



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

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LOCTITE C 511 99C 5C 1.0MM H known as 99C C511 5C 1.0MM  
0.5KG

SDS No. : 210764  
V003.3

Revision: 27.05.2015

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Replaces version from: 22.11.2013

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

#### 1.1. Product identifier

LOCTITE C 511 99C 5C 1.0MM H known as 99C C511 5C 1.0MM 0.5KG

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

Intended use:

Solder Wire

#### 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

**Supplemental information**      Contains Morpholinoethyl chloride hydrochloride. May produce an allergic reaction.

#### 2.3. Other hazards

This product contains modified rosin.

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****General chemical description:**

Solder materials

**Base substances of preparation:**Alloy, lead free  
organic acids**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

| Hazardous components<br>CAS-No.                     | EC Number<br>REACH-Reg No.    | content       | Classification   |
|---|-------------------------------|---------------|--|
| Tin<br>7440-31-5                                    | 231-141-8<br>01-2119486474-28 | 80- 100 %     |  |
| Morpholinoethyl chloride hydrochloride<br>3647-69-6 | 222-881-2                     | >= 0,1- < 1 % | Aquatic Chronic 3<br>H412<br>Acute Tox. 3<br>H301<br>Acute Tox. 4<br>H312<br>Skin Corr. 1B<br>H314<br>Skin Sens. 1<br>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:**

After contact with the hot melt: cool with water, seek medical attention.

Rinse with running water and soap.

Obtain medical attention if irritation persists.

**Eye contact:**

After contact with the hot melt: cool with water, seek medical attention.

Do not rub eyes; mechanical action may cause corneal damage.

Wash with plenty of water immediately and continue for several minutes, holding eyelid open. Consult a doctor.

**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**

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

**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:

Foam, extinguishing powder, carbon dioxide.  
Special powder against metal fire.

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

Do not use water on fires where molten metal is present.

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

The flux medium will give rise to irritating fumes.

See section 10.

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus.

## SECTION 6: Accidental release measures

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

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

Remove mechanically.

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

Extraction is necessary to remove fumes evolved during reflow.

See advice in section 8

Avoid breathing fumes given out during soldering.

Hygiene measures:

Good industrial hygiene practices should be observed.

Wash hands before work breaks and after finishing work.

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

Ensure adequate ventilation/vacuum off.

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

Store in a cool, dry place.

### 7.3. Specific end use(s)

Solder Wire

## 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 |
|---|-----|-------------------|------------------------------|--|-----------------|
| Tin<br>7440-31-5<br>[TIN (INORGANIC COMPOUNDS AS SN)] |     | 2                 | Time Weighted Average (TWA): | Indicative                                   | ECLTV           |

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

| Name on list     | Application Area   | Route of Exposure | Health Effect                                | Exposure Time | Value       | Remarks |
|------------------|--------------------|-------------------|--|---------------|-------------|---------|
| Tin<br>7440-31-5 | Workers            | Dermal            | Acute/short term exposure - systemic effects |               | 133,3 mg/kg |         |
| Tin<br>7440-31-5 | Workers            | Inhalation        | Acute/short term exposure - systemic effects |               | 11,75 mg/m3 |         |
| Tin<br>7440-31-5 | Workers            | Dermal            | Long term exposure - systemic effects        |               | 133,3 mg/kg |         |
| Tin<br>7440-31-5 | Workers            | Inhalation        | Long term exposure - systemic effects        |               | 11,75 mg/m3 |         |
| Tin<br>7440-31-5 | general population | Dermal            | Acute/short term exposure - systemic effects |               | 80 mg/kg    |         |
| Tin<br>7440-31-5 | general population | Inhalation        | Acute/short term exposure - systemic effects |               | 3,476 mg/m3 |         |
| Tin<br>7440-31-5 | general population | oral              | Acute/short term exposure - systemic effects |               | 80 mg/kg    |         |
| Tin<br>7440-31-5 | general population | Dermal            | Long term exposure - systemic effects        |               | 80 mg/kg    |         |
| Tin<br>7440-31-5 | general population | Inhalation        | Long term exposure - systemic effects        |               | 3,476 mg/m3 |         |
| Tin<br>7440-31-5 | general population | oral              | Long term exposure - systemic effects        |               | 80 mg/kg    |         |

#### Biological Exposure Indices:

None

#### 8.2. Exposure controls:

Engineering controls:

Extraction is necessary to remove fumes evolved during reflow.

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

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment.

Suitable respiratory protection:

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

This recommendation should be matched to local conditions.

Hand protection:  
Wear refractive gloves while working with the hot melt.

