



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

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LOCTITE C 505 SN62 5C 0.46MM R known as SN62 CRYSTAL
505 5C

SDS No. : 221835
V003.0

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

1.1. Product identifier

LOCTITE C 505 SN62 5C 0.46MM R known as SN62 CRYSTAL 505 5C

Contains:

Lead

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@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):

| | |
|---|-------------|
| Toxic to reproduction | Category 1A |
| H360FD May damage fertility. May damage the unborn child. | |
| Effects on or via lactation | |
| H362 May cause harm to breast-fed children. | |
| Specific target organ toxicity - repeated exposure | Category 1 |
| H372 Causes damage to organs (Blood, Kidney, Central Nervous system) through prolonged or repeated exposure (inhalation-dust, oral) | |

2.2. Label elements

Label elements (CLP):

Hazard pictogram:



| | |
|--|---|
| Signal word: | Danger |
| Hazard statement: | H360FD May damage fertility. May damage the unborn child. H362 May cause harm to breast-fed children. H372 Causes damage to organs (Blood, Kidney, Central Nervous system) through prolonged or repeated exposure (inhalation-dust, oral) |
| Supplemental information | Restricted to professional users. |
| Precautionary statement: Prevention | P201 Obtain special instructions before use. P261 Avoid breathing fume. P263 Avoid contact during pregnancy and while nursing. P280 Wear protective gloves/protective clothing. |
| Precautionary statement: Response | P308+P313 IF exposed or concerned: Get medical advice/attention. |

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.

Regulations forbid the use of lead solder in any private or public drinking water supply system.

Do not heat above 500 °C

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 CAS-No. | EC Number REACH-Reg No. | content | Classification |
|---------------------------------|-------------------------------|-----------|--|
| Lead 7439-92-1 | 231-100-4 01-2119513221-59 | 25- 50 % | Lact. H362 STOT RE 1; Inhalation - dust H372 STOT RE 1; Oral H372 Repr. 1A H360FD |
| Tin 7440-31-5 | 231-141-8 01-2119486474-28 | 50- 100 % | |
| Silver 7440-22-4 | 231-131-3 | 1- < 5 % | |

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).

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

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.

Additional information:

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

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

Scrape up spilled material and place in a closed 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

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.

See advice in section 8

Avoid breathing fumes given out during soldering.

Do not heat above 500 °C

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 ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|--|-----|-------------------|------------------------------|--|-----------------|
| Lead 7439-92-1 [LEAD AND LEAD COMPOUNDS, OTHER THAN LEAD ALKYL (AS PB)] | | 0,15 | Time Weighted Average (TWA): | | EH40 WEL |
| Lead 7439-92-1 [INORGANIC LEAD AND ITS COMPOUNDS] | | 0,15 | Time Weighted Average (TWA): | | EU_OEL |
| Lead 7439-92-1 [LEAD AND ITS IONIC COMPOUNDS] | | | Biological Limit Value: | | EU_OEL_II |
| Silver 7440-22-4 [SILVER (METALLIC)] | | 0,1 | Time Weighted Average (TWA): | | EH40 WEL |
| Silver 7440-22-4 [SILVER, METALLIC] | | 0,1 | Time Weighted Average (TWA): | Indicative | ECLTV |

Occupational Exposure LimitsValid for
Ireland

| Ingredient [Regulated substance] | ppm | mg/m ³ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|-----|-------------------|------------------------------|--|-----------------|
| Tin 7440-31-5 [TIN, METAL (AS SN)] | | 2 | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| Tin 7440-31-5 [TIN (INORGANIC COMPOUNDS AS SN)] | | 2 | Time Weighted Average (TWA): | Indicative | ECLTV |
| Lead 7439-92-1 [LEAD AND ITS COMPOUNDS (EXCEPT TETRAETHYL LEAD)] | | 0,15 | Time Weighted Average (TWA): | Binding OELV | IR_OEL |
| Lead 7439-92-1 [INORGANIC LEAD AND ITS COMPOUNDS] | | 0,15 | Time Weighted Average (TWA): | | EU_OEL |
| Lead 7439-92-1 [LEAD AND ITS IONIC COMPOUNDS] | | | Biological Limit Value: | | EU_OEL_II |
| Silver 7440-22-4 [SILVER (METALLIC)] | | 0,1 | Time Weighted Average (TWA): | Indicative OELV | IR_OEL |
| Silver 7440-22-4 [SILVER, METALLIC] | | 0,1 | Time Weighted Average (TWA): | Indicative | ECLTV |

Predicted No-Effect Concentration (PNEC):

