



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

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LOCTITE MF 300S known as FLUX MF300S 200L

SDS No. : 153930  
V006.0

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

#### 1.1. Product identifier

LOCTITE MF 300S known as FLUX MF300S 200L

#### 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 Ltd  
Wood Lane End  
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 1442 278000

Fax-no.: +44 1442 278071

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):

The substance or mixture is not hazardous according to Regulation (EC) No 1272/2008 (CLP).

#### 2.2. Label elements

##### Label elements (CLP):

The substance or mixture is not hazardous according to Regulation (EC) No 1272/2008 (CLP).

##### Supplemental information

EUH210 Safety data sheet available on request.

Contains 2,4,7,9-Tetramethyldec-5-yne-4,7-diol. May produce an allergic reaction.

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

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Glutaric acid 110-94-1	203-817-2	1- < 3 %	Eye Irrit. 2 H319
Adipic acid 124-04-9	204-673-3 01-2119457561-38	1- < 3 %	Eye Irrit. 2 H319
2,4,7,9-Tetramethyldec-5-yne-4,7-diol 126-86-3	204-809-1 01-2119954390-39	0,1- < 1 %	Eye Dam. 1 H318 Aquatic Chronic 3 H412 Skin Sens. 1 H317

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

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

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

**Skin contact:**

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

**Eye contact:**

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

**Ingestion:**

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

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

Prolonged or repeated contact may cause skin irritation.

Prolonged or repeated contact may cause eye 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.  
Wear protective equipment.  
Ensure adequate ventilation.

**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.

**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:

Good industrial hygiene practices should be observed.  
Do not eat, drink or smoke while working.  
After handling solder wash hands with soap and water before eating, drinking or smoking.

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

Store only in the original container.  
Ensure good ventilation/extraction.

**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

None

**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
Adipic acid 124-04-9 [ADIPIC ACID]		5	Time Weighted Average (TWA):		IR_OEL

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

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Adipic acid 124-04-9	STP					59,1 mg/L	
Adipic acid 124-04-9	aqua (freshwater)					0,126 mg/L	
Adipic acid 124-04-9	aqua (marine water)					0,0126 mg/L	
Adipic acid 124-04-9	aqua (intermittent releases)					0,46 mg/L	
Adipic acid 124-04-9	sediment (freshwater)				0,484 mg/kg		
Adipic acid 124-04-9	sediment (marine water)				0,0484 mg/kg		
Adipic acid 124-04-9	soil				0,0228 mg/kg		

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

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Adipic acid 124-04-9	general population	oral	Acute/short term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	Dermal	Long term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	oral	Long term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	Inhalation	Long term exposure - systemic effects		65 mg/m <sup>3</sup>	
Adipic acid 124-04-9	Workers	Dermal	Acute/short term exposure - systemic effects		38 mg/kg bw/day	
Adipic acid 124-04-9	Workers	Inhalation	Acute/short term exposure - systemic effects		264 mg/m <sup>3</sup>	
Adipic acid 124-04-9	Workers	Inhalation	Acute/short term exposure - local effects		5 mg/m <sup>3</sup>	
Adipic acid 124-04-9	Workers	Dermal	Long term exposure - systemic effects		38 mg/kg bw/day	
Adipic acid 124-04-9	Workers	Inhalation	Long term exposure - systemic effects		264 mg/m <sup>3</sup>	
Adipic acid 124-04-9	Workers	Inhalation	Long term exposure - local effects		5 mg/m <sup>3</sup>	
Adipic acid 124-04-9	general population	Dermal	Acute/short term exposure - systemic effects		19 mg/kg bw/day	
Adipic acid 124-04-9	general population	Inhalation	Acute/short term exposure - systemic effects		65 mg/m <sup>3</sup>	

**Biological Exposure Indices:**

None

**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

**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
	Clear, Colorless
Odor	None
Odour threshold	No data available / Not applicable
pH	acidic
Initial boiling point	100,0 °C (212 °F)
Flash point	Does not flash.
Decomposition temperature	No data available / Not applicable
Vapour pressure (20,0 °C (68 °F))	2,3300000 kPa
Density ( $\rho$ )	1,0110 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
Solidification temperature	No data available / Not applicable
Melting point	0,0 °C (32 °F)
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	Not applicable
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**

Strong oxidizing agents.  
Acids.  
Strong bases.

