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

Printing date 07.06.2022

Version number 4 (replaces version 3)

Revision: 21.03.2022

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

1.1 Product identifier

Trade name: ISO-Core "RA", SnPb(Cu)(Ag)

<u>Sn 60,0 - 67,0%, Pb 33,0 - 40,0%, Cu 0 - 2,2%, Ag 0 - 4,0%</u> Sn60Pb36Ag4, Sn60Pb38Cu2, Sn60Pb39Cu1, Sn62Pb36Ag2



UFI:

ISO-Core "RA" Sn60Pb36Ag4: 0KN2-43JY-E00Q-YVTC ISO-Core "RA" Sn62Pb38Ag2: 1HN2-M3VK-4007-9J79 ISO-Core "RA" Sn60Pb38Cu2: 0JJ9-C0UR-K00T-M40P ISO-Core "RA" Sn60Pb39Cu1: 0JJ9-C0UR-K00T-M40P

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

Soldering flux

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: Information which should have been included on the identification label. (Annex I No. 1.3.4 REGULATION (EC) No 1272/2008)

Metals in massive form, alloys, mixtures containing polymers and mixtures containing elastomers do not require a label

according to this Annex, if they do not present a hazard to human health by inhalation, ingestion or contact with skin or

to the aquatic environment in the form in which they are placed on the market, although classified as hazardous in accordance with the criteria of this Annex.

see chapter 2.2 **EuPCS:** *PC-TEC-24*

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008

GHS08 he

GHS08 health hazard

Repr. 1A H360FD-H362 May damage fertility. May damage the unborn child. May cause harm to breast-fed children.

Causes damage to organs through prolonged or repeated exposure.

STOT RE 1 H372 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The product is classified according to the CLP regulation. A label is not required (CLP Annex I, 1.3.4.1.) The information according to CLP Annex I, 1.3.4.2. will be announced in section 2.2.

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Hazard pictograms



Signal word Danger

Hazard-determining components of labelling:

lead

Hazard statements

H360FD-H362 May damage fertility. May damage the unborn child. May cause harm to breast-fed children. Causes damage to organs through prolonged or repeated exposure. H372

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

Avoid contact during pregnancy and while nursing. P263

P264 Wash thoroughly after handling.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Additional information:

Contains Rosin. May produce an allergic reaction.

Restricted to professional users.

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: 7440-22-4 EINECS: 231-131-3 Reg.nr.: 01-2119555669-21	silver	substance with a Community workplace exposure limit	0-<4%	
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-<2%	
CAS: 7439-92-1 EINECS: 231-100-4 Index number: 082-014-00-7 Reg.nr.: 01-2119513221-59	lead	Repr. 1A, H360FD-H362; STOT RE 1, H372	<40%	
CAS: 8050-09-7 EINECS: 232-475-7 Index number: 650-015-00-7 Reg.nr.: 01-2119480418-32	Rosin		<1%	
SVHC	*			
7430-02-1 lead				

7439-92-1 | lead

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.

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After eye contact: Rinse opened eye for several minutes under running water. After swallowing: Rinse out mouth and then drink plenty of water.

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:

CO2, 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: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions: Do not allow product to reach sewage system or any water course.

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

Extractors are required on all machines used for thermal processing or splinter removal processes. Provide suction extractors if dust is formed.

Any unavoidabledeposit of dust must be regularly removed.

Use appropriate industrial vacuum cleaners or central vacuum systems for dust removal.

