



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

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LOCTITE X33-12I known as FLUX X33-12I 5L

SDS No. : 182789  
V004.5

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

#### 1.1. Product identifier

LOCTITE X33-12I known as FLUX X33-12I 5L

#### Contains:

Propan-2-ol

#### 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.	
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.
- 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. 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.
<b>Precautionary statement: Response</b>	P337+P313 If eye irritation persists: Get medical advice/attention.

**Label elements (DPD):**

F - Highly flammable

Xi - Irritant



**Risk phrases:**

- R11 Highly flammable.
- R36 Irritating to eyes.
- R67 Vapours may cause drowsiness and dizziness.

**Safety phrases:**

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

**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.

**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	80- 100 %	Flammable liquids 2 H225 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 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.

**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	80 - 100 %	F - Highly flammable; R11 Xi - Irritant; R36 R67

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.  
Seek medical advice.

**Eye contact:**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Seek medical advice.

**Ingestion:**

Do not induce vomiting.  
Seek medical advice.

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

EYE: Irritation, conjunctivitis.

Prolonged or repeated contact may cause skin irritation.

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

See section: Description of first aid measures

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

Carbon dioxide.  
Alcohol-resistant foam.  
Dry powder.

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

Can form explosive gas/air mixtures.  
Thermal decomposition can lead to release of irritating gases and vapors.

**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.  
Avoid skin and eye contact.  
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

**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	

**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	worker	Dermal	Long term exposure - systemic effects		888 mg/kg bw/day	
Propan-2-ol 67-63-0	worker	inhalation	Long term exposure - systemic effects		500 mg/m3	
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/m3	
Propan-2-ol 67-63-0	general population	oral	Long term exposure - systemic effects		26 mg/kg bw/day	

**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
	colourless
Odor	alcohol-like
Odour threshold	No data available / Not applicable
pH	Not determined
Initial boiling point	82,0 °C (179.6 °F)
Flash point	14,00 °C (57.2 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	66,0000000 mbar
Density	0,8090 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)	Soluble
Solubility (qualitative) (Solvent: Water)	Soluble
Solidification temperature	No data available / Not applicable
Melting point	Not determined
Melting point	Not determined
Flammability	No data available / Not applicable
Auto-ignition temperature	399,0 °C (750.2 °F)
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**

Dissolves aluminium and zinc slowly with formation of hydrogen.

Reacts 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 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:**

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. 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.

Liquid may cause conjunctival irritation.

**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	

**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	

**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)

**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)

**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	

**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		

**Repeated dose toxicity**

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Propan-2-ol 67-63-0	NOAEL=1500	inhalation	13 weeks 6 hours/day, 5 days/week	mouse	
Propan-2-ol 67-63-0	LOAEL=5000	inhalation	13 weeks 6 hours/day, 5 days/week	mouse	

**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)
	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)

## 12.2. Persistence and degradability

### Persistence and degradability:

#### Degradation of surfactants

The product does not contain surface-active substances as defined in the EU Detergent Regulation (EC/648/2004).

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Propan-2-ol 67-63-0	readily biodegradable	aerobic	70 - 84 %	EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test)

## 12.3. Bioaccumulative potential / 12.4. Mobility in soil

### Mobility:

The product evaporates readily.

### 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)

## 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.

## 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

**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
ADNR	ISOPROPANOL
IMDG	ISOPROPANOL (EH&S)
IATA	Isopropanol (27015126)

**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 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 80,00 - 90,00 %

### 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:

R11 Highly flammable.  
R36 Irritating to eyes.  
R67 Vapours may cause drowsiness and dizziness.  
H225 Highly flammable liquid and vapor.  
H319 Causes serious eye irritation.  
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.