



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

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BONDERITE L-GP 325EF ACHESON known as EMRALON 325 EF

SDS No. : 364283  
V004.1

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

#### 1.1. Product identifier

BONDERITE L-GP 325EF ACHESON known as EMRALON 325 EF

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

Intended use:

Dry film 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

ua-productsafety.uk@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 8701 906777 - For further general health & safety, technical and practical advice on this product, please call +44 (0) 1606 593933 or write to: Technical Services; Henkel Limited; Road 5; Winsford Industrial Estate; Winsford; Cheshire; CW7 3QY- Email: [technical.services@henkel.co.uk](mailto:technical.services@henkel.co.uk)

### SECTION 2: Hazards identification

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

##### Classification (CLP):

Flammable liquids	Category 2
H225 Highly flammable liquid and vapour.	
Serious eye damage	Category 1
H318 Causes serious eye damage.	
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**

Ethyl acetate

n-butyl acetate

butan-1-ol

**Signal word:**

Danger

**Hazard statement:**

H225 Highly flammable liquid and vapour.

H318 Causes serious eye damage.

H336 May cause drowsiness or dizziness.

**Supplemental information**

EUH066 Repeated exposure may cause skin dryness or cracking.

**Precautionary statement:  
Prevention**

P210 Keep away from sparks/open flames. - No smoking.

P261 Avoid breathing mist/vapours.

P280 Wear eye protection.

**Precautionary statement:  
Response**

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P370+P378 In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction.**2.3. Other hazards**

None if used properly.

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**Following substances are present in a concentration  $\geq 0,1\%$  and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):**This mixture does not contain any substances in concentration  $\geq$  the concentration limit 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
Ethyl acetate 141-78-6 205-500-4 01-2119475103-46	40- 60 %	Flam. Liq. 2, H225 STOT SE 3, H336 Eye Irrit. 2, H319		EU OEL
n-butyl acetate 123-86-4 204-658-1 01-2119485493-29	10- < 20 %	Flam. Liq. 3, H226 STOT SE 3, H336		EU OEL
cellulose nitrate 9004-70-0	5- < 10 %	Expl. 1.1, H201		
butan-1-ol 71-36-3 200-751-6 01-2119484630-38	5- < 10 %	Flam. Liq. 3, H226 Acute Tox. 4, Oral, H302 STOT SE 3, H335 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336		
Propan-2-ol 67-63-0 200-661-7 01-2119457558-25	5- < 10 %	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336		

**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, consult doctor if complaint persists.

**Skin contact:**

Rinse with running water and soap. Apply replenishing cream. Change all contaminated clothing.  
In case of adverse health effects seek medical advice.

**Eye contact:**

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pains remain (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

**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**

After eye contact: Corrosive, may cause permanent damage to eyes (impairment of vision).

Vapors may cause drowsiness and dizziness.

Repeated exposure may cause skin dryness or cracking.

**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  
Fine water spray

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

Water jet (solvent-containing product).

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

Formation of toxic gases is possible during heating or in fires.

**5.3. Advice for firefighters**

Wear protective equipment.  
Wear self-contained breathing apparatus.

**Additional information:**

Cool endangered containers with water spray jet.

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

Avoid skin and eye contact.  
Danger of slipping on spilled product.

**6.2. Environmental precautions**

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

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

Take up with liquid-absorbing material (sand).  
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.  
Ensure that workrooms are adequately ventilated.  
See advice in section 8  
Ground/bond container and receiving equipment.  
Use explosion proof electric equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid open flames and sources of ignition.

**Hygiene measures:**

Wash hands before work breaks and after finishing work.  
Do not eat, drink or smoke while working.  
The workplace should be equipped with an emergency shower and eye-rinsing facility.

