



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

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LOCTITE 362 99C 5C 1.2MM H known as 99C 362 5C

SDS No. : 221815
V005.3

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

1.1. Product identifier

LOCTITE 362 99C 5C 1.2MM H known as 99C 362 5C

Contains:

Rosin

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):

Skin sensitizer
H317 May cause an allergic skin reaction.

Category 1

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



Signal word:

Warning

Hazard statement:

H317 May cause an allergic skin reaction.

Precautionary statement: P261 Avoid breathing fume.
Prevention P280 Wear protective gloves.

Precautionary statement: P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
Response

2.3. Other hazards

Avoid breathing fumes given out during soldering.

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

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

Keep out of reach of children.

Do not heat above 500 °C

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 |
|---------------------------------|-------------------------------|----------------|----------------------|
| Tin 7440-31-5 | 231-141-8 01-2119486474-28 | >= 90- < 100 % | |
| Rosin 8050-09-7 | 232-475-7 01-2119480418-32 | >= 1- < 5 % | 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:

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).

SKIN: Rash, Urticaria.

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, foam, powder
Fine water spray

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.

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.
Do not heat above 500 °C
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.

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 ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|-----------------------------------|--|-----------------|
| Tin 7440-31-5 [TIN (INORGANIC COMPOUNDS AS SN)] | | 2 | Time Weighted Average (TWA): | Indicative | ECLTV |
| Rosin 8050-09-7 [ROSIN-BASED SOLDER FLUX FUME] | | 0,05 | Time Weighted Average (TWA): | | EH40 WEL |
| Rosin 8050-09-7 [ROSIN-BASED SOLDER FLUX FUME] | | 0,15 | Short Term Exposure Limit (STEL): | | EH40 WEL |

Predicted No-Effect Concentration (PNEC):

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|--------------------|---------------------------|-----------------|-------|-----|------------|-------------|---------|
| | | | mg/l | ppm | mg/kg | others | |
| Rosin 8050-09-7 | aqua (freshwater) | | | | | 0,005 mg/L | |
| Rosin 8050-09-7 | aqua (marine water) | | | | | 0,0005 mg/L | |
| Rosin 8050-09-7 | sediment (freshwater) | | | | 108 mg/kg | | |
| Rosin 8050-09-7 | sediment (marine water) | | | | 10,8 mg/kg | | |
| Rosin 8050-09-7 | soil | | | | 21,4 mg/kg | | |
| Rosin 8050-09-7 | STP | | | | | 1000 mg/L | |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|--------------------|--------------------|-------------------|--|---------------|-----------------|---------|
| Tin 7440-31-5 | Workers | Dermal | Acute/short term exposure - systemic effects | | 133,3 mg/kg | |
| Tin 7440-31-5 | Workers | Inhalation | Acute/short term exposure - systemic effects | | 11,75 mg/m3 | |
| Tin 7440-31-5 | Workers | Dermal | Long term exposure - systemic effects | | 133,3 mg/kg | |
| Tin 7440-31-5 | Workers | Inhalation | Long term exposure - systemic effects | | 11,75 mg/m3 | |
| Tin 7440-31-5 | general population | Dermal | Acute/short term exposure - systemic effects | | 80 mg/kg | |
| Tin 7440-31-5 | general population | Inhalation | Acute/short term exposure - systemic effects | | 3,476 mg/m3 | |
| Tin 7440-31-5 | general population | oral | Acute/short term exposure - systemic effects | | 80 mg/kg | |
| Tin 7440-31-5 | general population | Dermal | Long term exposure - systemic effects | | 80 mg/kg | |
| Tin 7440-31-5 | general population | Inhalation | Long term exposure - systemic effects | | 3,476 mg/m3 | |
| Tin 7440-31-5 | general population | oral | Long term exposure - systemic effects | | 80 mg/kg | |
| Rosin 8050-09-7 | Workers | Inhalation | Long term exposure - systemic effects | | 176,32 mg/m3 | |
| Rosin 8050-09-7 | Workers | Dermal | Long term exposure - systemic effects | | 25 mg/kg bw/day | |
| Rosin 8050-09-7 | general population | Inhalation | Long term exposure - systemic effects | | 52,174 mg/m3 | |
| Rosin 8050-09-7 | general population | Dermal | Long term exposure - systemic effects | | 15 mg/kg bw/day | |
| Rosin 8050-09-7 | general population | oral | Long term exposure - systemic effects | | 15 mg/kg bw/day | |

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.

