



## Safety Data Sheet according to Regulation (EC) No1907/2006

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6381-35 LIQUID FLUX

SDS No. : 182779  
V004.2

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

#### 1.1. Product identifier

6381-35 LIQUID FLUX

#### Contains:

Propan-2-ol  
Rosin

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

Intended use:  
Liquid Flux

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

Henkel Limited  
2 Bishop Square Business Park  
AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933  
Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.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):


Flammable liquids	Category 2
H225 Highly flammable liquid and vapor.	
Serious eye irritation	Category 2
H319 Causes serious eye irritation.	
Skin sensitizer	Category 1
H317 May cause an allergic skin reaction.	
Specific target organ toxicity - single exposure	Category 3
H336 May cause drowsiness or dizziness.	
Target organ: Central Nervous System	

**Classification (DPD):**

- F - Highly flammable
- R11 Highly flammable.
- Sensitizing
- R43 May cause sensitisation by skin contact.
- Xi - Irritant
- R36 Irritating to eyes.
- R67 Vapours may cause drowsiness and dizziness.

**2.2. Label elements**

**Label elements (CLP):**

<b>Hazard pictogram:</b>	
<b>Signal word:</b>	Danger
<b>Hazard statement:</b>	H225 Highly flammable liquid and vapor. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
<b>Precautionary statement: Prevention</b>	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 Avoid breathing fume. P280 Wear protective gloves.
<b>Precautionary statement: Response</b>	P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention.

**Label elements (DPD):**

Xi - Irritant

F - Highly flammable



**Risk phrases:**

- R11 Highly flammable.
- R36 Irritating to eyes.
- R43 May cause sensitisation by skin contact.
- R67 Vapours may cause drowsiness and dizziness.

**Safety phrases:**

- S16 Keep away from sources of ignition - No smoking.
- S24 Avoid contact with skin.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S37 Wear suitable gloves.
- S51 Use only in well-ventilated areas.

**Contains:**

Rosin

**2.3. Other hazards**

Avoid breathing fumes given out during soldering.

Flux fumes may irritate the nose, throat and lungs and may after prolonged/repeated exposure give an allergic reaction (asthma).

After handling solder wash hands with soap and water before eating, drinking or smoking.

Keep out of reach of children.

**SECTION 3: Composition/information on ingredients****Declaration of the ingredients according to CLP (EC) No 1272/2008:**

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Propan-2-ol 67-63-0	200-661-7 01-2119457558-25	>= 40- < 50 %	Flammable liquids 2 H225 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3 H336
Rosin 8050-09-7	232-475-7 01-2119480418-32	>= 30- < 40 %	Skin sensitizer 1 H317
2-(2-Butoxyethoxy)ethanol 112-34-5	203-961-6 01-2119475104-44	>= 10- < 20 %	Serious eye irritation 2 H319
Morpholine 110-91-8	203-815-1 01-2119496057-30	>= 0,1- < 1 %	Flammable liquids 3 H226 Acute toxicity 4; Inhalation H332 Acute toxicity 3; Dermal H311 Acute toxicity 4; Oral H302 Skin corrosion 1B H314

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.

**Declaration of ingredients according to DPD (EC) No 1999/45:**

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Propan-2-ol 67-63-0	200-661-7 01-2119457558-25	>= 40 - < 50 %	F - Highly flammable; R11 Xi - Irritant; R36 R67
Rosin 8050-09-7	232-475-7 01-2119480418-32	>= 30 - < 40 %	R43
2-(2-Butoxyethoxy)ethanol 112-34-5	203-961-6 01-2119475104-44	>= 10 - < 20 %	Xi - Irritant; R36
Distillates (petroleum), hydrotreated light 64742-47-8	265-149-8 01-2119457273-39	>= 1 - < 5 %	Xn - Harmful; R65

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.

Substances without classification may have community workplace exposure limits available.

**SECTION 4: First aid measures****4.1. Description of first aid measures**

Inhalation:

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

**Skin contact:**

Rinse with running water and soap.  
Obtain medical attention if irritation persists.