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

Ensure good ventilation/extraction.  
Temperatures between + 5 °C and + 30 °C

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

Dry film 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
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):	Indicative	ECLTV
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	Indicative	ECLTV
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):		EH40 WEL
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
n-Butyl acetate 123-86-4 [BUTYL ACETATE]	150	724	Time Weighted Average (TWA):		EH40 WEL
n-Butyl acetate 123-86-4 [N-BUTYL ACETATE]	150	723	Short Term Exposure Limit (STEL):	Indicative	ECLTV
n-Butyl acetate 123-86-4 [N-BUTYL ACETATE]	50	241	Time Weighted Average (TWA):	Indicative	ECLTV
n-Butyl acetate 123-86-4 [BUTYL ACETATE]	200	966	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Butan-1-ol 71-36-3 [BUTAN-1-OL]			Skin designation:	Can be absorbed through the skin.	EH40 WEL
Butan-1-ol 71-36-3 [BUTAN-1-OL]	50	154	Short Term Exposure Limit (STEL):	15 minutes	EH40 WEL
Propan-2-ol 67-63-0 [PROPAN-2-OL]	400	999	Time Weighted Average (TWA):		EH40 WEL
Propan-2-ol 67-63-0 [PROPAN-2-OL]	500	1.250	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
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):	Indicative	ECLTV
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	Indicative	ECLTV
Ethyl acetate 141-78-6 [ETHYL ACETATE]	200	734	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Ethyl acetate 141-78-6 [ETHYL ACETATE]	400	1.468	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
n-Butyl acetate 123-86-4 [N-BUTYL ACETATE]	150	723	Short Term Exposure Limit (STEL):	Indicative	ECLTV
n-Butyl acetate 123-86-4 [N-BUTYL ACETATE]	50	241	Time Weighted Average (TWA):	Indicative	ECLTV

n-Butyl acetate 123-86-4 [Butyl acetate]	150	723	Short Term Exposure Limit (STEL):	15 minutes Indicative OELV	IR_OEL
n-Butyl acetate 123-86-4 [Butyl acetate]	50	241	Time Weighted Average (TWA):	Indicative OELV	IR_OEL
Butan-1-ol 71-36-3 [BUTAN-1-OL]	20		Time Weighted Average (TWA):		IR_OEL
Propan-2-ol 67-63-0 [ISOPROPYL ALCOHOL]	200		Time Weighted Average (TWA):		IR_OEL
Propan-2-ol 67-63-0 [ISOPROPYL ALCOHOL]			Skin designation:	Can be absorbed through the skin.	IR_OEL
Propan-2-ol 67-63-0 [ISOPROPYL ALCOHOL]	400		Short Term Exposure Limit (STEL):	15 minutes	IR_OEL

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Ethyl acetate 141-78-6	aqua (freshwater)		0,24 mg/l				
Ethyl acetate 141-78-6	aqua (marine water)		0,024 mg/l				
Ethyl acetate 141-78-6	aqua (intermittent releases)		1,65 mg/l				
Ethyl acetate 141-78-6	sewage treatment plant (STP)		650 mg/l				
Ethyl acetate 141-78-6	sediment (freshwater)				1,15 mg/kg		
Ethyl acetate 141-78-6	sediment (marine water)				0,115 mg/kg		
Ethyl acetate 141-78-6	Air						no hazard identified
Ethyl acetate 141-78-6	Soil				0,148 mg/kg		
Ethyl acetate 141-78-6	oral				200 mg/kg		
n-Butyl acetate 123-86-4	aqua (freshwater)		0,18 mg/l				
n-Butyl acetate 123-86-4	aqua (marine water)		0,018 mg/l				
n-Butyl acetate 123-86-4	aqua (intermittent releases)		0,36 mg/l				
n-Butyl acetate 123-86-4	sewage treatment plant (STP)		35,6 mg/l				
n-Butyl acetate 123-86-4	sediment (freshwater)				0,981 mg/kg		
n-Butyl acetate 123-86-4	sediment (marine water)				0,0981 mg/kg		
n-Butyl acetate 123-86-4	Soil				0,0903 mg/kg		
n-Butyl acetate 123-86-4	Air						no hazard identified
n-Butyl acetate 123-86-4	Predator						no potential for bioaccumulation
butan-1-ol 71-36-3	aqua (freshwater)		0,082 mg/l				
butan-1-ol 71-36-3	aqua (marine water)		0,0082 mg/l				
butan-1-ol 71-36-3	aqua (intermittent releases)		2,25 mg/l				
butan-1-ol 71-36-3	sewage treatment plant (STP)		2476 mg/l				
butan-1-ol 71-36-3	sediment (freshwater)				0,324 mg/kg		
butan-1-ol 71-36-3	sediment (marine water)				0,032 mg/kg		
butan-1-ol 71-36-3	Soil				0,017 mg/kg		
butan-1-ol 71-36-3	Air						no hazard identified
butan-1-ol 71-36-3	oral						no potential for bioaccumulation
Propan-2-ol 67-63-0	aqua (freshwater)		140,9 mg/l				
Propan-2-ol 67-63-0	aqua (marine water)		140,9 mg/l				
Propan-2-ol 67-63-0	sediment (freshwater)				552 mg/kg		
Propan-2-ol 67-63-0	sediment (marine water)				552 mg/kg		
Propan-2-ol	Soil				28 mg/kg		

