

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31 and 2020/878/
EU

Printing date 03.06.2025

Version number 6 (replaces version 5)

Revision: 30.04.2025

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

1.1 Product identifier

Trade name: Soft solder alloy Sn100-403CLe(+) Refill, Sn100-403CLeS(+) Refill,
Sn100-403CLe(+03) Refill, HAL
SnCu0,7NiGe0,0055, SnCu0,7NiGe0,01

Registration number 01-2119486474-28

UFI: not applicable

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

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:

24-hour emergency information:

Giftnotruf Berlin, counselling in German and English

Phone: (030) 30686 700

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:

EUH208 Contains nickel powder. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

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**Dangerous components:**

CAS: 7440-31-5 EINECS: 231-141-8 Reg.nr.: 01-2119486474-28	tin substance with a Community workplace exposure limit	50-100%
CAS: 7440-02-0 EINECS: 231-111-4 Index number: 028-002-00-7 Reg.nr.: 01-2119438727-29	nickel (massive) ☠ Carc. 2, H351; STOT RE 1, H372 ⚠ Skin Sens. 1, H317	>0.1-<0.4%

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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:

Generally the product does not irritate the skin.

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.

If symptoms persist consult doctor.

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: Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Not required.

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

6.3 Methods and material for containment and cleaning up:

Pick up mechanically.

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

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

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

WES (Australia)	Long-term value: 2 mg/m ³
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MAK (Germany)	vgl.Abschn.IIb
OEL (Ireland)	Short-term value: 0.2** mg/m ³ Long-term value: 2* 0.1** mg/m ³ IOELV, *metal, oxide, inorg.compds., **org. compds.
7440-02-0 nickel powder	
WES (Australia)	Long-term value: 1 mg/m ³ Metal: Sn
AGW (Germany)	Long-term value: 0.006A; 0.030E* mg/m ³ 8(II);AGS, 24, Sh, Y, 10*, 31*
WEL (Great Britain)	Long-term value: 0.5 mg/m ³ as Ni; Sk; Carc
OEL (Ireland)	Long-term value: 0.5 mg/m ³ Sens
7439-92-1 lead	
AGW (EU)	Long-term value: 0.15 mg/m ³
BOELV (EU)	Long-term value: 0.15 mg/m ³ as Pb
WES (Australia)	Long-term value: 0.05 mg/m ³
MAK (Germany)	Long-term value: 0.004E mg/m ³ vgl.Abschn.XII
OEL (Ireland)	Long-term value: 0.15 mg/m ³ Repr1A, BOELV

Regulatory information

WES (Australia): Workplace exposure standards for airborne contaminants

MAK (Germany): MAK- und BAT-Liste

OEL (Ireland): 2024 CoP for the Safety, Health and Welfare at Work

AGW (Germany): TRGS 900

WEL (Great Britain): EH40/2020

BOELV (EU): EU 2022/431

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)

7439-92-1 lead: NIOSH 7702(E), OSHA 1006(E), OSHA ID-206(E)

Ingredients with biological limit values:

7439-92-1 lead	
BAT (EU)	70 µg/dl blood lead
BGW (Germany)	150 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.**8.2 Exposure controls****Appropriate engineering controls** No further data; see section 7.**Appropriate engineering controls:**

Ensure adequate ventilation.

Remove the fumes by means of suitable suction devices.

Individual protection measures, such as personal protective equipment**General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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

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Material of gloves

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.

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.

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**

Colour:	<i>Silver grey</i>
Odour:	<i>Odourless</i>
Odour threshold:	<i>Not determined.</i>
Melting point/freezing point:	<i>227 °C</i>
Boiling point or initial boiling point and boiling range	<i>Undetermined.</i>
Flammability	<i>Product is not flammable.</i>
Lower and upper explosion limit	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
Decomposition temperature:	<i>Not determined.</i>
pH	<i>Not applicable.</i>
Viscosity:	
Kinematic viscosity	<i>Not applicable.</i>
Dynamic:	<i>Not applicable.</i>
Solubility	
water:	<i>Insoluble.</i>
Partition coefficient n-octanol/water (log value)	<i>Not determined.</i>
Vapour pressure:	<i>Not applicable.</i>
Density and/or relative density	
Density at 20 °C:	<i>7.3 g/cm³</i>
Relative density	<i>Not determined.</i>
Vapour density	<i>Not applicable.</i>
Particle characteristics	<i>See section 3.</i>

9.2 Other information**Appearance:**

Form: *Solid*

Important information on protection of health and environment, and on safety.

Ignition temperature: *Not determined.*

Explosive properties: *Product does not present an explosion hazard.*

Solvent content:

Organic solvents: *0.0 %*

Solids content: *100.0 %*

Change in condition

Evaporation rate *Not applicable.*

Information with regard to physical hazard classes

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

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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 according to specifications.*
- 10.3 Possibility of hazardous reactions** *No dangerous reactions known.*
- 10.4 Conditions to avoid** *No further relevant information available.*
- 10.5 Incompatible materials:** *No further relevant information available.*
- 10.6 Hazardous decomposition products:** *No dangerous decomposition products known.*

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.*
Primary irritant effect:
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
Mixture was subjected to an investigation according to DIN 1811 - nickel permeability.
Sample number: 2016-03780
Result: <0.50 µg / cm² / week
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.*
chronic aquatic toxicity:
Classification conditions Copper (029-024-00-X) Environmental hazard not fulfilled.
Classification conditions Copper (029-026-00-0) specific surface area < 0,67 mm²/mg.
- 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.*

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12.7 Other adverse effects**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

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 06: tin

spool:

15 01 02: plastic packaging

overpack:

15 01 01: paper and cardboard packaging

Uncleaned packaging:

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 (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 27, 63, 72

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.

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.

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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:

21.12.2016: adaption to Regulation 453/2010/EG, 830/2015/EU, 2012/18/EU

15.10.2019: section 1, 3, 8, 13

05.07.2021: section 1, 15, 16

30.04.2025: section 1, 2, 3, 8, 12, 16

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.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

Contact: Dr. M. Probst

Version number of previous version: 5

Abbreviations and acronyms:

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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