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.  
Protective clothing that covers arms and legs.

Advices to personal protection equipment:  
Wash off any dirt that gets onto the skin with lots of soap and water, skin care.  
Do not breathe dust and vapors.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |                                    |
|--|------------------------------------|
| Appearance                             | solid                              |
|  | grey                               |
| Odor                                   | odorless                           |
| Odour threshold                        | No data available / Not applicable |
| pH                                     | No data available / Not applicable |
| Initial boiling point                  | No data available / Not applicable |
| Flash point                            | Not applicable                     |
| Decomposition temperature              | No data available / Not applicable |
| Vapour pressure                        | No data available / Not applicable |
| Density                                | 7,3 g/cm <sup>3</sup>              |
| (25 °C (77 °F))                        |                                    |
| 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)               | Insoluble                          |
| (20 °C (68 °F); Solvent: Water)        |                                    |
| Solidification temperature             | No data available / Not applicable |
| Melting point                          | 227 °C (440.6 °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 | No data available / 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

Solder alloy will react with concentrated nitric acid to produce toxic fumes of nitrogen oxides.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

See section reactivity

### 10.4. Conditions to avoid

Avoid contact with acids and oxidizing agents.

**10.5. Incompatible materials**

None if used properly.

**10.6. Hazardous decomposition products**

Thermal decomposition can lead to release of irritating gases and vapors.  
See section 5.

**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:**

slightly irritating, does not require labeling.  
Fumes emitted during soldering may irritate the skin.

**Eye irritation:**

slightly irritating, does not require labeling.  
Fumes emitted during soldering may irritate the eyes.

**Acute oral toxicity:**

| Hazardous components<br>CAS-No.                        | Value<br>type | Value    | Route of<br>application | Exposure<br>time | Species | Method |
|--|---------------|----------|-------------------------|------------------|---------|--------|
| Morpholinoethyl chloride<br>hydrochloride<br>3647-69-6 | LD50          | 96 mg/kg | oral                    |                  | rat     |        |

**Acute inhalative toxicity:**

| Hazardous components<br>CAS-No. | Value<br>type | Value | Route of<br>application | Exposure<br>time | Species | Method |
|---------------------------------|---------------|-------|-------------------------|------------------|---------|--------|
|---------------------------------|---------------|-------|-------------------------|------------------|---------|--------|

**Acute dermal toxicity:**

| Hazardous components<br>CAS-No.                        | Value<br>type | Value       | Route of<br>application | Exposure<br>time | Species | Method |
|--|---------------|-------------|-------------------------|------------------|---------|--------|
| Morpholinoethyl chloride<br>hydrochloride<br>3647-69-6 | LD50          | 1.502 mg/kg | dermal                  |                  | 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:**

No data available for the product.

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

| Hazardous components<br>CAS-No.                        | Value<br>type | Value   | Acute<br>Toxicity<br>Study | Exposure<br>time | Species  | Method   |
|--|---------------|---------|----------------------------|------------------|--|--|
| Morpholinoethyl chloride<br>hydrochloride<br>3647-69-6 | LC50          | 32 mg/l | Fish                       | 96 h             | Salmo gairdneri (new name:<br>Oncorhynchus mykiss) | OECD Guideline<br>203 (Fish, Acute<br>Toxicity Test)                   |
| Morpholinoethyl chloride<br>hydrochloride<br>3647-69-6 | EC50          | 27 mg/l | Daphnia                    | 48 h             | Daphnia magna                                      | OECD Guideline<br>202 (Daphnia sp.<br>Acute<br>Immobilisation<br>Test) |

**12.2. Persistence and degradability****Persistence and Biodegradability:**

The product is not biodegradable.

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

The product is insoluble and sinks in water.

**Bioaccumulative potential:**

No data available.

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

No data available.

**12.6. Other adverse effects**

No data available.

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

Product disposal:

Wherever possible unwanted solder alloy should be recycled for recovery of metal.

Otherwise dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

Dispose of as unused product.

Waste code

06 04 05 - wastes containing other heavy metals

06 04 99 Wastes not otherwise specified

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. Packaging 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 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 < 1 %

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

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

Remarks IND (G)248L:Solder fume and you. IND(G)249L:Controlling health risks from rosin (colophony) based solder fluxes.



## 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:

- H301 Toxic if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- 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.

### **Label elements (DPD):**

The product is not subject to classification according to the calculation methods of the "General Classification Guideline for Preparations of the EC" as issued in the last version.

Contains Morpholinoethyl chloride hydrochloride. May produce an allergic reaction.

**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.**