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67-63-0							
Propan-2-ol 67-63-0	aqua (intermittent releases)		140,9 mg/l				
Propan-2-ol 67-63-0	sewage treatment plant (STP)		2251 mg/l				
Propan-2-ol 67-63-0	oral				160 mg/kg		



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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Ethyl acetate 141-78-6	Workers	inhalation	Acute/short term exposure - systemic effects		1468 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	Workers	inhalation	Acute/short term exposure - local effects		1468 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	Workers	dermal	Long term exposure - systemic effects		63 mg/kg	no hazard identified
Ethyl acetate 141-78-6	Workers	inhalation	Long term exposure - systemic effects		734 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	Workers	inhalation	Long term exposure - local effects		734 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	General population	Inhalation	Acute/short term exposure - systemic effects		734 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	General population	inhalation	Acute/short term exposure - local effects		734 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	General population	dermal	Long term exposure - systemic effects		37 mg/kg	no hazard identified
Ethyl acetate 141-78-6	General population	inhalation	Long term exposure - systemic effects		367 mg/m <sup>3</sup>	no hazard identified
Ethyl acetate 141-78-6	General population	oral	Long term exposure - systemic effects		4,5 mg/kg	no hazard identified
Ethyl acetate 141-78-6	General population	inhalation	Long term exposure - local effects		367 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	Workers	inhalation	Long term exposure - systemic effects		300 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	Workers	inhalation	Acute/short term exposure - systemic effects		600 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	Workers	inhalation	Long term exposure - local effects		300 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	Workers	inhalation	Acute/short term exposure - local effects		600 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	Workers	dermal	Long term exposure - systemic effects		11 mg/kg	no hazard identified
n-Butyl acetate 123-86-4	Workers	dermal	Acute/short term exposure - systemic effects		11 mg/kg	no hazard identified
n-Butyl acetate 123-86-4	General population	inhalation	Long term exposure - systemic effects		35,7 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	General population	inhalation	Acute/short term exposure - systemic effects		300 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	General population	inhalation	Acute/short term exposure - local effects		300 mg/m <sup>3</sup>	no hazard identified
n-Butyl acetate 123-86-4	General population	dermal	Long term exposure - systemic effects		6 mg/kg	no hazard identified
n-Butyl acetate 123-86-4	General population	dermal	Acute/short term exposure - systemic effects		6 mg/kg	no hazard identified
n-Butyl acetate 123-86-4	General population	oral	Long term exposure - systemic effects		2 mg/kg	no hazard identified
n-Butyl acetate 123-86-4	General population	oral	Acute/short term exposure -		2 mg/kg	no hazard identified

			systemic effects			
n-Butyl acetate 123-86-4	General population	inhalation	Long term exposure - local effects		35,7 mg/m <sup>3</sup>	no hazard identified
butan-1-ol 71-36-3	Workers	Inhalation	Long term exposure - local effects		310 mg/m <sup>3</sup>	no hazard identified
butan-1-ol 71-36-3	General population	dermal	Long term exposure - systemic effects		3,125 mg/kg	no hazard identified
butan-1-ol 71-36-3	General population	Inhalation	Long term exposure - systemic effects		55,357 mg/m <sup>3</sup>	no hazard identified
butan-1-ol 71-36-3	General population	inhalation	Long term exposure - local effects		155 mg/m <sup>3</sup>	no hazard identified
butan-1-ol 71-36-3	General population	oral	Long term exposure - systemic effects		1,562 mg/kg	no hazard identified
Propan-2-ol 67-63-0	Workers	dermal	Long term exposure - systemic effects		888 mg/kg	
Propan-2-ol 67-63-0	Workers	inhalation	Long term exposure - systemic effects		500 mg/m <sup>3</sup>	
Propan-2-ol 67-63-0	General population	dermal	Long term exposure - systemic effects		319 mg/kg	
Propan-2-ol 67-63-0	General population	inhalation	Long term exposure - systemic effects		89 mg/m <sup>3</sup>	
Propan-2-ol 67-63-0	General population	oral	Long term exposure - systemic effects		26 mg/kg	

**Biological Exposure Indices:**

None

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

Ensure good ventilation/suction at the workplace.