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: 6.1 D 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:			
7440-31-5 tin			
MAK (Germany)	vgl.Abschn.IIb		
OEL (Ireland)	DEL (Ireland) Long-term value: 0.2** mg/m³ IOELV,*metal, oxide, inorg.compds.,**org. compds.		
7439-92-1 lead			
AGW (EU)	Long-term value: 0.15 mg/m³		
BOELV (EU)	Long-term value: 0.15 mg/m³ as Pb		
MAK (Germany)	vgl.Abschn.XII		
OEL (Ireland)	Long-term value: 0.15 mg/m³ Repr1A, BOELV		
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7440-22-4 silver	(Contd. of page 5			
	Long torm volue: 0.1 mg/m3			
IOELV (EU)	Long-term value: 0.1 mg/m ³			
AGW (Germany)	Long-term value: 0.1 E mg/m³ 8(II);DFG, EU			
WEL (Great Brita	n) Long-term value: 0.1 mg/m³			
OEL (Ireland)	Long-term value: 0.1 mg/m³ IOELV			
7440-50-8 coppe	r			
MAK (Germany)	Long-term value: 0.01 A mg/m³ als Cu			
WEL (Great Brita	L (Great Britain) Short-term value: 2** mg/m³ Long-term value: 0.2* 1** mg/m³ *fume **dusts and mists (as Cu)			
OEL (Ireland)	Long-term value: 0.2* 1** mg/m³ *fume **dusts and mists			
8050-09-7 Rosin				
MAK (Germany)	vgl.Abschn.IV			
WEL (Great Brita	n) Short-term value: 0.15 mg/m³ Long-term value: 0.05 mg/m³ Sen			
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) 7439-92-1 lead: NIOSH 7702(E) "lead"				
	biological limit values:			
7439-92-1 lead				
BAT (EU)	70 μg/dl blood lead			
BGW (Germany)	300 μg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: keine Beschränkung Parameter: Blei Frauen < 45 J.			
	400 μg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: keine Beschränkung Parameter: Blei			
Regulatory information BGW (Germany): TRGS 903 Additional information: The lists valid during the making were used as basis.				
Ensure adequate Remove the fume Individual protect General protecti Pregnant women	neering controls ventilation. s by means of suitable suction devices. tion measures, such as personal protective equipment ve and hygienic measures: should strictly avoid inhalation or skin contact. smoke or sniff while working.			

Use suitable respiratory protective device in case of insufficient ventilation. Filter P3

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Hand protection

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

heat-resistant glove with nitrile inner glove.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation 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. Recommended thickness of the material: ≥ 0.2 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 ≤ 6

As protection from splashes gloves made of the following materials are suitable: *Nitrile rubber, NBR* Eye/face protection *Safety glasses*

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

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General Information	
Colour:	Silver-coloured
Odour:	Characteristic
Odour threshold:	Not determined.
Melting point/freezing point:	Not applicable
Boiling point or initial boiling point and boiling range	Undetermined.
Flammability	Not determined.
Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.
Decomposition temperature:	Not determined.
pH	Not applicable.
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic:	Not applicable.
Solubility	
water:	Insoluble.
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure:	Not applicable.
Density and/or relative density	
Density at 20 °C:	8.5 g/cm³
Relative density	Not determined.
Vapour density	Not applicable.
Particle characteristics	See item 3.
9.2 Other information	
Appearance:	
Form:	Solid
Important information on protection of health and	00/14
environment, and on safety.	
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Solvent content:	
Organic solvents:	0.0 %
VOC (EC)	0.00 %
Solids content:	100.0 %
Change in condition	
Evaporation rate	Not applicable.
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Information with regard to physical hazard classes		
Explosives		
Flammable gases		
Aerosols		
Oxidising gases		
Gases under pressure		
Flammable liquids		
Flammable solids		
Self-reactive substances and mixtures		
Pyrophoric liquids		
Pyrophoric solids		
Self-heating substances and mixtures		
Substances and mixtures, which emit flammable		
gases in contact with water	Void	
Oxidising liquids		
Oxidising solids		
Organic peroxides		
Corrosive to metals		
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
Toxic fumes may be released if heated above the decomposition point.
Reacts with acids, alkalis and oxidising agents.
Develops toxic gases/fumes.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials: No further relevant information available.
10.6 Hazardous decomposition products:
Toxic metal oxide smoke
Leadoxide vapour

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

May damage fertility. May damage the unborn child. May cause harm to breast-fed children. STOT-single exposure Based on available data, the classification criteria are not met. STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure.

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.

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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
Not hazardous for water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation Contact manufacturer for recycling information.
European waste catalogue
17 04 09*: metal waste contaminated with hazardous substances
HP 5: Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP 10: Toxic for reproduction

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. REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 63, 30 DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

7439-92-1 lead

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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.

National regulations:

Additional classification according to Decree on Hazardous Materials, Annex II: Can cause cancer if present as respirable dust.

Information about limitation of use:

Employment restrictions concerning women of child-bearing age must be observed. Employment restrictions concerning pregnant and lactating women must be observed. Employment restrictions concerning juveniles must be observed. Waterhazard class: Generally not hazardous for water.

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

7439-92-1 lead

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:

26.08.2019: section 3, 13, 15 01.02.2021: section 1, 3, 7, 15, 16 21.03.2022: section 8, 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. 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. H411 Toxic to aquatic life with long lasting effects. Contact: Dr. M. Probst Version number of previous version: 3 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 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 SVHC: Substances of Very High Concern vPvB: very Persistent and very Bioaccumulative Skin Sens. 1: Skin sensitisation – Category 1 Repr. 1A: Reproductive toxicity – Category 1A STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2 Safety data sheet SD3454

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