Ensure good ventilation/extraction.

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.

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

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; ≥ 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; ≥ 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 | solid |
| | grey |
| Odor | None |
| Odour threshold | No data available / Not applicable |
| pH | Not applicable |
| Initial boiling point | No data available / Not applicable |
| Flash point | None |
| Decomposition temperature | No data available / Not applicable |
| Vapour pressure | Not applicable |
| Density (25 °C (77 °F)) | 7,3 g/cm ³ |
| Bulk density | No data available / Not applicable |
| Viscosity | No data available / Not applicable |
| Viscosity (kinematic) | No data available / Not applicable |
| Explosive properties | No data available / Not applicable |
| Solubility (qualitative) (Solvent: Water) | Insoluble |
| 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 | 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

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.

Dermal toxicity:

This product is considered to have low dermal toxicity.

Skin irritation:

Fumes emitted during soldering may irritate the skin.

Eye irritation:

Fumes emitted during soldering may irritate the eyes.

Sensitizing:

May cause an allergic skin reaction.

Acute oral toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---------------------------------|---------------|-------------|-------------------------|------------------|---------|--------|
| Rosin 8050-09-7 | LD50 | 2.800 mg/kg | oral | | rat | |

Acute inhalative toxicity:

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

Acute dermal toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---------------------------------|---------------|---------------|-------------------------|------------------|---------|--|
| Rosin 8050-09-7 | 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 |
|---------------------------------|----------------|------------------|---------|--|
| Rosin 8050-09-7 | not irritating | 4 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|------------------------------|----------------|---------------|---------|---|
| Rosin 8050-09-7 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

Germ cell mutagenicity:

| Hazardous components CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|------------------------------|----------|--|--------------------------------------|---------|---|
| Rosin 8050-09-7 | 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 |
|------------------------------|------------|--------------|----------------------|---------------|---|--|
| Rosin 8050-09-7 | LC50 | > 1.000 mg/l | Fish | 96 h | Pimephales promelas | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Rosin 8050-09-7 | EC50 | 911 mg/l | Daphnia | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Rosin 8050-09-7 | EC50 | > 100 mg/l | Algae | 72 h | Scenedesmus subspicatus (new name: Desmodesmus subspicatus) | DIN 38412-09 |

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

The product is not biodegradable.

| Hazardous components CAS-No. | Result | Route of application | Degradability | Method |
|------------------------------|--------|----------------------|---------------|---|
| Rosin 8050-09-7 | | aerobic | 36 - 46 % | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |

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

The product is insoluble and sinks in water.

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 |
|------------------------------|--------|-------------------------------|---------------|---------|-------------|--------|
|------------------------------|--------|-------------------------------|---------------|---------|-------------|--------|

| | | | | | | |
|--------------------|---------|--|--|--|--|---|
| Rosin 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 components CAS-No. | PBT/vPvB |
|---------------------------------|---|
| Rosin 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

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 < 3 %
(1999/13/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

National regulations/information (Great Britain):

| | |
|---------|--|
| Remarks | The Health & Safety at Work Act 1974. The Control of Substances Hazardous to Health Regulations. L5:General Approved Code of Practice to the COSHH Regulations. HS(G)97:A Step by Step Guide to the COSHH Regulations. HS(G)193: COSHH essentials: Easy steps to control chemicals. 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:
H317 May cause an allergic skin reaction.

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.