**Eye contact:**

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

**Ingestion:**

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

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

SKIN: Rash, Urticaria.

EYE: Irritation, conjunctivitis.

Vapors may cause drowsiness and dizziness.

**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:**

Alcohol-resistant foam.  
Carbon dioxide.  
Dry powder.

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

Can form explosive gas/air mixtures.  
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.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.  
Wear protective equipment.

**6.2. Environmental precautions**

Do not let product enter drains.  
Prevent further leakage or spillage if safe to do so.

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

Remove all sources of ignition.  
For small spills wipe up with paper towel and place in container for disposal.  
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

**6.4. Reference to other sections**

See advice in section 8

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Use only in well-ventilated areas.  
Keep away from sources of ignition - no smoking.  
Wear suitable protective clothing, safety glasses and gloves.  
See advice in section 8  
Take measures to prevent the build-up of electrostatic charges.

## Hygiene measures:

- Good industrial hygiene practices should be observed.
- Wash hands before work breaks and after finishing work.
- Do not eat, drink or smoke while working.

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

- Ensure good ventilation/extraction.
- Store in a cool, well-ventilated place.
- Keep away from sources of ignition.

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

Liquid Flux

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational Exposure Limits**Valid for  
Great Britain

Ingredient	ppm	mg/m <sup>3</sup>	Type	Category	Remarks
PROPAN-2-OL 67-63-0	500	1.250	Short Term Exposure Limit (STEL):		EH40 WEL
PROPAN-2-OL 67-63-0	400	999	Time Weighted Average (TWA):		EH40 WEL
ROSIN-BASED SOLDER FLUX FUME 8050-09-7		0,05	Time Weighted Average (TWA):		EH40 WEL
ROSIN-BASED SOLDER FLUX FUME 8050-09-7		0,15	Short Term Exposure Limit (STEL):		EH40 WEL
2-(2-BUTOXYETHOXY)ETHANOL 112-34-5	15	101,2	Short Term Exposure Limit (STEL):		EH40 WEL
2-(2-BUTOXYETHOXY)ETHANOL 112-34-5	10	67,5	Time Weighted Average (TWA):		EH40 WEL
2-(2-BUTOXYETHOXY)ETHANOL 112-34-5	10	67,5	Time Weighted Average (TWA):	Indicative	ECLTV
2-(2-BUTOXYETHOXY)ETHANOL 112-34-5	15	101,2	Short Term Exposure Limit (STEL):	Indicative	ECLTV
MORPHOLINE 110-91-8	20	72	Short Term Exposure Limit (STEL):		EH40 WEL
MORPHOLINE 110-91-8			Skin designation:	Can be absorbed through the skin.	EH40 WEL
MORPHOLINE 110-91-8	10	36	Time Weighted Average (TWA):		EH40 WEL
MORPHOLINE 110-91-8	20	72	Short Term Exposure Limit (STEL):	Indicative	ECLTV
MORPHOLINE 110-91-8	10	36	Time Weighted Average (TWA):	Indicative	ECLTV

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
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 67-63-0	soil				28 mg/kg		
Propan-2-ol 67-63-0	aqua (intermittent releases)					140,9 mg/L	
Propan-2-ol 67-63-0	STP					2251 mg/L	
Propan-2-ol 67-63-0	oral					160 mg/kg food	
Rosin 8050-09-7	aqua (freshwater)					0,005 mg/L	
Rosin 8050-09-7	aqua (marine water)					0,0005 mg/L	
Rosin 8050-09-7	sediment (freshwater)				108 mg/kg		
Rosin 8050-09-7	sediment (marine water)				10,8 mg/kg		
Rosin 8050-09-7	soil				21,4 mg/kg		
Rosin 8050-09-7	STP					1000 mg/L	
2-(2-Butoxyethoxy)ethanol 112-34-5	aqua (freshwater)					1 mg/L	
2-(2-Butoxyethoxy)ethanol 112-34-5	aqua (marine water)					0,1 mg/L	
2-(2-Butoxyethoxy)ethanol 112-34-5	aqua (intermittent releases)					3,9 mg/L	
2-(2-Butoxyethoxy)ethanol 112-34-5	sediment (freshwater)				4 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	sediment (marine water)				0,4 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	STP					200 mg/L	
2-(2-Butoxyethoxy)ethanol 112-34-5	oral				56 mg/kg		
2-(2-Butoxyethoxy)ethanol 112-34-5	soil				0,4 mg/kg		

