

Safety data sheet
according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

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

- **1.1 Product identifier**
 - **Trade name:** LOT-LF
 - **UFI:** W110-801S-F00W-SXKW

 - **1.2 Relevant identified uses of the substance or mixture and uses advised against**
 - **Product category** PC7 Base metals and alloys
 - **Application of the substance / the mixture** Brazing alloy

 - **1.3 Details of the supplier of the safety data sheet**
 - **Manufacturer/Supplier:**
HOTTINGER BRÜEL & KJÆR UK LTD
Advanced Manufacturing Park Technology Centre
Brunel Way, Catcliffe, Rotherham
South Yorkshire, S60 5WG
United Kingdom
Phone: +44 (0) 1145 512230
Email: info@uk.hbm.com

 - **Informing department:**
Tel. +49(0)6131 19240
EMail support-esa@hbkworld.com

 - **1.4 Emergency telephone number:**
Gift-Informationszentrum Nord, Göttingen
Poison Information Center, Göttingen
Tel.: +49 (0)551 19240
(German and English only)
- United Kingdom:*
National Poisons Information Service
Emergency number: +44 844 892 0111
- Poisons Information Centre of Ireland:*
+353 1 837 9964 for medical professionals
+353 1 809 2166 for public inquiries
CHEMTREC: +44 20 3807 3798 (24h emergency call).
Outside continental USA please call CHEMTREC at +1-703-527-3887 (R-calls are accepted).

SECTION 2: Hazards identification

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



GHS08 health hazard

Repr. 2 H361f Suspected of damaging fertility.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

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- **Hazard pictograms**



GHS08

- **Signal word** Warning

- **Hazard-determining components of labelling:**

silver

- **Hazard statements**

H361f Suspected of damaging fertility.

- **Precautionary statements**

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:**

Please refer to further labelling elements in section 15 of this safety data sheet, if applicable.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Determination of endocrine-disrupting properties**

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**

- **Description:** Mixture of the substances listed below including additives not requiring identification.

- **Dangerous components:**

CAS: 7440-22-4 EINECS: 231-131-3 Index number: 047-004-00-9 Reg.nr.: 01-2119555669-21-X	silver	Repr. 2, H361f; STOT RE 2, H373	≥ 3 - < 10%
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- **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** Personal protection for the First Aider.

- **After inhalation** Supply fresh air; consult doctor in case of symptoms.

- **After skin contact** Wash with water and soap.

- **After eye contact**

Do not rub eyes dry, the mechanical stress can cause additional cornea damages.

Remove contact lenses if possible.

In case of permanent aches and pains please go and see the doctor.

- **After swallowing**

Rinse out mouth.

In case of disorders get medical advice.

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- **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**
Alcohol-resistant foam, extinguishing powder or carbon dioxide. Fight larger fire with water spray.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Inhalation of combustion gases may cause serious health hazards.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information** Remove goods in stock from incendiary zone, if possible.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **For non-emergency personnel** Avoid contact with the product.
- **For emergency responders** Put on suitable personal protective equipment.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, ground/soil and water bodies.
- **6.3 Methods and material for containment and cleaning up:** Collect 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 information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Handling**
Do not eat, drink or smoke while working.
Do not inhale gases / fumes / aerosols.
Wash hands during breaks and at the end of the work.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Only store in suitable containers (e.g. containers authorised under dangerous goods legislation).
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Unrestricted storage life at room temperature.
- **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

WEL: workplace exposure limit

OEL: Occupational Exposure Limit

IOELV: Indicative Occupational Exposure Limit Values, workplace threshold value of the European Union

7440-22-4 silver

IOELV (European Union) Long-term value: 0.1 mg/m³WEL (Great Britain) Long-term value: 0.1 mg/m³

DNELs

7440-31-5 tin

Oral	DNEL (consumer, long-term, systemic)	5 mg/kg bw/day (human)
Dermal	DNEL (worker, long-term, systemic)	10 mg/kg bw/day (human)
	DNEL (consumer, long-term, systemic)	80 mg/kg bw/day (human)
Inhalative	DNEL (worker, long-term, systemic)	71 mg/m ³ (human)
	DNEL (consumer, long-term, systemic)	17 mg/m ³ (human)

PNECs

7440-22-4 silver

PNEC aqua (fresh water)	0.00004 mg/L (.)
PNEC Water (marine water)	0.00086 mg/L (.)
PNEC STP - Sewage Treatment Plant	0.025 mg/L (.)
PNEC soil	1.41 mg/kg soil dw (.)
PNEC sediment (fresh water)	438 mg/kg sedim. dw (.)
PNEC sediment (marine water)	438 mg/kg sedim. dw (.)

