

# Safety data sheet

according to 1907/2006/EC, Article 31 and 2020/878/EU

Printing date 30.05.2022

Version number 8 (replaces version 7)

Revision: 30.05.2022

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

**1.1 Product identifier**Trade name: **ISO-Core "RA", SnAgCu, SnAg, SnCu leadfree****Sn97Ag3, Sn96Ag4 (Sn96,5Ag3,5)****Sn97Cu3, Sn99Cu1 (Sn99,3Cu0,7)****Sn96Ag3Cu1 (Sn96,5Ag3Cu0,5)****Sn95Ag4Cu1 (Sn95,5Ag3,8Cu0,7)**UFI: *not necessary***1.2 Relevant identified uses of the substance or mixture and uses advised against***No further relevant information available.***Application of the substance / the mixture** *Brazing alloy***1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:***Felder GmbH**Im Lipperfeld 11**D-46047 Oberhausen**Tel.: +49 (0)208/ 85035-0**Fax.: +49 (0)208/ 26080**http://www.felder.de**e-mail: info@felder.de***Further information obtainable from:***lab**(mo-thu. 8:00 a.m. - 4:00 p.m./ fr. 8:00 a.m. - 1:00 p.m.)**email: mprobst@felder.de***1.4 Emergency telephone number:** *Not necessary, due to the fact that the product does not need to be labelled.***EuPCS:** *PC-TEC-24*

## 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 Label elements****Labelling according to Regulation (EC) No 1272/2008** *Void***Hazard pictograms** *Void***Signal word** *Void***Hazard statements** *Void***Additional information:***Contains Rosin. May produce an allergic reaction.***2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.*

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures****Description:** *Mixture: consisting of the following components.***Dangerous components:**

CAS: 7440-31-5 EINECS: 231-141-8 Reg.nr.: 01-2119486474-28	<i>tin</i>	<i>substance with a Community workplace exposure limit</i>	<i>50-100%</i>
CAS: 7440-22-4 EINECS: 231-131-3 Reg.nr.: 01-2119555669-21	<i>silver</i>	<i>substance with a Community workplace exposure limit</i>	<i>0-&lt;4%</i>

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			(Contd. of page 1)
CAS: 7440-50-8 EINECS: 231-159-6 Index number: 029-024-00-X Reg.nr.: 01-2119480154-42	copper	⚠ Aquatic Chronic 2, H411	0-<3.5%
CAS: 8050-09-7 EINECS: 232-475-7 Index number: 650-015-00-7 Reg.nr.: 01-2119480418-32	Rosin	⚠ Skin Sens. 1, H317	0-<1%

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**General information:** Take affected persons out 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 rapidly with cold water.

Do not pull solidified product off the skin.

Seek medical treatment.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:**

Rinse out mouth and then drink plenty of water.

Seek 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>, powder or water spray. 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

**Protective equipment:** Do not inhale explosion gases or combustion gases.

## SECTION 6: Accidental release measures

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

**6.2 Environmental precautions:** Do not allow to enter sewers/ surface or 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 protection equipment.

See Section 13 for disposal information.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Ensure that suitable extractors are available on processing machines

No special measures required.

**Information about fire - and explosion protection:** No special measures required.

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

**Storage:**

**Requirements to be met by storerooms and receptacles:** No special requirements.

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

**Further information about storage conditions:** Store in dry conditions.

**Storage class:** 13

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

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
<b>7440-31-5 tin</b>	
MAK (Germany)	vgl.Abschn.IIb
OEL (Ireland)	Short-term value: 0.2** mg/m <sup>3</sup> Long-term value: 2* 0.1** mg/m <sup>3</sup> IOELV, *metal, oxide, inorg.compds., **org. compds.
<b>7440-22-4 silver</b>	
IOELV (EU)	Long-term value: 0.1 mg/m <sup>3</sup>
AGW (Germany)	Long-term value: 0.1 E mg/m <sup>3</sup> 8(II);DFG, EU
WEL (Great Britain)	Long-term value: 0.1 mg/m <sup>3</sup>
OEL (Ireland)	Long-term value: 0.1 mg/m <sup>3</sup> IOELV
<b>7440-50-8 copper</b>	
MAK (Germany)	Long-term value: 0.01 A mg/m <sup>3</sup> als Cu
WEL (Great Britain)	Short-term value: 2** mg/m <sup>3</sup> Long-term value: 0.2* 1** mg/m <sup>3</sup> *fume **dusts and mists (as Cu)
OEL (Ireland)	Long-term value: 0.2* 1** mg/m <sup>3</sup> *fume **dusts and mists
<b>8050-09-7 Rosin</b>	
MAK (Germany)	vgl.Abschn.IV
WEL (Great Britain)	Short-term value: 0.15 mg/m <sup>3</sup> Long-term value: 0.05 mg/m <sup>3</sup> Sen

#### Regulatory information

MAK (Germany): MAK- und BAT-Liste

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)

Additional information: The lists valid during the making were used as basis.

