - systemic effects		308 mg/m3	
(2-Methoxymethylethoxy)propanol 34590-94-8	Workers	dermal	Long term exposure - systemic effects		283 mg/kg	
(2-Methoxymethylethoxy)propanol 34590-94-8	General population	oral	Long term exposure - systemic effects		36 mg/kg	
(2-Methoxymethylethoxy)propanol 34590-94-8	General population	inhalation	Long term exposure - systemic effects		37,2 mg/m3	
(2-Methoxymethylethoxy)propanol 34590-94-8	General population	dermal	Long term exposure - systemic effects		121 mg/kg	

**Biological Exposure Indices:**

Ingredient [Regulated substance]	Parameters	Biological specimen	Sampling time	Conc.	Basis of biol. exposure index	Remark	Additional Information
Butanone 78-93-3 [BUTAN-2-ONE]	Butan-2-one	Urine	Sampling time: End of shift.		UKEH40BMG V		
2-Butoxyethanol 111-76-2 [2-BUTOXYETHANOL]	Butoxyacetic acid	Creatinine in urine	Sampling time: End of shift.		UKEH40BMG V		

**8.2. Exposure controls:****Engineering controls:**

Ensure good ventilation/extraction.

**Respiratory protection:**

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

Filter type: A (EN 14387)

**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; >= 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; >= 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**

Delivery form	aerosol
Delivery form	aerosol
Colour	black
Colour	black
Odor	characteristic
Odor	characteristic
Physical state	liquid
Melting point	Not applicable, Product is a liquid
Solidification temperature	Not available.
Initial boiling point	-44,5 °C (-48.1 °F)
Flammability	Extremely flammable aerosol.
Explosive limits	
lower	1,1 % (V);
upper	15 % (V);

Flash point	-97 °C (-142.6 °F)
Auto-ignition temperature	365 °C (689 °F)
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) (40 °C (104 °F); )	<= 20,5 mm <sup>2</sup> /s
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Not miscible or difficult to mix
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (20 °C (68 °F))	Mixture 3800 hPa
Vapour pressure (50 °C (122 °F))	7000 hPa
Density (20 °C (68 °F))	0,702 g/cm <sup>3</sup> None
Relative vapour density:	Not available.
Particle characteristics	Not applicable Product is a liquid

## 9.2. Other information

### 9.2.1. Information with regard to physical hazard classes

Aerosols:

Classified as Aerosol category 1 because it contains more than 1 % (by mass) flammable components or has a heat of combustion of at least 20 kJ/g and is not submitted to the flammability classification procedures

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None if used properly.

### 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.

## 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
acetone 67-64-1	LD50	5.800 mg/kg	rat	not specified
Ethanol 64-17-5	LD50	10.470 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Butanone 78-93-3	LD50	2.737 mg/kg	rat	not specified
methanol 67-56-1	Acute toxicity estimate (ATE)	300 mg/kg		Expert judgement
2-Butoxyethanol 111-76-2	Acute toxicity estimate (ATE)	1.200 mg/kg		Expert judgement
(2-Methoxymethylethoxy)propanol 34590-94-8	LD50	8.740 mg/kg	rat	not specified

#### 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
acetone 67-64-1	LD50	> 15.688 mg/kg	rabbit	Draize Test
Ethanol 64-17-5	LD50	> 2.000 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
Butanone 78-93-3	LD50	> 6.400 mg/kg	rabbit	not specified
2-Butoxyethanol 111-76-2	Acute toxicity estimate (ATE)	> 5.000 mg/kg		Expert judgement
2-Butoxyethanol 111-76-2	LD50	> 2.000 mg/kg	guinea pig	OECD Guideline 402 (Acute Dermal Toxicity)
2-Butoxyethanol 111-76-2	LD50	> 2.000 mg/kg	rat	OECD Guideline 402 (Acute Dermal Toxicity)
(2-Methoxymethylethoxy)propanol 34590-94-8	LD50	9.510 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
acetone 67-64-1	LC50	76 mg/l	vapour	4 h	rat	not specified
Ethanol 64-17-5	LC50	124,7 mg/l	vapour	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
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
Butanone 78-93-3	LC50	34,5 mg/l	vapour	4 h	rat	not specified
2-Butoxyethanol 111-76-2	Acute toxicity estimate (ATE)	3 mg/l	vapour	4 h		Expert judgement
(2- Methoxymethylethoxy)pr opanol 34590-94-8	LC50	55 - 60 mg/l		4 h	rat	not specified

