



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

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LOCTITE 309 97SC 5C 0.7MM HA known as 97SC 309 5C  
0.7MM 0.5KG

SDS No. : 208468  
V005.0

Revision: 14.05.2019  
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Replaces version from: 11.11.2013

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

#### 1.1. Product identifier

LOCTITE 309 97SC 5C 0.7MM HA known as 97SC 309 5C 0.7MM 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 Belgium N.V.  
Esplanade 1  
1020 Brussels

Belgium

Phone: +32 (2) 421 2711  
Fax-no.: +32 (2) 420 7025

ua-productsafety.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 Colophony; Rosin, reaction products with acrylic acid. 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.

This product contains modified rosin.

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

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### 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 | 50- 100 %     |                           |
| Silver<br>7440-22-4                                      | 231-131-3                     | 1- < 3 %      |                           |
| Rosin, hydrogenated<br>65997-06-0                        | 266-041-3<br>01-2119487113-41 | 0,25- < 2,5 % | Aquatic Chronic 2<br>H411 |
| Colophony<br>8050-09-7                                   | 232-475-7<br>01-2119480418-32 | 0,1- < 1 %    | Skin Sens. 1<br>H317      |
| Rosin, reaction products with acrylic acid<br>83137-13-7 | 280-192-2                     | 0,1- < 1 %    | 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:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Flush eyes with plenty of water for at least 5 minutes. If irritation persists seek medical attention.

Ingestion:

Do not induce vomiting.

Seek medical advice.

### 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

### Combustion behaviour:

The product itself does not burn. Any fire extinguishing action should be appropriate to the surroundings.

### 5.1. Extinguishing media

#### **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

High temperatures may produce heavy metal dust, fumes or vapours.  
The flux medium will give rise to irritating fumes.

### 5.3. Advice for firefighters

Wear self-contained breathing apparatus.

#### **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

Wear protective equipment.

### 6.2. Environmental precautions

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

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

Scrape up spilled material and place in a closed container for disposal.  
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.  
When using do not eat, drink or smoke.  
Wash hands before breaks and immediately after handling the product.  
Avoid breathing fumes given out during soldering.  
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

Ensure good ventilation/extraction.  
Store in a cool, dry place.  
Refer to Technical Data Sheet

### 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 |
|--|-----|-------------------|-----------------------------------|--|-----------------|
| Silver<br>7440-22-4<br>[SILVER (METALLIC)]           |     | 0,1               | Time Weighted Average (TWA):      |  | EH40 WEL        |
| Silver<br>7440-22-4<br>[SILVER, METALLIC]            |     | 0,1               | Time Weighted Average (TWA):      | Indicative                                   | ECTLV           |
| Rosin<br>8050-09-7<br>[ROSIN-BASED SOLDER FLUX FUME] |     | 0,05              | Time Weighted Average (TWA):      |  | EH40 WEL        |
| Rosin<br>8050-09-7<br>[ROSIN-BASED SOLDER FLUX FUME] |     | 0,15              | Short Term Exposure Limit (STEL): |  | 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 |
|---|-----|-------------------|-----------------------------------|--|-----------------|
| Tin<br>7440-31-5<br>[TIN, METAL (ASSN)]   |     | 2                 | Time Weighted Average (TWA):      | Indicative OELV                              | IR_OEL          |
| Tin<br>7440-31-5<br>[TIN (INORGANIC COMPOUNDS AS SN)]                                       |     | 2                 | Time Weighted Average (TWA):      | Indicative                                   | ECTLV           |
| Silver<br>7440-22-4<br>[SILVER (METALLIC)]  |     | 0,1               | Time Weighted Average (TWA):      | Indicative OELV                              | IR_OEL          |
| Silver<br>7440-22-4<br>[SILVER, METALLIC]   |     | 0,1               | Time Weighted Average (TWA):      | Indicative                                   | ECTLV           |
| Rosin<br>8050-09-7<br>[ROSIN CORE SOLDER PYROLYSIS PRODUCTS (AS AIRBORNE TOTAL RESIN ACID)] |     | 0,05              | Time Weighted Average (TWA):      |  | IR_OEL          |
| Rosin<br>8050-09-7<br>[ROSIN CORE SOLDER PYROLYSIS PRODUCTS (AS AIRBORNE TOTAL RESIN ACID)] |     | 0,15              | Short Term Exposure Limit (STEL): | 15 minutes                                   | IR_OEL          |