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Propan-2-ol 67-63-0	Workers	Dermal	Long term exposure - systemic effects		888 mg/kg bw/day	
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 bw/day	
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 bw/day	
Rosin 8050-09-7	Workers	Inhalation	Long term exposure - systemic effects		176,32 mg/m <sup>3</sup>	
Rosin 8050-09-7	Workers	Dermal	Long term exposure - systemic effects		25 mg/kg bw/day	
Rosin 8050-09-7	general population	Inhalation	Long term exposure - systemic effects		52,174 mg/m <sup>3</sup>	
Rosin 8050-09-7	general population	Dermal	Long term exposure - systemic effects		15 mg/kg bw/day	
Rosin 8050-09-7	general population	oral	Long term exposure - systemic effects		15 mg/kg bw/day	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	Inhalation	Long term exposure - systemic effects		67,5 mg/m <sup>3</sup>	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	Dermal	Long term exposure - systemic effects		20 mg/kg bw/day	
2-(2-Butoxyethoxy)ethanol 112-34-5	general population	Inhalation	Acute/short term exposure - local effects		50,6 mg/m <sup>3</sup>	
2-(2-Butoxyethoxy)ethanol 112-34-5	general population	Inhalation	Long term exposure - systemic effects		34 mg/m <sup>3</sup>	
2-(2-Butoxyethoxy)ethanol 112-34-5	general population	Dermal	Long term exposure - systemic effects		10 mg/kg bw/day	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	Inhalation	Acute/short term exposure - local effects		101,2 mg/m <sup>3</sup>	
2-(2-Butoxyethoxy)ethanol 112-34-5	Workers	Inhalation	Long term exposure - local effects		67,5 mg/m <sup>3</sup>	
2-(2-Butoxyethoxy)ethanol 112-34-5	general population	oral	Long term exposure - systemic effects		1,25 mg/kg bw/day	
2-(2-Butoxyethoxy)ethanol 112-34-5	general population	Inhalation	Long term exposure - local effects		34 mg/m <sup>3</sup>	

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

## Engineering controls:

Ensure adequate ventilation, especially in confined areas.

Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

Extraction is necessary to remove fumes evolved during reflow.

**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

**Hand protection:**

Chemical-resistant protective gloves (EN 374).

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

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

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

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

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

**Eye protection:**

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

**Skin protection:**

Wear suitable protective clothing.

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

Appearance	liquid yellow
Odor	alcohol-like
Odour threshold	No data available / Not applicable
pH	not applicable
Initial boiling point	82,0 °C (179.6 °F)
Flash point	12,0 °C (53.6 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure (25,0 °C (77 °F))	6,6 kPa
Density (25 °C (77 °F))	0,897 g/cm <sup>3</sup>
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Partially miscible
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	
lower	2,00 %(V)
upper	12,00 %(V)
Partition coefficient: n-octanol/water	Not determined
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

**9.2. Other information**

No data available / Not applicable



**SECTION 10: Stability and reactivity****10.1. Reactivity**

Reaction with strong oxidants.  
Dissolves aluminium and zinc slowly with formation of hydrogen.

**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 stored and applied as directed.

**10.5. Incompatible materials**

See section reactivity

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to release of irritating gases and vapors.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****General toxicological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**STOT-single exposure:**

May cause drowsiness or dizziness.

**Oral toxicity:**

May cause irritation to the digestive tract.  
Ingestion of large quantities may cause liver or kidney damage.

