

Safety data sheet

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

Printing date 24.11.2025

Version number 11 (replaces version 10)

Revision: 17.10.2025

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

1.1 Product identifier

Trade name: **Soft solder SnPb(Sb), PbSn(Sb)**
Sn 25,0-80,0%, Pb 20,0-75,0%, Sb 0,0-5,5%

**UFI:**

Sn60Pb40: VTJ9-V0WX-H009-K4RV
 Sn63Pb37: A3R2-T3KG-A002-4SQ7
 Pb50Sn50: F5R2-A38V-M00K-T499
 Pb60Sn40: E8R2-T3Y8-X002-FFVC
 Pb65Sn35: JHR2-C31F-U00J-FGMJ
 Pb67Sn33: DPR2-C3E8-F00J-S5SP
 Pb70Sn30: MCR2-A3NP-700J-4TFE
 Pb71Sn27Sb2: 1MR2-U3QV-5001-3U6M
 Pb74Sn25Sb1: NER2-U3C2-J002-S51G

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:

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



GHS08 health hazard

Repr. 1A H360FD May damage fertility. May damage the unborn child.

Lact. H362 May cause harm to breast-fed children.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS09 environment

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS08 GHS09

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Signal word *Danger***Hazard-determining components of labelling:***lead***Hazard statements***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.**H410 Very toxic to aquatic life with long lasting effects.***Precautionary statements***P260 Do not breathe dusts or mists.**P263 Avoid contact during pregnancy and while nursing.**P264 Wash thoroughly after handling.**P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***Additional information:***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: 7439-92-1 EINECS: 231-100-4 Index number: 082-014-00-7 Reg.nr.: 01-2119513221-59	<i>lead</i> ⚠ Repr. 1A, H360FD; Lact., H362; STOT RE 1, H372 ⚠ Aquatic Chronic 1, H410 (M=10)	20-75%
CAS: 7440-31-5 EINECS: 231-141-8 Reg.nr.: 01-2119486474-28	<i>tin</i> substance with a Community workplace exposure limit	25-80%
CAS: 7440-36-0 EINECS: 231-146-5 Reg.nr.: 01-2119475609-24	<i>antimony</i> substance with a Community workplace exposure limit	0-5%
SVHC		
7439-92-1 <i>lead</i>		

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.**Call a doctor immediately.***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.*

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Use fire extinguishing methods suitable to surrounding conditions.
 CO₂, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents: Water

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

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

6.2 Environmental precautions: No special measures required.

6.3 Methods and material for containment and cleaning up:

Allow to solidify. Pick up mechanically.
 Dispose contaminated material as waste according to section 13.

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 unavoidable deposit 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:

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
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

7440-31-5 tin

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.

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7440-36-0 antimony	
MAK (Germany)	vgl. Abschn. XII
WEL (Great Britain)	Long-term value: 0.5 mg/m ³ as Sb
OEL (Ireland)	Long-term value: 0.5 mg/m ³ as Sb

Regulatory information

BOELV (EU): EU 2022/431

MAK (Germany): MAK- und BAT-Liste

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

WEL (Great Britain): EH40/2020

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

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

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

7440-36-0 antimony: BIA 7175(D), MétroPol Fiche 003(F), NIOSH 7300, 7301, 7303(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**

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:**

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat, drink, smoke or sniff while working.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P3

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 palm

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 **Eye/face protection**

Tightly sealed goggles

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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>Not applicable</i>
Boiling point or initial boiling point and boiling range	<i>Undetermined.</i>
Flammability	<i>Not determined.</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:	<i>Not determined.</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:	<i>Solid</i>
Important information on protection of health and environment, and on safety.	
Ignition temperature:	<i>Product is not selfigniting.</i>
Explosive properties:	<i>Product does not present an explosion hazard.</i>
Solvent content:	
VOC (EC)	<i>0.00 %</i>
Change in condition	
Evaporation rate	<i>Not applicable.</i>

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

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Desensitised explosives

Void

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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

Toxic fumes may be released if heated above the decomposition point.

Reacts with strong acids and alkali.

Reacts with strong 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:

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.*

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 *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.*

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

The product does not contain substances with endocrine disrupting properties.

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.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Contact manufacturer for recycling information.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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

packaging:

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, IMDG, IATA

UN3077

14.2 UN proper shipping name

ADR

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
SOLID,
N.O.S. (LEAD)

IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (lead), MARINE POLLUTANT

IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S. (lead)

14.3 Transport hazard class(es)

ADR, IMDG, IATA



Class

9 Miscellaneous dangerous substances and articles.

Label

9

14.4 Packing group

ADR, IMDG, IATA

III

14.5 Environmental hazards:

Marine pollutant:

No

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

Special marking (IATA):

Symbol (fish and tree)

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles.

Hazard identification number (Kemler code):

90

EMS Number:

F-A,S-F

Stowage Category

A

Stowage Code

SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 1000 g

Transport category

3

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Tunnel restriction code

(-)

Remarks:

Special regulation SV 375 (not subject to ADR if inner packaging maximum 5kg/5liter)

Suspension of hazardous goods classification for solid lead (no environmental hazard) M366 'Environmentally hazardous metal alloys containing lead' (<https://unece.org/transport/road-transport/adr-multilateral-agreements>).

IMDG

Limited quantities (LQ)

5 kg

Excepted quantities (EQ)

Code: E1

*Maximum net quantity per inner packaging: 30 g**Maximum net quantity per outer packaging: 1000 g*

UN "Model Regulation":

UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
SOLID,
N.O.S. (LEAD), 9, III

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.*

Qualifying quantity (tonnes) for the application of lower-tier requirements 100 t

Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

REGULATION (EU) 2019/1021 on persistent organic pollutants (POP) *None of the ingredients are included.*REGULATION (EC) No 1907/2006 ANNEX XVII *Conditions of restriction: 63, 30*

Regulation (EU) No 649/2012

7439-92-1 | lead

Unterkategorie: i(2)
Beschränkung: sr

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

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 pregnant and lactating women must be observed.**Employment restrictions concerning women of child-bearing age 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

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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:

28.06.2018: chapter 3, SVHC
20.01.2020: chapter 1
15.04.2020: chapter 1
08.01.2021: chapter 1, 7
26.01.2021: chapter 1
25.08.2022: chapter 8, 15
08.12.2022: chapter 15 PIC
22.03.2024: chapter 8
19.02.2025: chapter 1, 2, 3, 14 (21. ATP)
17.10.2025: chapter 14

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

Relevant phrases

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.*
H410 *Very toxic to aquatic life with long lasting effects.*

Recommended restriction of use *For commercial users only*

Contact: *Dr. M. Probst*

Version number of previous version: 10

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)*
VOC: *Volatile Organic Compounds (USA, EU)*
PBT: *Persistent, Bioaccumulative and Toxic*
SVHC: *Substances of Very High Concern*
vPvB: *very Persistent and very Bioaccumulative*
Repr. 1A: *Reproductive toxicity – Category 1A*
STOT RE 1: *Specific target organ toxicity (repeated exposure) – Category 1*
Aquatic Chronic 1: *Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*

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