#### 8.2 Exposure controls

##### Appropriate engineering controls

Ensure adequate ventilation.

Remove the fumes by means of suitable suction devices.

##### Individual protection measures, such as personal protective equipment

##### Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P2

##### Hand protection

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

##### Material of gloves

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

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*Recommended thickness of the material:  $\geq 0.3$  mm*

**Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

*The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.*

*Value for the permeation: Level  $\leq 6$*

**Eyeface protection** Safety glasses

**Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties****General Information**

<b>Colour:</b>	Silver grey
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.
<b>Melting point/freezing point:</b>	217-227 °C
<b>Boiling point or initial boiling point and boiling range</b>	Undetermined.
<b>Flammability</b>	Not determined.
<b>Lower and upper explosion limit</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Flash point:</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.
<b>pH</b>	Not applicable.
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	Not applicable.
<b>Dynamic:</b>	Not applicable.
<b>Solubility</b>	
<b>water:</b>	Insoluble.
<b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
<b>Vapour pressure:</b>	Not applicable.
<b>Density and/or relative density</b>	
<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Particle characteristics</b>	See item 3.

**9.2 Other information**

<b>Appearance:</b>	
<b>Form:</b>	Solid
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Auto-ignition temperature:</b>	Product is not selfigniting.
<b>Explosive properties:</b>	Product does not present an explosion hazard.
<b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>VOC (EC)</b>	0.00 %
<b>Solids content:</b>	100.0 %
<b>Change in condition</b>	
<b>Evaporation rate</b>	Not applicable.

**Information with regard to physical hazard classes**

<b>Explosives</b>	Void
<b>Flammable gases</b>	Void
<b>Aerosols</b>	Void
<b>Oxidising gases</b>	Void
<b>Gases under pressure</b>	Void
<b>Flammable liquids</b>	Void
<b>Flammable solids</b>	Void

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Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

## SECTION 10: Stability and reactivity

- 10.1 Reactivity** *No further relevant information available.*
- 10.2 Chemical stability**  
**Thermal decomposition / conditions to be avoided:**  
*No decomposition if used and stored according to specifications.*
- 10.3 Possibility of hazardous reactions** *Reacts with acids, alkalis and oxidising 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.*

## SECTION 11: Toxicological information

- 11.1 Information on hazard classes as defined in 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 available data, the classification criteria are not met.*
- Respiratory or skin sensitisation** *Based on available data, the classification criteria are not met.*
- Germ cell mutagenicity** *Based on 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.*
- STOT-single exposure** *Based on available data, the classification criteria are not met.*
- STOT-repeated exposure** *Based on available data, the classification criteria are not met.*
- Aspiration hazard** *Based on available data, the classification criteria are not met.*
- 11.2 Information on other hazards**

### Endocrine disrupting properties

*None of the ingredients is listed.*

## 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 Bioaccumulative 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 disrupting properties** *For information on endocrine disrupting properties see section 11.*
- 12.7 Other adverse effects**
- Additional ecological information:**
- General notes:**  
*The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary*  
*Avoid transfer into the environment.*  
*Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water*

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Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Recommendation** Contact manufacturer for recycling information.

#### European waste catalogue

17 04 07: mixed metals

spool:

15 01 02: plastic packaging

overpack:

15 01 01: paper and cardboard packaging

**Uncleaned packaging:** void.

**Recommendation:** Disposal must be made according to official regulations.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR, ADN, IMDG, IATA

Void

### 14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

Void

### 14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

### 14.4 Packing group

ADR, IMDG, IATA

Void

### 14.5 Environmental hazards:

Marine pollutant:

No

### 14.6 Special precautions for user

Not applicable.

### 14.7 Maritime transport in bulk according to IMO

instruments

Not applicable.

UN "Model Regulation":

Void

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EU) 2019/1021 on persistent organic pollutants (POP) None of the ingredients are listed.

**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 is listed.

REGULATION (EU) 2019/1148

**Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

**Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

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

None of the ingredients is listed.

**Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

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**National regulations:****Information about limitation of use:** *Employment restrictions concerning juveniles must be observed.***Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***15.2 Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## SECTION 16: Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**Reasons for changes:**

31.08.2015: Adjustment to Regulation 453/2010/EC, 830/2015/EU, 2012/18/EU

29.05.2017: Section 8.2

03.07.2018: Section 13

18.06.2019: Section 3

21.01.2021: Section 1, 3, 15, 16

27.04.2021: Section 15

30.05.2022: Section 8.1, 15

**Information referred to in Annex I, point 1.3.4.2 of Regulation 1272/2008/EC:****Relevant phrases**

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

**Contact:** Dr. M. Probst**Version number of previous version:** 7**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 Harmonised System of Classification and Labelling 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 (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Sens. 1: Skin sensitisation – Category 1

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

**Safety data sheet SD3114**