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

| Name on list                      | Environmental<br>Compartment       | Exposure<br>period | Value           |     |                  |        | Remarks |
|-----------------------------------|------------------------------------|--------------------|-----------------|-----|------------------|--------|---------|
|                                   |                                    |                    | mg/l            | ppm | mg/kg            | others |         |
| Tin<br>7440-31-5                  | aqua<br>(freshwater)               |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | aqua (marine<br>water)             |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | sewage<br>treatment plant<br>(STP) |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | sediment<br>(freshwater)           |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | sediment<br>(marine water)         |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | Air                                |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | Soil                               |                    |                 |     |                  |        |         |
| Tin<br>7440-31-5                  | Predator                           |                    |                 |     |                  |        |         |
| Rosin, hydrogenated<br>65997-06-0 | aqua<br>(freshwater)               |                    | 0,0016<br>mg/l  |     |                  |        |         |
| Rosin, hydrogenated<br>65997-06-0 | aqua (marine<br>water)             |                    | 0,00016<br>mg/l |     |                  |        |         |
| Rosin, hydrogenated<br>65997-06-0 | aqua<br>(intermittent<br>releases) |                    | 0,016 mg/l      |     |                  |        |         |
| Rosin, hydrogenated<br>65997-06-0 | sediment<br>(freshwater)           |                    |                 |     | 0,007<br>mg/kg   |        |         |
| Rosin, hydrogenated<br>65997-06-0 | sediment<br>(marine water)         |                    |                 |     | 0,0007<br>mg/kg  |        |         |
| Rosin, hydrogenated<br>65997-06-0 | Soil                               |                    |                 |     | 0,00045<br>mg/kg |        |         |
| Rosin, hydrogenated<br>65997-06-0 | sewage<br>treatment plant<br>(STP) |                    | 1000 mg/l       |     |                  |        |         |
| Colophony<br>8050-09-7            | aqua<br>(freshwater)               |                    | 0,002 mg/l      |     |                  |        |         |
| Colophony<br>8050-09-7            | aqua (marine<br>water)             |                    | 0,0002<br>mg/l  |     |                  |        |         |
| Colophony<br>8050-09-7            | sediment<br>(freshwater)           |                    |                 |     | 0,007<br>mg/kg   |        |         |
| Colophony<br>8050-09-7            | sediment<br>(marine water)         |                    |                 |     | 0,001<br>mg/kg   |        |         |
| Colophony<br>8050-09-7            | Soil                               |                    |                 |     | 0 mg/kg          |        |         |
| Colophony<br>8050-09-7            | sewage<br>treatment plant<br>(STP) |                    | 1000 mg/l       |     |                  |        |         |
| Colophony<br>8050-09-7            | aqua<br>(intermittent<br>releases) |                    | 0,016 mg/l      |     |                  |        |         |

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

| Name on list                      | Application Area   | Route of Exposure | Health Effect                         | Exposure Time | Value                 | Remarks |
|-----------------------------------|--------------------|-------------------|---------------------------------------|---------------|-----------------------|---------|
| Tin<br>7440-31-5                  | General population | dermal            | Long term exposure - systemic effects |               | 80 mg/kg              |         |
| Tin<br>7440-31-5                  | Workers            | inhalation        | Long term exposure - systemic effects |               | 71 mg/m <sup>3</sup>  |         |
| Tin<br>7440-31-5                  | Workers            | dermal            | Long term exposure - systemic effects |               | 10 mg/kg              |         |
| Tin<br>7440-31-5                  | General population | inhalation        | Long term exposure - systemic effects |               | 17 mg/m <sup>3</sup>  |         |
| Tin<br>7440-31-5                  | General population | oral              | Long term exposure - systemic effects |               | 5 mg/kg               |         |
| Rosin, hydrogenated<br>65997-06-0 | Workers            | Inhalation        | Long term exposure - systemic effects |               | 117 mg/m <sup>3</sup> |         |
| Rosin, hydrogenated<br>65997-06-0 | Workers            | dermal            | Long term exposure - systemic effects |               | 17 mg/kg              |         |
| Rosin, hydrogenated<br>65997-06-0 | General population | Inhalation        | Long term exposure - systemic effects |               | 35 mg/m <sup>3</sup>  |         |
| Rosin, hydrogenated<br>65997-06-0 | General population | dermal            | Long term exposure - systemic effects |               | 10 mg/kg              |         |
| Rosin, hydrogenated<br>65997-06-0 | General population | oral              | Long term exposure - systemic effects |               | 10 mg/kg              |         |
| Colophony<br>8050-09-7            | Workers            | inhalation        | Long term exposure - systemic effects |               | 117 mg/m <sup>3</sup> |         |
| Colophony<br>8050-09-7            | Workers            | dermal            | Long term exposure - systemic effects |               | 17 mg/kg              |         |
| Colophony<br>8050-09-7            | General population | inhalation        | Long term exposure - systemic effects |               | 35 mg/m <sup>3</sup>  |         |
| Colophony<br>8050-09-7            | General population | dermal            | Long term exposure - systemic effects |               | 10 mg/kg              |         |
| Colophony<br>8050-09-7            | General population | oral              | Long term exposure - systemic effects |               | 10 mg/kg              |         |