**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
acetone 67-64-1	not irritating		guinea pig	not specified
Ethanol 64-17-5	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Butanone 78-93-3	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
methanol 67-56-1	not irritating	20 h	rabbit	BASF Test
2-Butoxyethanol 111-76-2	irritating	4 h	rabbit	EU Method B.4 (Acute Toxicity: Dermal Irritation / Corrosion)
(2- Methoxymethylethoxy)pr opanol 34590-94-8	not irritating	2 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
(2- Methoxymethylethoxy)pr opanol 34590-94-8	not irritating		human	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
acetone 67-64-1	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Ethanol 64-17-5	irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Butanone 78-93-3	irritating		rabbit	equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion)
methanol 67-56-1	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-Butoxyethanol 111-76-2	irritating	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
(2-Methoxymethylethoxy)propanol 34590-94-8	not irritating		human	not specified
(2-Methoxymethylethoxy)propanol 34590-94-8	not irritating		rabbit	Draize Test

**Respiratory or skin sensitization:**

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

Hazardous substances CAS-No.	Result	Test type	Species	Method
acetone 67-64-1	not sensitising	Guinea pig maximisation test	guinea pig	not specified
Ethanol 64-17-5	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
Ethanol 64-17-5	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Butanone 78-93-3	not sensitising	Buehler test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
methanol 67-56-1	not sensitising	Guinea pig maximisation test	guinea pig	equivalent or similar to OECD Guideline 406 (Skin Sensitisation)
2-Butoxyethanol 111-76-2	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
(2-Methoxymethylethoxy)propanol 34590-94-8	not sensitising	Patch-Test	human	human repeat insult patch test

**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)
acetone 67-64-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
acetone 67-64-1	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
acetone 67-64-1	negative	mammalian cell gene mutation assay	without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Ethanol 64-17-5	negative	bacterial reverse mutation assay (e.g Ames test)			OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethanol 64-17-5	negative	in vitro mammalian chromosome aberration test	without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Ethanol 64-17-5	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
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)
Butanone 78-93-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Butanone 78-93-3	negative	in vitro mammalian chromosome aberration test	not applicable		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Butanone 78-93-3	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
methanol 67-56-1	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
methanol 67-56-1	negative	in vitro mammalian cell micronucleus test	without		not specified
methanol 67-56-1	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
2-Butoxyethanol 111-76-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-Butoxyethanol 111-76-2	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
2-Butoxyethanol 111-76-2	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
(2- Methoxymethylethoxy)pr	negative	bacterial reverse mutation assay (e.g	with and without		Ames Test

opanol 34590-94-8		Ames test)			
(2-Methoxymethylethoxy)pr opanol 34590-94-8	negative	yeast cytogenetic assay	with and without		OECD Guideline 481 (Genetic Toxicology: Saccharomyces cerevisiae, Mitotic Recombination Assay)
(2-Methoxymethylethoxy)pr opanol 34590-94-8	negative	in vitro mammalian chromosome aberration test	with and without		JAPAN: Guidelines for Screening Mutagenicity Testing Of Chemicals
(2-Methoxymethylethoxy)pr opanol 34590-94-8	negative	DNA damage and repair assay, unscheduled DNA synthesis in mammalian cells in vitro	not applicable		OECD Guideline 482 (Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells In Vitro)
(2-Methoxymethylethoxy)pr opanol 34590-94-8	negative	mammalian cell gene mutation assay	without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
(2-Methoxymethylethoxy)pr opanol 34590-94-8	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Butane, n- (< 0.1 % butadiene) 106-97-8	negative	inhalation: gas		rat	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
acetone 67-64-1	negative	oral: drinking water		mouse	not specified
Ethanol 64-17-5	negative				OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test)
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)
Butanone 78-93-3	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
methanol 67-56-1	negative	intraperitoneal		mouse	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
2-Butoxyethanol 111-76-2	negative	intraperitoneal		mouse	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
acetone 67-64-1	not carcinogenic	dermal	424 d 3 times per week	mouse	female	not specified
Ethanol 64-17-5	not carcinogenic					Expert judgement
methanol 67-56-1	not carcinogenic	inhalation: vapour	18 m 19 h/d	mouse	male/female	equivalent or similar OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
(2-Methoxymethylethoxy)propanol 34590-94-8	not carcinogenic	inhalation: vapour	2 years 6 h/day; 5 days/week	rat	male/female	OECD Guideline 453 (Combined Chronic Toxicity / 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)
Ethanol 64-17-5	NOAEL P 13.800 mg/kg	Two generation study	oral: unspecified	mouse	OECD Guideline 416 (Two- 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)
Butanone 78-93-3	NOAEL P 10.000 mg/l NOAEL F1 10.000 mg/l	two- generation study	oral: drinking water	rat	equivalent or similar to OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
methanol 67-56-1	NOAEL P 1,3 mg/l NOAEL F1 0,13 mg/l NOAEL F2 0,13 mg/l	Two generation study	inhalation	rat	equivalent or similar to OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
2-Butoxyethanol 111-76-2	NOAEL P 720 mg/kg NOAEL F1 720 mg/kg NOAEL F2 720 mg/kg	Two generation study	oral: drinking water	mouse	not specified
(2-Methoxymethylethoxy)propanol 34590-94-8	NOAEL P 300 ppm NOAEL F1 1000 ppm NOAEL F2 1000 ppm	two- generation study	inhalation: vapour	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)