**Inhalative toxicity:**

Fumes evolved at soldering temperatures will irritate the nose, throat and lungs. Prolonged or repeated exposure to flux fumes may result in sensitisation in sensitive workers.

**Skin irritation:**

Prolonged or repeated contact may cause skin irritation.

**Eye irritation:**

Causes serious eye irritation.  
Fumes emitted during soldering may irritate the eyes.

**Sensitizing:**

May cause an allergic skin reaction.

**Acute oral toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Propan-2-ol 67-63-0	LD50	5.338 mg/kg	oral		rat	
Rosin 8050-09-7	LD50	2.800 mg/kg	oral		rat	
2-(2- Butoxyethoxy)ethanol 112-34-5	LD50	> 2.000 mg/kg	oral		rat	EU Method B.1 (Acute Toxicity (Oral))
Morpholine 110-91-8	LD50	1.900 mg/kg	oral		rat	BASF Test

**Acute inhalative toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Propan-2-ol 67-63-0	LC50	72,6 mg/l	inhalation	4 h	rat	

**Acute dermal toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Propan-2-ol 67-63-0	LD50	12.870 mg/kg	dermal		rabbit	
Rosin 8050-09-7	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)
2-(2- Butoxyethoxy)ethanol 112-34-5	LD50	2.800 mg/kg	dermal		rabbit	
Morpholine 110-91-8	LD50	500 mg/kg	dermal		rabbit	Draize Test

**Skin corrosion/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Propan-2-ol 67-63-0	slightly irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Rosin 8050-09-7	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2-(2- Butoxyethoxy)ethanol 112-34-5	not irritating		rabbit	Draize Test
Morpholine 110-91-8	corrosive	20 h	rabbit	BASF Test

**Serious eye damage/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Propan-2-ol 67-63-0	moderately irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Rosin 8050-09-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2-(2- Butoxyethoxy)ethanol 112-34-5	moderately irritating		rabbit	
Morpholine 110-91-8	corrosive	24 h	rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

**Respiratory or skin sensitization:**

Hazardous components CAS-No.	Result	Test type	Species	Method
Propan-2-ol 67-63-0	not sensitising	Buehler test	guinea pig	
2-(2- Butoxyethoxy)ethanol 112-34-5	not sensitising	Guinea pig maximisa- tion test	guinea pig	Magnusson and Kligman Method

**Germ cell mutagenicity:**

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Propan-2-ol 67-63-0	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
Rosin 8050-09-7	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
2-(2- Butoxyethoxy)ethanol 112-34-5	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

**Repeated dose toxicity**

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Propan-2-ol 67-63-0	LOAEL=5000	inhalation	13 weeks 6 hours/day, 5 days/week	mouse	
Propan-2-ol 67-63-0	NOAEL=1500	inhalation	13 weeks 6 hours/day, 5 days/week	mouse	
2-(2- Butoxyethoxy)ethanol 112-34-5	LOAEL=51 - 65 mg/kg	oral: gavage	90 days 5 days/week	rat	
2-(2- Butoxyethoxy)ethanol 112-34-5	NOAEL=< 50 mg/kg	oral: gavage	90 days 5 days/week	rat	
2-(2- Butoxyethoxy)ethanol 112-34-5	NOAEL=2 - 6 ppm	inhalation	90 days	rat	
2-(2- Butoxyethoxy)ethanol 112-34-5	NOAEL=> 2.000 mg/kg		13 weeks 6 hours/day, 5 days/week	rat	