**Biological Exposure Indices:**

None

**8.2. Exposure controls:**

## Engineering controls:

Ensure adequate ventilation, especially in confined areas.

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

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:**

Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

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.

Protective eye equipment should conform to EN166.

**Skin protection:**

Wear suitable protective clothing.

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

**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**

|  |                                    |
|--|------------------------------------|
| Appearance                             | solid                              |
|  | grey                               |
| Odor                                   | None                               |
| Odour threshold                        | No data available / Not applicable |
| pH                                     | Not applicable                     |
| Melting point                          | 217 °C (422.6 °F)                  |
| Solidification temperature             | No data available / Not applicable |
| Initial boiling point                  | Not determined                     |
| Flash point                            | Not applicable                     |
| Evaporation rate                       | No data available / Not applicable |
| Flammability                           | No data available / Not applicable |
| Explosive limits                       | No data available / Not applicable |
| Vapour pressure                        | Not applicable                     |
| Relative vapour density:               | Heavier than air                   |
| Density<br>(25 °C (77 °F))             | 7,5 g/cm <sup>3</sup>              |
| Bulk density                           | No data available / Not applicable |
| Solubility                             | No data available / Not applicable |
| Solubility (qualitative)               | Insoluble                          |
| Partition coefficient: n-octanol/water | Not applicable                     |
| Auto-ignition temperature              | No data available / Not applicable |
| Decomposition temperature              | 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 |
| 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

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

### General toxicological information:

Fumes emitted during soldering may irritate the skin.  
Prolonged or repeated contact may cause skin irritation.  
Prolonged or repeated contact may cause eye irritation.

### 11.1. Information on toxicological effects

#### Acute oral toxicity:

This material is considered to have low toxicity if swallowed.

| Hazardous substances<br>CAS-No.   | Value<br>type | Value         | Species | Method                                   |
|-----------------------------------|---------------|---------------|---------|--|
| Tin<br>7440-31-5                  | LD50          | > 2.000 mg/kg | rat     | OECD Guideline 423 (Acute Oral toxicity) |
| Silver<br>7440-22-4               | LD50          | > 2.000 mg/kg | rat     | OECD Guideline 423 (Acute Oral toxicity) |
| Rosin, hydrogenated<br>65997-06-0 | LD50          | > 2.000 mg/kg | rat     | OECD Guideline 423 (Acute Oral toxicity) |
| Colophony<br>8050-09-7            | LD50          | 2.800 mg/kg   | rat     | not specified                            |

#### Acute dermal toxicity:

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.   | Value<br>type | Value         | Species | Method                                     |
|-----------------------------------|---------------|---------------|---------|--|
| Tin<br>7440-31-5                  | LD50          | > 2.000 mg/kg | rat     | OECD Guideline 402 (Acute Dermal Toxicity) |
| Rosin, hydrogenated<br>65997-06-0 | LD50          | > 2.000 mg/kg | rat     | OECD Guideline 402 (Acute Dermal Toxicity) |
| Colophony<br>8050-09-7            | LD50          | > 2.000 mg/kg | rat     | OECD Guideline 402 (Acute Dermal Toxicity) |



**Acute 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.

No substance data available.