**Respiratory protection:**

In case of aerosol formation, we recommend wearing of appropriate respiratory protection equipment with ABEK P2 filter (EN 14387).

This recommendation should be matched to local conditions.

**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): Isobutylene-isoprene rubber (IIR; >= 0.7 mm thickness) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Isobutylene-isoprene rubber (IIR; >= 0.7 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:**

Protective eye equipment should conform to EN166.

Goggles which can be tightly sealed.

**Skin protection:**

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

Suitable protective clothing

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	liquid
Colour	Milky white
Odor	Solvent
Melting point	Not applicable, Product is a liquid
Solidification temperature	-84 °C (-119.2 °F)
Initial boiling point	77 °C (170.6 °F)no method
Flammability	Highly flammable.
Explosive limits	
lower	1,2 %(V);
upper	11,5 %(V);
Flash point	-7 °C (19.4 °F); no method
Auto-ignition temperature	426 °C (798.8 °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
Viscosity (kinematic) (40 °C (104 °F); )	250 - 400 mm <sup>2</sup> /s
Viscosity, dynamic (Brookfield; Instrument: RVT; 20 °C (68 °F); speed of rotation: 20 min <sup>-1</sup> )	260 - 400 mPa.s no method
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Partition coefficient: n-octanol/water	Not applicable
Vapour pressure (50 °C (122 °F))	Mixture 300 hPa;no method
Vapour pressure (55 °C (131 °F))	280 mbar;no method
Vapour pressure (20 °C (68 °F))	73 hPa
Density (20 °C (68 °F))	0,98 g/cm <sup>3</sup> no method
Relative vapour density: (20 °C)	3
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

Reaction with strong oxidants.

### 10.2. Chemical stability

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

See section reactivity

**10.4. Conditions to avoid**

No decomposition if used according to specifications.

**10.5. Incompatible materials**

See section reactivity.

**10.6. Hazardous decomposition products**

None if used for intended purpose.

In case of fire toxic gases can be released.

**SECTION 11: Toxicological information****1.1 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
Ethyl acetate 141-78-6	LD50	6.100 mg/kg	rat	not specified
n-butyl acetate 123-86-4	LD50	10.760 mg/kg	rat	OECD Guideline 423 (Acute Oral toxicity)
cellulose nitrate 9004-70-0	LD50	> 5.000 mg/kg	rat	not specified
butan-1-ol 71-36-3	LD50	790 mg/kg	rat	OECD Guideline 401 (Acute Oral Toxicity)
Propan-2-ol 67-63-0	LD50	5.840 mg/kg	rat	equivalent or similar to 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
Ethyl acetate 141-78-6	LD50	> 20.000 mg/kg	rabbit	Draize Test
n-butyl acetate 123-86-4	LD50	> 14.112 mg/kg	rabbit	OECD Guideline 402 (Acute Dermal Toxicity)
butan-1-ol 71-36-3	LD50	3.430 mg/kg	rabbit	equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity)
Propan-2-ol 67-63-0	LD50	12.870 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
Ethyl acetate 141-78-6	LC0	> 22,5 mg/l	dust/mist	6 h	rat	other guideline:
Ethyl acetate 141-78-6	LC50	> 22,5 mg/l	dust/mist	6 h	rat	other guideline:
n-butyl acetate 123-86-4	LC50	> 23,4 mg/l	mist	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)
butan-1-ol 71-36-3	LC50	> 17,76 mg/l	vapour	4 h	rat	equivalent or similar to 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
Ethyl acetate 141-78-6	slightly irritating	24 h	rabbit	equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
n-butyl acetate 123-86-4	not irritating		rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
butan-1-ol 71-36-3	irritating	2 h	rabbit	not specified
Propan-2-ol 67-63-0	slightly irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

**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
Ethyl acetate 141-78-6	slightly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
n-butyl acetate 123-86-4	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
butan-1-ol 71-36-3	Category I (irreversible effects on the eye)		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Propan-2-ol 67-63-0	Category II		rabbit	equivalent or similar to 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.

Hazardous substances CAS-No.	Result	Test type	Species	Method
Ethyl acetate 141-78-6	not sensitising	Guinea pig maximisation test	guinea pig	OECD Guideline 406 (Skin Sensitisation)
n-butyl acetate 123-86-4	not sensitising	Guinea pig maximisation test	guinea pig	not specified
butan-1-ol 71-36-3	not sensitising	Mouse local lymphnode assay (LLNA)	mouse	equivalent or similar to OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Propan-2-ol 67-63-0	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.

