

## Material Safety Data Sheet

According to 1907/2006/EG, Article 31 and 2020/878/EU  
Revision date: 13.10.2022 version number 3 (replaces version 2.2) dated: 31.01.2021

### SECTION 1: Identification of the substance or mixture and the company

1.1 Product identifier: C.K Solder Wire 1mm Diameter Lead Free T6052 51

Trade name: ISO-Core "RA", SnAgCu, SnAg, SnCu lead free  
Sn97Ag3, Sn96Ag4 (Sn96,5Ag3,5)  
Sn97Cu3, Sn99Cu1 (Sn99,3Cu0,7)  
Sn96Ag3Cu1 (Sn96,5Ag3Cu0,5)  
Sn95Ag4Cu1 (Sn95,5Ag3,8Cu0,7)

1.2 Relevant identified uses of the substance or mixture and uses advised against  
Lead free solder wire for making electrical connections  
No other relevant uses identified

1.3 Details of the supplier providing the safety data sheet  
Manufacturer/Supplier:  
Carl Kammerling International Ltd  
CK House, Glan y Don Industrial Estate, Pwllheli, LL53 5LH

Tel.: +44(0)1758 701070  
Fax.: +44(0)1758 704777  
<http://www.carlkammerling.com>  
E-mail: [Sales@cki.uk.com](mailto:Sales@cki.uk.com)  
Information department:  
Technical support  
(Mo-Fri. 9:00-17:00)  
Tel.: +44(0)1758 701070  
E-mail: [Sales@cki.uk.com](mailto:Sales@cki.uk.com)  
1.4 Emergency number:  
+44(0)1758 701070

### SECTION 2: Hazards identification

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No. 1272/2008. The product is not classified according to the CLP regulation.

2.2 Marking elements  
Labeling according to Regulation (EC) No. 1272/2008 is not applicable  
Hazard pictograms omitted  
Signal word omitted  
Danger notices omitted  
Additional information:  
Contains rosin. Can cause allergic reactions.

2.3 Other hazards  
Results of PBT and vPvB assessment  
PBT: Not applicable.  
vPvB: Not applicable.

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### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Description: Mixture: consists of the substances listed below.

Hazardous ingredients:		
CAS: 7440-31-5 EINECS: 231-141-8 Reg.nr.: 01-2119486474-28	Tin Substance for which a Community workplace exposure limit applies	50-100%
CAS: 7440-22-4 EINECS: 231-131-3 Reg.nr.: 01-2119555669-21	Silver Substance for which a Community workplace exposure limit applies	0-<4%
CAS: 7440-50-8 EINECS: 231-159-6 Reg.nr.: 01-2119480154-42	Copper Aquatic Chronic 2, H411	0-<3,5%
CAS: 8050-09-7 EINECS: 232-475-7 Reg.nr.: 01-2119480418-32	Rosin Skin Sens. 1, H317	<1%

Additional information: For the wording of the listed risk phrases refer to section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General information: Take affected persons into the fresh air.

After inhalation: Supply fresh air, consult doctor in case of complaints.

After skin contact:

After contact with the molten product, cool quickly with cold water.

Do not pull solidified product from skin.

Send for medical treatment.

After eye contact:

Rinse eyes under running water for several minutes with eyelids open and consult a doctor.

After swallowing:

Rinse your mouth and drink plenty of water.

Send for medical treatment.

#### 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

#### 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing agents:

CO<sub>2</sub>, extinguishing powder or water spray jet. Fight larger fires with water spray or alcohol-resistant foam.

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

No further relevant information available.

#### 5.3 Advice for firefighters

Special protective equipment: Do not inhale explosion and fire gases.

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### SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures  
Wear personal protective clothing.

6.2 Environmental precautions: Do not allow to enter drains/surface water/ground water.

6.3 Methods and material for containment and cleaning up: Allow to solidify, pick up mechanically.

6.4 Reference to Other Sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protective equipment.

Information on disposal, see section 13.

### SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure suitable extraction on the processing machines.

No special actions required.

Information on protection against fire and explosion: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements for storage rooms and containers: No special requirements.

Information about storage in one common storage facility: Store away from food.

Further information on storage conditions: Store in a dry place.