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.

No substance data available.

**Skin corrosion/irritation:**

Fumes emitted during soldering may irritate the skin.

| Hazardous substances<br>CAS-No. | Result                 | Exposure<br>time | Species | Method   |
|---------------------------------|------------------------|------------------|---------|--|
| Tin<br>7440-31-5                | not irritating         |                  | rabbit  | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Silver<br>7440-22-4             | slightly<br>irritating |                  | rabbit  | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Colophony<br>8050-09-7          | not irritating         | 4 h              | rabbit  | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

**Serious eye damage/irritation:**

Fumes emitted during soldering may irritate the eyes.

| Hazardous substances<br>CAS-No. | Result                 | Exposure<br>time | Species | Method  |
|---------------------------------|------------------------|------------------|---------|---|
| Tin<br>7440-31-5                | not irritating         |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Silver<br>7440-22-4             | slightly<br>irritating |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Colophony<br>8050-09-7          | not irritating         |                  | rabbit  | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

**Respiratory or skin sensitization:**

No data available.

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result   | Type of study/<br>Route of<br>administration           | Metabolic<br>activation/<br>Exposure time | Species | Method   |
|---------------------------------|----------|--|---|---------|--|
| Tin<br>7440-31-5                | negative | bacterial reverse<br>mutation assay (e.g<br>Ames test) | with and without                          |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)              |
| Tin<br>7440-31-5                | negative | in vitro mammalian<br>chromosome<br>aberration test    | with and without                          |         | OECD Guideline 473 (In vitro<br>Mammalian Chromosome<br>Aberration Test) |
| Tin<br>7440-31-5                | negative | mammalian cell<br>gene mutation assay                  | with and without                          |         | OECD Guideline 476 (In vitro<br>Mammalian Cell Gene<br>Mutation Test)    |
| Colophony<br>8050-09-7          | negative | bacterial reverse<br>mutation assay (e.g<br>Ames test) | with and without                          |         | OECD Guideline 471<br>(Bacterial Reverse Mutation<br>Assay)              |

**Carcinogenicity**

No data available.

**Reproductive toxicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result / Value        | Test type | Route of<br>application | Species | Method   |
|---------------------------------|-----------------------|-----------|-------------------------|---------|--|
| Tin<br>7440-31-5                | NOAEL P > 1.000 mg/kg |           | oral: gavage            | rat     | OECD Guideline 421<br>(Reproduction /<br>Developmental Toxicity<br>Screening Test) |

**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<br>CAS-No. | Result / Value      | Route of<br>application | Exposure time /<br>Frequency of<br>treatment | Species | Method   |
|---------------------------------|---------------------|-------------------------|--|---------|--|
| Tin<br>7440-31-5                | NOAEL > 1.000 mg/kg | oral: gavage            | 28 days<br>daily                             | rat     | OECD Guideline 407<br>(Repeated Dose 28-Day<br>Oral Toxicity in Rodents) |

**Aspiration hazard:**

No data available.

**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   |
|-----------------------------------|------------|----------|---------------|---------------------|--|
| Tin<br>7440-31-5                  | LC50       |          | 96 h          | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Rosin, hydrogenated<br>65997-06-0 | LC50       | 1,7 mg/l | 96 h          | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Colophony<br>8050-09-7            | LC50       |          | 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   |
|-----------------------------------|------------|-------|---------------|---------------|--|
| Rosin, hydrogenated<br>65997-06-0 | EL50       |       | 48 h          | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Colophony<br>8050-09-7            | EL50       |       | 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           |
|------------------------------|------------|-------|---------------|--------------------|------------------|
| Tin<br>7440-31-5             | NOEC       |       | 7 d           | Ceriodaphnia dubia | other guideline: |