**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)
acetone 67-64-1	NOAEL 900 mg/kg	oral: drinking water	13 w daily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
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)
Butanone 78-93-3	NOAEL 2500 ppm	inhalation	90 days 6 hours/day, 5 days/week	rat	not specified
methanol 67-56-1	NOAEL 6,63 mg/l	inhalation: vapour	4 weeks 6 h/d, 5 d/w	rat	equivalent or similar to OECD Guideline 412 (Repeated Dose Inhalation Toxicity: 28/14-Day)
methanol 67-56-1	NOAEL 0,13 mg/l	inhalation: vapour	12 m 20 h/d	rat	equivalent or similar to OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
2-Butoxyethanol 111-76-2	NOAEL 0,121 mg/l	inhalation	42 or 90 days 6 hours/day, 5 days/week	rat	not specified
2-Butoxyethanol 111-76-2	NOAEL < 69 mg/kg	oral: drinking water	90 d continous	rat	equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
(2- Methoxymethylethoxy)pr opanol 34590-94-8	NOAEL > 50 mg/l	inhalation	2 weeks (9 exposures) 6 hours/day; 5 days/week	rabbit	not specified
(2- Methoxymethylethoxy)pr opanol 34590-94-8	NOAEL 1.000 mg/kg	oral: gavage	4 weeks daily	rat	not specified
(2- Methoxymethylethoxy)pr opanol 34590-94-8	NOAEL 200 ppm	inhalation: vapour	13 weeks 6 hours/day; 5 days/week	rat	OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day)
(2- Methoxymethylethoxy)pr opanol 34590-94-8	NOAEL 2.850 mg/kg	dermal	90 d 5 days/week	rabbit	OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
(2- Methoxymethylethoxy)pr opanol 34590-94-8	NOAEL > 1.000 mg/kg	dermal	4 weeks 4 hours/day; 5 days/week	rat	OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)

**Aspiration hazard:**

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Butanone 78-93-3	0,51 mm <sup>2</sup> /s	20 °C	ASTM Standard D7042	

**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.

The table below presents the data of 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
acetone 67-64-1	LC50	8.120 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Ethanol 64-17-5	LC50	14.200 mg/l	96 h	Pimephales promelas	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
Ethanol 64-17-5	NOEC	250 mg/l	120 h	Danio rerio	OECD Guideline 212 (Fish, Short-term Toxicity Test on Embryo and Sac-Fry Stages)
Butanone 78-93-3	LC50	3.220 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
methanol 67-56-1	LC50	15.400 mg/l	96 h	Lepomis macrochirus	EPA-660 (Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibians)
methanol 67-56-1	NOEC	7.900 mg/l	200 h	Oryzias latipes	OECD Guideline 210 (fish early life stage toxicity test)
2-Butoxyethanol 111-76-2	LC50	1.474 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Butoxyethanol 111-76-2	NOEC	> 100 mg/l	21 d	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
(2-Methoxymethylethoxy)propanol 34590-94-8	LC50	> 1.000 mg/l	96 h	Poecilia reticulata	OECD Guideline 203 (Fish, Acute Toxicity Test)

#### Toxicity (aquatic invertebrates):

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

The table below presents the data of 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
acetone 67-64-1	EC50	8.800 mg/l	48 h	Daphnia pulex	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Ethanol 64-17-5	EC50	5.012 mg/l	48 h	Ceriodaphnia dubia	other guideline:
Butanone 78-93-3	EC50	5.091 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
methanol 67-56-1	EC50	18.260 mg/l	96 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Butoxyethanol 111-76-2	EC50	1.550 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
(2-Methoxymethylethoxy)propanol	EC50	1.919 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

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34590-94-8					
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**Chronic toxicity (aquatic invertebrates):**

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
acetone 67-64-1	NOEC	2.212 mg/l	28 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Ethanol 64-17-5	NOEC	9,6 mg/l	9 d	Daphnia magna	not specified
2-Butoxyethanol 111-76-2	NOEC	100 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.