Hazardous substances CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Ethyl acetate 141-78-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Ethyl acetate 141-78-6	negative	in vitro mammalian chromosome aberration test	with and without		equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
n-butyl acetate 123-86-4	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
n-butyl acetate 123-86-4	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
butan-1-ol 71-36-3	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		Ames Test
butan-1-ol 71-36-3	negative	mammalian cell gene mutation assay	with and without		OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
butan-1-ol 71-36-3	negative	in vitro mammalian cell micronucleus test	without		not specified
Propan-2-ol 67-63-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		equivalent or similar to OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Propan-2-ol 67-63-0	negative	mammalian cell gene mutation assay	with and without		equivalent or similar to OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Ethyl acetate 141-78-6	negative	oral: gavage		hamster, Chinese	equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
n-butyl acetate 123-86-4	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
butan-1-ol 71-36-3	negative	oral: gavage		mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)
Propan-2-ol 67-63-0	negative	intraperitoneal		mouse	equivalent or similar to 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
Propan-2-ol 67-63-0		inhalation: vapour	104 w 6 h/d, 5 d/w	rat	male/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
Ethyl acetate 141-78-6	NOAEL P 1500 ppm	other:	inhalation	rat	other guideline:
butan-1-ol 71-36-3	NOAEL P 500 mg/kg	Two generation study	oral: gavage	rat	not specified
butan-1-ol 71-36-3	NOAEL P 2000 ppm NOAEL F1 2000 ppm	Two generation study	inhalation: vapour	rat	OECD Guideline 416 (Two- Generation Reproduction Toxicity Study)
Propan-2-ol 67-63-0	NOAEL P 853 mg/kg	One generation study	oral: drinking water	rat	equivalent or similar to OECD Guideline 415 (One- Generation Reproduction Toxicity Study)
Propan-2-ol 67-63-0	NOAEL P 500 mg/kg NOAEL F1 1.000 mg/kg	Two generation study	oral: gavage	rat	equivalent or similar to 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
Ethyl acetate 141-78-6	NOAEL 900 mg/kg	oral: gavage	90 d daily	rat	EPA OTS 795.2600 (Subchronic Oral Toxicity Test)
n-butyl acetate 123-86-4	NOAEL 125 mg/kg	oral: gavage	6 (interim sacrifice) or 13 w daily	rat	EPA OTS 798.2650 (90- Day Oral Toxicity in Rodents)
butan-1-ol 71-36-3	NOAEL 125 mg/kg	oral: gavage	13 w daily	rat	not specified
Propan-2-ol 67-63-0		inhalation: vapour	at least 104 w 6 h/d, 5 d/w	rat	OECD Guideline 451 (Carcinogenicity Studies)

**Aspiration hazard:**

The mixture is classified based on Viscosity data.

Hazardous substances CAS-No.	Viscosity (kinematic) Value	Temperature	Method	Remarks
Propan-2-ol 67-63-0	1,8 mm <sup>2</sup> /s	40 °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.

Hazardous substances CAS-No.	Value type	Value	Exposure time	Species	Method
Ethyl acetate 141-78-6	LC50	220 mg/l	96 h	Pimephales promelas	other guideline:
n-butyl acetate 123-86-4	LC50	18 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
cellulose nitrate 9004-70-0	LC50	> 1.000 mg/l	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
butan-1-ol 71-36-3	LC50	1.376 mg/l	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Propan-2-ol 67-63-0	LC50	> 9.640 - 10.000 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
Ethyl acetate 141-78-6	EC50	164 mg/l	48 h	Daphnia cucullata	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
n-butyl acetate 123-86-4	EC50	44 mg/l	48 h	Daphnia sp.	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
cellulose nitrate 9004-70-0	EC50	> 1.000 mg/l	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
butan-1-ol 71-36-3	EC50	1.328 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
Ethyl acetate 141-78-6	NOEC	2,4 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
n-butyl acetate 123-86-4	NOEC	23,2 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
butan-1-ol 71-36-3	NOEC	4,1 mg/l	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Propan-2-ol 67-63-0	NOEC	30 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
Ethyl acetate 141-78-6	EC50	> 2.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Ethyl acetate 141-78-6	NOEC	2.000 mg/l	96 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
n-butyl acetate 123-86-4	EC50	674,7 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
n-butyl acetate 123-86-4	EC10	295,5 mg/l	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
cellulose nitrate 9004-70-0	ErC50	> 90.000 mg/l	72 h	Scenedesmus sp.	OECD Guideline 201 (Alga, Growth Inhibition Test)
butan-1-ol 71-36-3	EC50	225 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
butan-1-ol 71-36-3	NOEC	129 mg/l	96 h	Pseudokirchneriella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Propan-2-ol 67-63-0	EC50	> 1.000 mg/l	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Propan-2-ol 67-63-0	NOEC	1.000 mg/l	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)