**SECTION 12: Ecological information****General ecological information:**

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

**12.1. Toxicity****Ecotoxicity:**

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

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Propan-2-ol 67-63-0	LC50	9.640 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Propan-2-ol 67-63-0	EC50	13.299 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Propan-2-ol 67-63-0	EC50	> 1.000 mg/l	Algae	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	Algae	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Propan-2-ol 67-63-0	NOEC	30 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Rosin 8050-09-7	LC50	> 1.000 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Rosin 8050-09-7	EC50	911 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Rosin 8050-09-7	EC50	> 100 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	DIN 38412-09
2-(2-Butoxyethoxy)ethanol 112-34-5	LC50	1.300 mg/l	Fish	96 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	EC50	3.300 mg/l	Daphnia	24 h	Daphnia magna	
2-(2-Butoxyethoxy)ethanol 112-34-5	NOEC	> 100 mg/l	Algae	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC50	> 100 mg/l	Algae	96 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Morpholine 110-91-8	LC50	240 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
Morpholine 110-91-8	EC50	101 mg/l	Daphnia	24 h	other aquatic arthropod:	
Morpholine 110-91-8	EC0	10 mg/l	Algae	96 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	EC50	28 mg/l	Algae	96 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)

## 12.2. Persistence and degradability

### Persistence and Biodegradability:

The product is not biodegradable.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
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Propan-2-ol 67-63-0	readily biodegradable	aerobic	70 - 84 %	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)
Rosin 8050-09-7		aerobic	36 - 46 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2-(2-Butoxyethoxy)ethanol 112-34-5	readily biodegradable	aerobic	> 60 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Morpholine 110-91-8		aerobic	< 1 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

**12.3. Bioaccumulative potential / 12.4. Mobility in soil****Mobility:**

No data available.

**Bioaccumulative potential:**

No data available.

**Bioaccumulative potential:**

Octanol/Water distribution coefficient: Not determined

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Propan-2-ol 67-63-0	0,05					OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Rosin 8050-09-7	3 - 6,2					OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)
2-(2-Butoxyethoxy)ethanol 112-34-5	0,56					
Morpholine 110-91-8	-2,55				25 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

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

Hazardous components CAS-No.	PBT/vPvB
Propan-2-ol 67-63-0	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Rosin 8050-09-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
2-(2-Butoxyethoxy)ethanol 112-34-5	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Morpholine 110-91-8	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**12.6. Other adverse effects**

No data available.

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

**Product disposal:**

Dispose of as hazardous waste in compliance with local and national regulations.  
Incineration under controlled conditions is recommended.

**Disposal of uncleaned packages:**

Dispose of as unused product.

**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**

ADR	1219
RID	1219
ADNR	1219
IMDG	1219
IATA	1219

**14.2. UN proper shipping name**

ADR	ISOPROPANOL (solution)
RID	ISOPROPANOL (solution)
ADNR	ISOPROPANOL (solution)
IMDG	ISOPROPANOL (solution)
IATA	Isopropanol (solution)

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

ADR	3
RID	3
ADNR	3
IMDG	3
IATA	3

**14.4. Packaging group**

ADR	II
RID	II
ADNR	II
IMDG	II
IATA	II

**14.5. Environmental hazards**

ADR	not applicable
RID	not applicable
ADNR	not applicable
IMDG	not applicable
IATA	not applicable

**14.6. Special precautions for user**

ADR	not applicable
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	Tunnelcode: (D/E)
RID	not applicable
ADNR	not applicable
IMDG	not applicable
IATA	not applicable

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**VOC content 60 - 70 %  
(1999/13/EC)**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

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

Remarks	The Health & Safety at Work Act 1974. The Control of Substances Hazardous to Health Regulations. L5:General Approved Code of Practice to the COSHH Regulations. HS(G)97:A Step by Step Guide to the COSHH Regulations. HS(G)193: COSHH essentials: Easy steps to control chemicals. HS(G)51: The Storage of Highly Flammable Liquids in Containers. HS(G)140: The Safe Use and Handling of Highly Flammable Liquids EH9: The Spraying of Highly Flammable Liquids. IND (G)248L: Solder fume and you. IND(G)249L: Controlling health risks from rosin (colophony) based solder fluxes.
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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:

R11 Highly flammable.  
R36 Irritating to eyes.  
R43 May cause sensitisation by skin contact.  
R65 Harmful: may cause lung damage if swallowed.  
R67 Vapours may cause drowsiness and dizziness.  
H225 Highly flammable liquid and vapor.  
H226 Flammable liquid and vapor.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H336 May cause drowsiness or dizziness.

**Further information:**

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.