The table below presents the data of 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
acetone 67-64-1	NOEC	530 mg/l	8 d	Microcystis aeruginosa	DIN 38412-09
Ethanol 64-17-5	EC50	275 mg/l	72 h	Chlorella vulgaris	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethanol 64-17-5	EC10	11,5 mg/l	72 h	Chlorella vulgaris	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butanone 78-93-3	EC50	1.240 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Butanone 78-93-3	EC10	1.010 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
methanol 67-56-1	EC50	22.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Butoxyethanol 111-76-2	EC50	1.840 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Butoxyethanol 111-76-2	NOEC	286 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
(2-Methoxymethylethoxy)propan ol 34590-94-8	EC50	> 969 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
(2-Methoxymethylethoxy)propan ol 34590-94-8	NOEC	969 mg/l	72 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity (microorganisms):

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

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
acetone 67-64-1	EC10	1.000 mg/l	30 min	Pseudomonas putida	DIN 38412, part 27 (Bacterial oxygen consumption test)
Ethanol 64-17-5	IC50	> 1.000 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Butanone 78-93-3	EC50	1.150 mg/l	16 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
methanol 67-56-1	IC50	> 1.000 mg/l	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
2-Butoxyethanol 111-76-2	EC0	1.000 mg/l	30 min		not specified
(2-Methoxymethylethoxy)propan ol 34590-94-8	EC10	4.168 mg/l	18 h	Pseudomonas putida	other guideline:

#### 12.2. Persistence and degradability

The table below presents the data of the classified substances present in the mixture.

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
acetone 67-64-1	readily biodegradable	aerobic	81 - 92 %	30 d	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test)
Ethanol 64-17-5	readily biodegradable	aerobic	80 - 85 %	30 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle 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)
Butanone 78-93-3	readily biodegradable	aerobic	98 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
methanol 67-56-1	readily biodegradable	aerobic	82 - 92 %	30 d	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test)
2-Butoxyethanol 111-76-2	readily biodegradable	aerobic	73 %	30 d	EU Method C.4-E (Determination of the "Ready" BiodegradabilityClosed Bottle Test)
(2-Methoxymethylethoxy)propan ol 34590-94-8	readily biodegradable	aerobic	76 %	28 d	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
(2-Methoxymethylethoxy)propan ol 34590-94-8	inherently biodegradable	aerobic	94 %	13 d	OECD Guideline 302 B (Inherent biodegradability: Zahn- Wellens/EMPA Test)

### 12.3. Bioaccumulative potential

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	Bioconcentratio n factor (BCF)	Exposure time	Temperature	Species	Method
methanol 67-56-1	< 10	72 h		Leuciscus idus melanotus	not specified

**12.4. Mobility in soil**

The table below presents the data of the classified substances present in the mixture.

Hazardous substances CAS-No.	LogPow	Temperature	Method
Butane, n- (< 0.1 % butadiene) 106-97-8	2,31	20 °C	other (measured)
acetone 67-64-1	-0,24		OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Ethanol 64-17-5	-0,35	24 °C	not specified
Isobutane 75-28-5	2,88	20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Butanone 78-93-3	0,3	40 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
methanol 67-56-1	-0,77		other guideline:
2-Butoxyethanol 111-76-2	0,81	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
(2-Methoxymethylethoxy)propanol 34590-94-8	0,004	25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

**12.5. Results of PBT and vPvB assessment**

The table below presents the data of the classified substances present in the mixture.

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.
acetone 67-64-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Ethanol 64-17-5	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.
Butanone 78-93-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
methanol 67-56-1	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-Butoxyethanol 111-76-2	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
(2-Methoxymethylethoxy)propanol 34590-94-8	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.

**SECTION 14: Transport information****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
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	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

**SECTION 15: Regulatory information****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)	92,75 %

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. Please see [https://ec.europa.eu/home-affairs/what-we-do/policies/counter-terrorism/protection/implementation-explosives-precursors-legislation\\_en](https://ec.europa.eu/home-affairs/what-we-do/policies/counter-terrorism/protection/implementation-explosives-precursors-legislation_en).

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**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.  
H280 Contains gas under pressure; may explode if heated.  
H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H331 Toxic if inhaled.  
H336 May cause drowsiness or dizziness.  
H370 Causes damage to organs.

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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