#### Toxicity to microorganisms

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
Ethyl acetate 141-78-6	EC10	2.900 mg/l	18 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
n-butyl acetate 123-86-4	IC50	356 mg/l	40 h	Ciliate (Tetrahymena pyriformis)	other guideline:
cellulose nitrate 9004-70-0	EC0	1.000 mg/l	30 min		not specified
butan-1-ol 71-36-3	EC10	2.476 mg/l	17 h	Pseudomonas putida	DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm- Test)
Propan-2-ol 67-63-0	EC50	> 1.000 mg/l	3 h	activated sludge	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

#### 12.2. Persistence and degradability

Hazardous substances CAS-No.	Result	Test type	Degradability	Exposure time	Method
Ethyl acetate 141-78-6	readily biodegradable	aerobic	100 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
n-butyl acetate 123-86-4	readily biodegradable	aerobic	83 %	28 d	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)
cellulose nitrate 9004-70-0	readily biodegradable	no data	> 60 %	28 d	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
butan-1-ol 71-36-3	readily biodegradable	aerobic	70 - 81 %	30 d	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)
Propan-2-ol 67-63-0	readily biodegradable	aerobic	70 - 84 %	30 d	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)

**12.3. Bioaccumulative potential**

Hazardous substances CAS-No.	Bioconcentration factor (BCF)	Exposure time	Temperature	Species	Method
Ethyl acetate 141-78-6	30	3 d	22,5 °C	Leuciscus idus melanotus	other guideline:

**12.4. Mobility in soil**

Hazardous substances CAS-No.	LogPow	Temperature	Method
Ethyl acetate 141-78-6	0,68	25 °C	EPA OPPTS 830.7560 (Partition Coefficient, n-octanol / H <sub>2</sub> O, Generator Column Method)
n-butyl acetate 123-86-4	2,3	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
butan-1-ol 71-36-3	1	25 °C	OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
Propan-2-ol 67-63-0	0,05		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
Ethyl acetate 141-78-6	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
n-butyl acetate 123-86-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
cellulose nitrate 9004-70-0	Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria
butan-1-ol 71-36-3	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Propan-2-ol 67-63-0	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**

The product contains organic solvents which are insoluble in water. According to the requirements of the ATV regulations for the discharge of wastewater from commercial and industrial plant, organic solvents which are immiscible with water can only be discharged to an extent which corresponds to their solubility in water. The local discharge regulations take precedence.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods**

Product disposal:

In consultation with the responsible local authority, must be subjected to special treatment.

Waste code

080111

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	1263
RID	1263
ADN	1263
IMDG	1263
IATA	1263

### 14.2. UN proper shipping name

ADR	PAINT
RID	PAINT
ADN	PAINT
IMDG	PAINT
IATA	Paint

### 14.3. Transport hazard class(es)

ADR	3
RID	3
ADN	3
IMDG	3
IATA	3

### 14.4. Packing group

ADR	II
RID	II
ADN	II
IMDG	II
IATA	II

### 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	Special provision 640D Tunnelcode: (D/E)
RID	Special provision 640D
ADN	Special provision 640D
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/EU)	80,8 %

**15.2. Chemical safety assessment**

A chemical safety assessment has been carried out.

**National regulations/information (Great Britain):**

Remarks	Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, e.g COSHH Essentials. EH40 Occupational Exposure Limits Chemicals (Hazard Information & Packaging for Supply) Regulations. The Personnel Protective Equipment at Work Regulations. The Carriage of Dangerous Goods by Road Regulations. The Health & Safety at Work Act 1974. (Note: Use latest editions/amendments of above referenced documents.)
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**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:

H201 Explosive; mass explosion hazard.  
H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.

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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**Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.**

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**Annex - Exposure Scenarios:**

Exposure Scenarios for ethyl acetate can be downloaded under the following link:  
<https://mysds.henkel.com/index.html#/appSelection>