

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

Printing date 11.04.2024

Version number 4

Revision: 11.04.2024

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

**1.1 Product identifier**

**Trade name:** Sonderweichlotlegierung Bi50PbSnCd SWL 70°C  
 Special soft solders Bi50PbSnCd SWL 70°C  
 Bi50Pb27Sn13Cd10, Bi50Pb26,5Sn13,5Cd10



**UFI:**

Bi50Pb27Sn13Cd10: 9YM9-J05V-500N-4PAG  
 Bi50Pb26,5Sn13,5Cd10: 9YM9-J05V-500N-4PAG

**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](mailto: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](mailto:mprobst@felder.de)*

**1.4 Emergency telephone number:** Tel: +49 208 8503529

**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-H362 *May damage fertility. May damage the unborn child. May cause harm to breast-fed children.*

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



GHS09 environment

Aquatic Chronic 2 H411 *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

**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.*

H372 *Causes damage to organs through prolonged or repeated exposure.*

H411 *Toxic to aquatic life with long lasting effects.*

**Precautionary statements**

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

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- P263 Avoid contact during pregnancy and while nursing.  
 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:**

**Warning!** Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer.  
 Comply with the safety instructions.  
 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:** Void

SVHC	
7439-92-1	lead
7440-43-9	cadmium

**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.**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:** Use fire extinguishing methods suitable to surrounding conditions.**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:** 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.

Dispose contaminated material as waste according to section 13.

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#### 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.

Store under lock and key and with access restricted to technical experts or their assistants only.

**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 <sup>3</sup>
BOELV (EU)	Long-term value: 0.15 mg/m <sup>3</sup> as Pb
MAK (Germany)	Long-term value: 0.004E mg/m <sup>3</sup> vgl.Abschn.XII
OEL (Ireland)	Long-term value: 0.15 mg/m <sup>3</sup> Repr1A, BOELV

##### 7440-31-5 tin

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.

#### Regulatory information

BOELV (EU): EU 2022/431

MAK (Germany): MAK- und BAT-Liste

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

**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)

#### 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.

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## 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:** Filter P3

#### Hand protection



Protective gloves

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.

#### Protective gloves

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:  $\geq 0.33$  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  $\leq 6$

As protection from splashes gloves made of the following materials are suitable: Nitrile rubber, NBR

#### Eye/face protection



Tightly sealed goggles

**Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

Colour:	Silver grey
Odour:	Odourless
Odour threshold:	Not determined.
Melting point/freezing point:	70 °C
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.

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<b>Partition coefficient n-octanol/water (log value)</b>	<i>Not determined.</i>
<b>Vapour pressure:</b>	<i>Not applicable.</i>
<b>Density and/or relative density</b>	
<b>Density at 20 °C:</b>	<i>9.5 g/cm<sup>3</sup></i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not applicable.</i>
<b>Particle characteristics</b>	

See section 3.

**9.2 Other information****Appearance:****Form:** *Solid***Important information on protection of health and environment, and on safety.****Ignition temperature:***Product is not selfigniting.***Explosive properties:***Product does not present an explosion hazard.***Solvent content:****VOC (EC)** *0,00 %***Solids content:** *100.0 %***Change in condition****Evaporation rate***Not applicable.***Information with regard to physical hazard classes**

<b>Explosives</b>	<i>Void</i>
<b>Flammable gases</b>	<i>Void</i>
<b>Aerosols</b>	<i>Void</i>
<b>Oxidising gases</b>	<i>Void</i>
<b>Gases under pressure</b>	<i>Void</i>
<b>Flammable liquids</b>	<i>Void</i>
<b>Flammable solids</b>	<i>Void</i>
<b>Self-reactive substances and mixtures</b>	<i>Void</i>
<b>Pyrophoric liquids</b>	<i>Void</i>
<b>Pyrophoric solids</b>	<i>Void</i>
<b>Self-heating substances and mixtures</b>	<i>Void</i>
<b>Substances and mixtures, which emit flammable gases in contact with water</b>	<i>Void</i>
<b>Oxidising liquids</b>	<i>Void</i>
<b>Oxidising solids</b>	<i>Void</i>
<b>Organic peroxides</b>	<i>Void</i>
<b>Corrosive to metals</b>	<i>Void</i>
<b>Desensitised explosives</b>	<i>Void</i>

**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.***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***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.*

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**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** 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

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

## SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Recommendation

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

##### European waste catalogue

16 03 03\*: inorganic wastes containing hazardous substances

HP5: Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP10: Toxic for reproduction

HP14: Ecotoxic

overpack (PAP20):

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

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

IMDG

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

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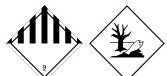
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IATA

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**ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cadmium)****14.3 Transport hazard class(es)**

ADR, IMDG, IATA

**Class****Label****9 Miscellaneous dangerous substances and articles.****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****Tunnel restriction code****(-)****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. (CADMIUM), 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.**Seveso category E2** Hazardous to the Aquatic Environment**Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t**Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 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: 23, 30, 63, 72**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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7440-43-9	cadmium
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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 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:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

**Other regulations, limitations and prohibitive regulations****Substances of very high concern (SVHC) according to REACH, Article 57**

7440-43-9	cadmium
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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:**

08.05.2018: Adaption to Regulation 453/2010/EC, 930/2015/EU, 2012/18/EU, 2016/918/EU, 2016/1179/EU

30.09.2018: section 3, 15 SVHC

11.04.2024: section 1, 2, 8, 11, 12, 14, 15, 16

**Information referred to in Annex I, point 1.3.4.2 of Regulation 1272/2008/EC:****Recommended restriction of use** For commercial use only.

**Contact:** Dr. M. Probst

**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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

ATE: Acute toxicity estimate values

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 SD3482**

EU —