**Toxicity (Algae):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No.   | Value<br>type | Value     | Exposure time | Species                         | Method   |
|-----------------------------------|---------------|-----------|---------------|---------------------------------|--|
| Tin<br>7440-31-5                  | EC50          |           | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Tin<br>7440-31-5                  | NOEC          |           | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Rosin, hydrogenated<br>65997-06-0 | EC50          | 39,6 mg/l | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Rosin, hydrogenated<br>65997-06-0 | NOEC          | 6,25 mg/l | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Colophony<br>8050-09-7            | EL50          |           | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>Growth Inhibition Test) |
| Colophony<br>8050-09-7            | NOELR         |           | 72 h          | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga,<br>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<br>CAS-No.   | Value<br>type | Value         | Exposure time | Species  | Method   |
|-----------------------------------|---------------|---------------|---------------|--|--|
| Tin<br>7440-31-5                  | EC50          |               | 3 h           | activated sludge of a<br>predominantly domestic sewage | OECD Guideline 209<br>(Activated Sludge,<br>Respiration Inhibition Test) |
| Rosin, hydrogenated<br>65997-06-0 | EC0           | > 10.000 mg/l | 18 h          |  | not specified  |
| Colophony<br>8050-09-7            | EC20          |               | 3 h           | activated sludge of a<br>predominantly domestic sewage | OECD Guideline 209<br>(Activated Sludge,<br>Respiration Inhibition Test) |

### 12.2. Persistence and degradability

The product is not biodegradable.

| Hazardous substances<br>CAS-No.   | Result                | Test type | Degradability | Exposure<br>time | Method  |
|-----------------------------------|-----------------------|-----------|---------------|------------------|---|
| Rosin, hydrogenated<br>65997-06-0 | readily biodegradable | aerobic   | 80 %          | 28 d             | OECD Guideline 301 B (Ready<br>Biodegradability: CO2 Evolution<br>Test) |
| Colophony<br>8050-09-7            | readily biodegradable | aerobic   | 71 %          | 28 d             | OECD Guideline 301 D (Ready<br>Biodegradability: Closed Bottle<br>Test) |

### 12.3. Bioaccumulative potential

No data available.

No substance data available.

### 12.4. Mobility in soil

The product is insoluble and sinks in water.

| Hazardous substances<br>CAS-No.   | LogPow    | Temperature | Method   |
|-----------------------------------|-----------|-------------|--|
| Rosin, hydrogenated<br>65997-06-0 | > 4       |             | not specified  |
| Colophony<br>8050-09-7            | > 3 - 6,2 |             | OECD Guideline 117 (Partition Coefficient (n-octanol/ water), HPLC Method) |

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

| Hazardous substances<br>CAS-No.   | PBT/ vPvB   |
|-----------------------------------|---|
| Tin<br>7440-31-5                  | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Silver<br>7440-22-4               | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Rosin, hydrogenated<br>65997-06-0 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Colophony<br>8050-09-7            | 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:

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

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  | Not dangerous goods |
| RID  | Not dangerous goods |
| ADN  | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

**14.2. UN proper shipping name**

|      |                     |
|------|---------------------|
| ADR  | Not dangerous goods |
| RID  | Not dangerous goods |
| ADN  | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

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

|      |                     |
|------|---------------------|
| ADR  | Not dangerous goods |
| RID  | Not dangerous goods |
| ADN  | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

**14.4. Packing group**

|      |                     |
|------|---------------------|
| ADR  | Not dangerous goods |
| RID  | Not dangerous goods |
| ADN  | Not dangerous goods |
| IMDG | Not dangerous goods |
| IATA | Not dangerous goods |

**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  | not applicable |
| RID  | not applicable |
| ADN  | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

**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 < 5,0 %  
(2010/75/EC)

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

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

|         |  |
|---------|--|
| Remarks | <p>The Health &amp; Safety at Work Act 1974.<br/>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.<br/>IND (G)248L:Solder fume and you. IND(G)249L:Controlling health risks from rosin (colophony) based solder fluxes.<br/>The Control of Lead at Work Regulations. L132:Control of Lead at Work: Approved Code of Practice and Guidance.<br/>Employees should be under medical surveillance if the risk assessment made under the Control of Lead at Work Regulations indicates they are likely to be exposed to significant concentrations of lead, or if an Employment Medical Advisor or appointed doctor so certifies.<br/>A woman employed on work which exposes her to lead should notify her employer as soon as possible if she becomes pregnant. The Employment Medical Advisor / Appointed Doctor should be informed of the pregnancy.<br/>Under the Management of Health and Safety at Work Regulations, employers are required to assess the particular risks to health at work of pregnant workers and workers who have recently given birth or who are breast feeding.</p> |
|---------|--|

**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.
- H411 Toxic to aquatic life with long lasting effects.

**Further information:**

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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.**