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

8.2 Exposure controls

Individual protection measures, such as personal protective equipment

General protective and hygienic measures Wash hands during breaks and at the end of the work.

Breathing equipment:

Use breathing protection only when aerosol or mist is formed.
filter A/P.

Hand protection

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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.

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· **Eye/face protection** Not required.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state	Solid
· Colour:	Grey
· Odour:	odourless
· Odour threshold:	Not determined.
· Melting point/freezing point:	Not determined
· Boiling point or initial boiling point and boiling range	Not determined
· Flammability	Not determined.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable
· Auto-ignition temperature:	Product is not selfigniting.
· Decomposition temperature:	Not determined.
· SADT	
· pH	Not applicable.
· Viscosity:	
· Kinematic viscosity	Not applicable.
· dynamic:	Not applicable.
· Solubility	
· Water:	Soluble
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not applicable.
· Density and/or relative density	
· Density	Not determined
· Relative density	Not determined.
· Vapour density	Not applicable.
· Particle characteristics	No further details.

· 9.2 Other information

· Appearance:	
· Form:	Solid
· Important information on protection of health and environment, and on safety.	
· Self-inflammability:	Product is not selfigniting.
· Explosive properties:	Product is not explosive.
· Change in condition	
· Evaporation rate	Not applicable.

· Information with regard to physical hazard classes

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void

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· Flammable liquids	Void
· Flammable solids	Void
· 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**
- **Information on the shelf life** The product is stable.
- **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:**
None in case of intended use and storage in compliance with instructions.

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.

- **LD/LC50 values that are relevant for classification:**

7440-31-5 tin

Oral	LD50	> 2,000 mg/kg (Rat) (OECD 423)
Dermal	LD50	> 2,000 mg/kg (Rat) (OECD 402)
Inhalative	LC50	> 4.75 mg/l/4h (Rat) (OECD 403)

7440-22-4 silver

Oral	LD50	> 2,000 mg/kg (Rat) (OECD 401)
Dermal	LD0	> 2,000 mg/kg (Rat) (OECD 402)
Inhalative	LC0	> 5.16 mg/l/4h (Rat) (OECD 436) Dust or Mist

- **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** Suspected of damaging fertility.

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- **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.

- **Additional toxicological information:**

- **Repeated dose toxicity**

7440-22-4 silver

Oral	NOAEL (90d)	30 mg/kg bw/day (Rat) (OECD 408)
	LOAEL (90d)	125 mg/kg bw/day (Rat)
Inhalative	NOAEC (90d)	0.133 mg/m ³ (Rat) (OECD 413) Dust or Mist
	LOAEC (90d)	0.515 mg/m ³ (Rat) (OECD 413) Dust or Mist

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Repr. 2

- **11.2 Information on other hazards**

- **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

7440-31-5 tin

LC50 (static)	> 0.0124 mg/l/96h (Pimephales promelas) (OECD 203)
EC50 (static)	9,846 mg/l/72h (Raphidocelis subcapitata) (OECD 201)

7440-22-4 silver

EC50 (static)	0.00022 mg/l/48h (Daphnia magna) (OECD 202)
LC50	0.0012 mg/l/96h (Pimephales promelas)
EC50 (static)	0.0051 mg/l/72h (Raphidocelis subcapitata) (OECD 201)

- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** There are no data available about the preparation.
- **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** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.

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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**
Taking into account the intended use as specified in section 1, the relevant entries from Annex XVII are carried out.
- **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.
- **National regulations**
- **Water hazard class:**
- **Substances of very high concern (SVHC) according to REACH, Article 57**
None of the ingredients is contained.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This safety data sheet meets the requirements of Regulation (EU) 2015/830 and 2020/878 amending Annex II of Regulation (EC) 1907/2006.

- **Relevant phrases**
The phrases specified here are no labelling elements for the product but repeat the properties of the ingredients from section 3.
H361f Suspected of damaging fertility.
H373 May cause damage to organs through prolonged or repeated exposure.
- **Classification according to Regulation (EC) No 1272/2008** Calculation method
- **Department issuing data specification sheet:**

 **DEKRA** This Safety Data Sheet has been drawn up in cooperation with:
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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)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Repr. 2: Reproductive toxicity – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· *** Data compared to the previous version altered.**

EU