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|-------------------|------------------------------------|-----------------|----------|-----|------------|--------|---------|
| | | | mg/l | ppm | mg/kg | others | |
| Lead 7439-92-1 | aqua (freshwater) | | 5,6 µg/l | | | | |
| Lead 7439-92-1 | aqua (marine water) | | 3,4 µg/l | | | | |
| Lead 7439-92-1 | sediment (freshwater) | | | | 174 mg/kg | | |
| Lead 7439-92-1 | sediment (marine water) | | | | 164 mg/kg | | |
| Lead 7439-92-1 | soil | | | | 147 mg/kg | | |
| Lead 7439-92-1 | oral | | | | 10,9 mg/kg | | |
| Lead 7439-92-1 | sewage treatment plant (STP) | | 100 µg/l | | | | |
| Tin 7440-31-5 | aqua (freshwater) | | | | | | |
| Tin 7440-31-5 | aqua (marine water) | | | | | | |
| Tin 7440-31-5 | sewage treatment plant (STP) | | | | | | |
| Tin 7440-31-5 | sediment (freshwater) | | | | | | |
| Tin 7440-31-5 | sediment (marine water) | | | | | | |
| Tin 7440-31-5 | Air | | | | | | |
| Tin 7440-31-5 | soil | | | | | | |
| Tin 7440-31-5 | Predator | | | | | | |

Derived No-Effect Level (DNEL):

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|------------------|--------------------|-------------------|---------------------------------------|---------------|----------------------|---------|
| Tin 7440-31-5 | General population | dermal | Long term exposure - systemic effects | | 80 mg/kg | |
| Tin 7440-31-5 | Workers | inhalation | Long term exposure - systemic effects | | 71 mg/m ³ | |
| Tin 7440-31-5 | Workers | dermal | Long term exposure - systemic effects | | 10 mg/kg | |
| Tin 7440-31-5 | General population | inhalation | Long term exposure - systemic effects | | 17 mg/m ³ | |
| Tin 7440-31-5 | General population | oral | Long term exposure - systemic effects | | 5 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.

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

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.

The use of chemical resistant gloves such as Nitrile is recommended.

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 | 179,0 °C (354.2 °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 | No data available / Not applicable |
| Relative vapour density: | No data available / Not applicable |
| Density | 8,5000 g/cm ³ |
| () | |
| 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**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 (EC) No 1272/2008. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

STOT-repeated exposure:

Causes damage to organs (Blood, Kidney, Central Nervous system) through prolonged or repeated exposure (inhalation-dust, oral)

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.

Reproductive toxicity:

May damage fertility. May damage the unborn child.
May cause harm to breast-fed children.

Acute oral toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|---------------------------------|---------------|---------------|-------------------------|------------------|---------|--|
| Tin 7440-31-5 | LD50 | > 2.000 mg/kg | oral | | rat | OECD Guideline 423 (Acute Oral toxicity) |

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 |
|------------------------------|------------|---------------|----------------------|---------------|---------|--|
| Tin 7440-31-5 | 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 |
|------------------------------|---------------------|---------------|---------|--|
| Tin 7440-31-5 | not irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Silver 7440-22-4 | slightly irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|------------------------------|---------------------|---------------|---------|---|
| Tin 7440-31-5 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Silver 7440-22-4 | slightly 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 |
|------------------------------|----------|--|--------------------------------------|---------|--|
| Tin 7440-31-5 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| | negative | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |

Reproductive toxicity:

| Hazardous substances CAS-No. | Result / Classification | Species | Exposure time | Species | Method |
|------------------------------|-------------------------|--------------|---------------|---------|---|
| Tin 7440-31-5 | NOAEL P = > 1.000 mg/kg | oral: gavage | 56 days | rat | OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test) |

Repeated dose toxicity

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

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 (EC) No 1272/2008. 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 |
|---------------------------------|---------------|-------|----------------------------|------------------|---------|--------|
|---------------------------------|---------------|-------|----------------------------|------------------|---------|--------|

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.

Bioaccumulative potential:

Octanol/Water distribution coefficient: Not applicable

12.5. Results of PBT and vPvB assessment

| Hazardous components CAS-No. | PBT/vPvB |
|---------------------------------|---|
| Lead 7439-92-1 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Tin 7440-31-5 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Silver 7440-22-4 | 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**
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 < 5 %
(2010/75/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.
The Control of Lead at Work Regulations. L132:Control of Lead at Work: Approved Code of Practice and Guidance.
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.
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.
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.
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:

H360FD May damage fertility. May damage the unborn child.

H362 May cause harm to breast-fed children.

H372 Causes damage to organs through prolonged or repeated exposure.

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.