**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.

**Oral toxicity:**

This material is considered to have low toxicity if swallowed.

**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:**

Fumes emitted during soldering may irritate the eyes.

**Sensitizing:**

May cause allergic reaction.

**Acute oral toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Adipic acid 124-04-9	LD50	5.560 mg/kg	oral		rat	
2,4,7,9-Tetramethyldec-5- yne-4,7-diol 126-86-3	LD50	> 5.000 mg/kg	oral		rat	

**Acute inhalative toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Adipic acid 124-04-9	LC50	> 7,7 mg/l		4 h	rat	

**Acute dermal toxicity:**

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
2,4,7,9-Tetramethyldec-5-yne-4,7-diol 126-86-3	LD50	> 2.000 mg/kg	dermal		rat	OECD Guideline 402 (Acute Dermal Toxicity)

**Skin corrosion/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Adipic acid 124-04-9	slightly irritating		rabbit	

**Serious eye damage/irritation:**

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Adipic acid 124-04-9	moderately irritating		rabbit	
2,4,7,9-Tetramethyldec-5-yne-4,7-diol 126-86-3	Category I		rabbit	EPA OTS 798.4500 (Acute Eye Irritation)

**Respiratory or skin sensitization:**

Hazardous components CAS-No.	Result	Test type	Species	Method
Adipic acid 124-04-9	not sensitising		guinea pig	
2,4,7,9-Tetramethyldec-5-yne-4,7-diol 126-86-3	sensitising	Mouse local lymph node assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

**Germ cell mutagenicity:**

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Adipic acid 124-04-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		
2,4,7,9-Tetramethyldec-5-yne-4,7-diol 126-86-3	negative	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)

**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
Glutaric acid 110-94-1	LC50	330 mg/l	Fish	24 h	Lepomis macrochirus	OECD Guideline 203 (Fish, Acute Toxicity Test)
Adipic acid 124-04-9	LC50	97 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
Adipic acid 124-04-9	EC50	85,7 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Adipic acid 124-04-9	EC0	> 100 mg/l	Algae			OECD Guideline 201 (Alga, Growth Inhibition Test)
Adipic acid 124-04-9	EC50	> 100 mg/l	Algae			OECD Guideline 201 (Alga, Growth Inhibition Test)
Adipic acid 124-04-9	EC0	10.000 mg/l	Bacteria	16 h		DIN 38412, part 8 (Pseudomonas Zellvermehrungshe- mm-Test)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3	LC50	36 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3	EC50	99 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3	EC50	82 mg/l	Algae		Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3	NOEC	4,6 mg/l	Algae		Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3	EC 50	680 mg/l	Bacteria	3 h		OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)

## 12.2. Persistence and degradability

### Persistence and Biodegradability:

No data available.

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Glutaric acid 110-94-1	readily biodegradable		100 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
Adipic acid 124-04-9	readily biodegradable	no data	96 %	OECD Guideline 301 E (Ready biodegradability: Modified OECD Screening Test)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3		aerobic	5 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution 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 applicable

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
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Glutaric acid 110-94-1	-0,29					
Adipic acid 124-04-9	0,081				25 °C	OECD Guideline 107 (Partition Coefficient (n- octanol / water), Shake Flask Method)
2,4,7,9-Tetramethyldec-5-yne- 4,7-diol 126-86-3	2,8				22 °C	OECD Guideline 117 (Partition Coefficient (n- octanol / water), HPLC Method)

### 12.5. Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
Adipic acid 124-04-9	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 in accordance with local and national regulations.

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

Waste code

16 10 02 - aqueous liquid wastes other than those mentioned in 16 10 01

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**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.2. UN proper shipping name**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.3. Transport hazard class(es)**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.4. Packing group**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.5. Environmental hazards**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.6. Special precautions for user**  
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.
- 14.7. Transport in bulk according to Annex II of Marpol 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 < 3 %  
(2010/75/EC)

**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:

- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H412 Harmful to aquatic life with long lasting effects.

**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.

**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.**