Storage hazard class (VCI/D): 13

Classification according to the Ordinance on Industrial Safety and Health (BetrSichV): -  
54.0.18

7.3 Specific end use(s) No further relevant information available.

### SECTION 8: Exposure controls/personal protection

8.1 Parameters to monitor

Components with workplace-related limit values to be monitored:

7440-31-5 tin

MAK see Section IIb

7440-22-4 silver

AGW long-term value: 0.1 E mg/m<sup>3</sup> 8(II); DFG, EU

7440-50-8 copper

MAK long-term value: 0.01 A mg/m<sup>3</sup> as Cu

8050-09-7 rosin

MAK see Section IV

legislation

MAK: MAK and BAT List

AGW: TRGS 900

Recommended monitoring procedures according to 2020/878/EU No. 8.1.2:

7440-50-8 Copper: BIA 7755 (D), NIOSH 7301(E), MétroPol Fiche 003(F), MTA/MA-025/A92(ESP)

7440-22-4 Silver: ISO 15202(F, E), BIA 8600(D), NIOSH 7301(E)

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### Additional information:

The list is valid at the time of creation.

Peak limitation = excursion factor (1 to 8) and category (I,II) for short-term values.

Instantaneous value = biological limit value. Time of sampling:

- a) No restriction,
- b) End of exposure or End of shift,
- c) In the case of long-term exposure: after several previous shifts,
- d) Before the following shift,
- e) After end of exposure:-hours.

Other information: ARW = workplace reference value, H = skin resorbative. Y = A risk  
If the AG and BG are complied with, there is no need to worry about fetal damage,  
DFG = German Research Association (MAK Commission).

### Regulatory information

MAK (Germany): MAK- and BAT-List

OEL (Ireland): 2021 CoP for the Safety, Health and Welfare at Work

IOELV (EU): (EU) 2019/1831

AGW (Germany): TRGS 900

WEL (Great Britain): EH40/2020

Recommended monitoring procedures in accordance with 2020/878/EU no. 8.1.2:

7440-31-5 tin: NIOSH 7300, 7301, 7303(E), OSHA ID-121, ISO15202(E,F), MTA/MA-025/A92(ESP)

7440-50-8 copper: BIA 7755 (D), NIOSH 7301(E), MétroPol Fiche 003(F), MTA/MA-025/A92(ESP)

7440-22-4 silver: ISO 15202(F, E), BIA 8600(D), NIOSH 7301(E)

### 8.2 Exposure controls

#### Appropriate engineering controls

Ensure adequate ventilation. Remove the fumes using suitable suction devices.

Individual protective measures, such as personal protective equipment

#### Respiratory protection

In case of insufficient ventilation use respiratory protection. - Filters P2

#### Handguard

Selection of the glove material with consideration of the penetration times, rates of diffusion and the degradation.

Glove material -nitrile rubber

The selection of a suitable glove is not only based on the material, but also on others

Dependent on quality features and varies from manufacturer to manufacturer. Because the product is a preparation several substances, the resistance of glove materials cannot be calculated in advance and must therefore be checked before use.

Recommended material thickness:  $\geq 0.3$  mm

Penetration time of the glove material - The exact breakthrough time can be found out from the protective glove manufacturer and must be observed. The breakthrough times determined according to EN 16523-1:2015 are not carried out under practical conditions. Therefore, a maximum wearing time that corresponds to 50% of the breakthrough time is recommended.

Permeation value: level  $\leq 6$

Eye/face protection: Safety glasses

Body protection: Protective work clothing

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### SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties	
General Information	
Colour: Silver grey	Flammability Not determined.
Odour: Characteristic	Lower and upper explosion limit
Odour threshold: Not determined.	Lower: Not determined.
Melting point/freezing point: 217-227 °C	Upper: Not determined.
Boiling point or initial boiling point and boiling range Undetermined.	Flash point: Not applicable.
Decomposition temperature: Not determined.	
pH Not applicable.	Vapor pressure: Not applicable.
Viscosity:	Density and/or relative density
Kinematic viscosity Not applicable.	Density: Not determined.
Dynamic: Not applicable.	Relative density Not determined.
Solubility	Vapor density Not applicable.
Water: Insoluble.	Partition coefficient n-octanol/water (log value): Not determined.
Particle characteristics See item 3.	
9.2 Other information	
Appearance:	
Form: Solid	
Important information on protection of health and environment, and on safety.	Information with regard to physical hazard classes
Auto-ignition temperature: Product is not self-igniting.	Explosives Void
Explosive properties: Product does not present an explosion hazard.	Flammable gases Void
Solvent content:	Aerosols Void
Organic solvents: 0.0 %	Oxidising gases Void
VOC (EC) 0.00 %	Gases under pressure Void
Solids content: 100.0 %	Flammable liquids Void
Change in condition	Flammable solids Void
Evaporation rate Not applicable.	

### SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to avoid:

No decomposition if stored and handled as directed.

10.3 Possibility of hazardous reactions with acids, alkalis and oxidizing agents.

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials: No further relevant information available.

10.6 Hazardous decomposition products: Possible in traces.

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### SECTION 11: Toxicological information

11.1 Information on the hazard classes within the meaning of Regulation (EC) No. 1272/2008

Acute toxicity: Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on the available data, the classification criteria are not met.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on the available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure:

Based on the available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure:

Based on the available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

11.2 Information about other hazards

Endocrine disrupting properties: None of the ingredients are included.

### SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability No further relevant information available.

12.3 Bio accumulative potential No further relevant information available.

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

VPvB: Not applicable.

12.6 Endocrine Disruptive Properties

See Section 11 for information on endocrine disrupting properties.

12.7 Other adverse effects

Further ecological information:

General information:

Product contains heavy metals. Entry into the environment is to be avoided. Special pre-treatments are necessary.

Entry into the environment is to be avoided.

Water hazard class 1 (self-assessment): slightly hazardous to water

54.0.18: Do not get into ground water, water bodies or sewage system undiluted or in large quantities

### SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation: Contact the manufacturer about recycling.

European waste catalogue

17 04 07: mixed metals

15 01 02: plastic packaging outer packaging:

15 01 01: paper and cardboard packaging

Uncleaned packaging: not applicable:

Recommendation: Disposal according to official regulations.

### SECTION 14: Transport information

14.1 UN number or ID number

ADR, ADN, IMDG, IATA are not applicable

14.2 UN Proper Shipping Name ADR, ADN, IMDG, IATA are not applicable

14.3 Transport Hazard Classes ADR, ADN, IMDG, IATA class omitted

14.4 Packing Group ADR, IMDG, IATA not applicable

14.5 Environmental hazards: Marine pollutant: No

14.6 Special precautions for the User: Not applicable.

14.7 Bulk Carriage by Sea in accordance with IMO instruments: Not applicable.

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UN "Model Regulation": not applicable

### SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or the mixture Directive 2012/18/EU

Named dangerous substances - APPENDIX I: None of the ingredients are included.

REGULATION (EU) 2019/1021 on persistent organic pollutants (POPs): None of the ingredients are included.

RoHS Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment - Annex II:  
None of the ingredients are included

REGULATION (EU) 2019/1148 Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper concentration limit for an Article 5(3) permit)

None of the ingredients are included.

Appendix II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients are included. 54.0.18

Regulation (EC) No. 273/2004 on drug precursors

None of the ingredients are included.

Regulation (EC) No. 111/2005 laying down rules for the control of trade in drug substitutes between the Community and third countries

None of the ingredients are included.

National regulations:

Notes on employment restrictions: Observe employment restrictions for young people.

Technical guidance air; class III share in % 50-100

Water hazard class: WGK 1 (self-assessment): slightly hazardous to water.

15.2 Chemical safety assessment: A chemical safety assessment has not been carried out.

### SECTION 16: Other information

The information is based on the current state of our knowledge, but it does not represent any guarantee product properties and do not constitute a contractual legal relationship.

Relevant Sentences

H317 can cause allergic reactions to your skin.

H411 Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of

Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (US, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Sens. 1: Skin sensitization - Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard - Category 2

Reasons for changes

08/31/2015: Adaptation to VO 453/2010/EG, 830/2015/EU, 2012/18/EU

2017-05-29: Section 8.2

07/03/2018: Section 13

06/18/2019: Section 3

01/21/2021: Section 1, 3, 15 Information according to Annex I No. 1.3.4.2 of Regulation (EC) No. 1272/2008

Oct 13 2022: Review and revision / correction of translation from German language – all sections. V3

Version number of the previous version: 2

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