



Safety data sheet

Revision: 24-10-2016
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Version: 02.01/GBR

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

1.1. Product identifier

Trade name: Lead free solder tin alloys HQ005, HQ300, HQ305, HQ350, HQ350P, HQ387, HQ400, HQ405, Starli LF2/LF3/SB3, Sn99,5Cu0,4, Sn75Zn25

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

Recommended uses: Soldering

1.3. Details of the supplier of the safety data sheet

Supplier: Boliden Bergsøe A/S
Hvissingevej 116
2600 Glostrup
Tel: +45 43268300
Fax: +45 43268301
Email: metal.glostrup@boliden.com

1.4. Emergency telephone number

0870 600 6266 (UK only) Only available to health professionals.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP-classification (Regulation (EC) No 1272/2008):

The product shall not be classified as hazardous according to the classification and labelling rules for substances and mixtures.

Most serious harmful effects:

Prolonged exposure to welding smoke and particles constitutes a risk of developing asthmatic diseases, various respiratory disorders and cancer of the respiratory system. Harmful if vapours from molten metal are inhaled or if the skin comes in contact with molten metal.

2.2. Label elements

The product shall not be classified as hazardous according to the classification and labelling rules for substances and mixtures.

2.3. Other hazards

No assessment required, as the product contains inorganic matter only.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Registration number	CAS/EC Number	Substance	CLP-classification (Regulation (EC) No 1272/2008)	w/w%	Note
01-211948647	7440-31-5-B	Tin	-	70-99,5	.
4-28	231-141-8
01-211947560	7440-36-0-B	Antimony	-	0-3,5	13
9-24	231-146-5	.	-	.	.

.	7440-50-8-F	Copper	-	0-3,5	13
.	231-159-6	.	-	.	.
05-211413001	7440-22-4-B	silver (metallic)	-	0-4	12
35-65	231-131-3	.	-	.	.
.	7440-66-6-D	Zinc	-	0-26	.
.	231-175-3	.	-	.	.

12) The substance is included in the EU list of limit values for occupational exposure 13) The substance has a national exposure limit.

Please see section 16 for the full text of H-phrases.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:	Seek fresh air. Seek medical advice in case of persistent discomfort.
Ingestion:	Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Seek medical advice in case of persistent discomfort.
Skin:	Wash skin with soap and water. Seek medical advice in case of persistent discomfort.
Eyes:	Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.
Other information:	When obtaining medical advice, show the safety data sheet or label.

4.2. Most important symptoms and effects, both acute and delayed

Prolonged exposure to welding smoke and particles constitutes a risk of developing asthmatic diseases, various respiratory disorders and cancer of the respiratory system. Harmful if vapours from molten metal are inhaled or if the skin comes in contact with molten metal.

4.3. Indication of any immediate medical attention and special treatment needed

No special immediate treatment required.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with powder, foam, carbon dioxide or water mist. Use water or water mist to cool non-ignited stock.
Unsuitable extinguishing media	Do not use water stream, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

The product is not directly flammable. Avoid inhalation of vapour and fumes – seek fresh air.

5.3. Advice for firefighters

Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases – seek fresh air. Wear Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	Wear safety goggles if there is a risk of dust contact with eyes. In case of insufficient ventilation, wear respiratory protective equipment.
For emergency responders:	In addition to the above: Normal protective clothing equivalent to EN 469 is recommended.

6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

6.3. Methods and material for containment and cleaning up

Sweep up/collect spills for possible reuse or transfer to suitable waste containers.

6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Work processes where generation of dust may occur must be performed under effective process ventilation (e.g. local exhaust ventilation). Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work. Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Store in a dry area.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Ingredient:	Exposure limit	Comments
Silver	- (8h), - (15m) ppm 0.1 (8h), - (15m) mg/m ³	-
Tin	- (8h), - (15m) ppm 2 (8h) 4 (15m) mg/m ³	-
Antimony copper-	- (8h), - (15m) ppm 0.5 (8h), - (15m) mg/m ³ 1 (8h), 2 (15 min) mg/m ³	-

Legal basis: EH40/2005 Workplace exposure limits. Last amended December 2011.

Measuring methods: Compliance with the stated occupational exposure limits may be checked by occupational hygiene measurements.

DNEL values: 7440-36-0-B:
Workers:
Dermal DNEL (long-term exposure - systemic effects), 281 mg/kg bw/day
Inhalation DNEL (long-term exposure - local effects), 0,5 mg/m³

7440-50-8-F:
Workers:
Dermal DNEL (long-term exposure - systemic effects), 0,041 mg/kg bw/day Dose descriptor:
Absorption factor 0,03%
Inhalation DNEL (long-term exposure - systemic effects), 0,041 mg/kg bw/day Dose descriptor:
Absorption factor 100%
Oral DNEL (long-term exposure - systemic effects), 0,041 mg/kg bw/day Dose descriptor:
Absorption factor 25%
Dermal DMEL (acute/short-term exposure - systemic effects), 0,082 mg/kg bw/day Dose
descriptor: Absorption factor 0,03%
Inhalation DNEL (acute/short-term exposure - systemic effects), 0,082 mg/kg bw/day Dose
descriptor: Absorption factor 100%
Oral DMEL (acute/short-term exposure - systemic effects), 0,082 mg/kg bw/day Dose
descriptor: Absorption factor 25%

PNEC values: 7440-36-0-B:
PNEC aqua (freshwater) 0,113 mg Sb/L
PNEC aqua (marine water) 0,0113 mg Sb/L
PNEC sediment (freshwater) 7,8 sb/kg wwt
PNEC sediment (marine water) 1,56 sb/kg wwt
PNEC soil 37 sb/kg dwt
PNEC STP (wastewater-treatment facilities) 2,55 Sb/l

7440-50-8-F:
PNEC aqua (freshwater) 7,8 µg/l
PNEC aqua (marine water) 5,2 µg/l
PNEC sediment (freshwater) 87 mg/kg dw
PNEC sediment 288 mg/kg dw
PNEC sediment (marine water) 676 mg/kg dw
PNEC soil 65,5 mg/kg dw
PNEC STP (wastewater-treatment facilities) 230 g/l

7440-22-4-B:
PNEC aqua (freshwater) 0,04 µg/l
PNEC aqua (marine water) 0,86 µg/l
PNEC sediment (freshwater) 438 mg/kg dw
PNEC sediment (marine water) 438 mg/kg dw
PNEC soil 0,794 mg/kg ww

PNEC STP (wastewater-treatment facilities) 0,025 mg/l

7440-66-6-D: PNEC aqua (freshwater) 20,6 µg/l dissolv Zn, Assessment factor: 1, Extrapolation method: . PNEC aqua (marine water) 6,1 µg/l dissolv Zn, Assessment factor: 3, Extrapolation method: . PNEC sediment (freshwater) 117,8 mg/kg dw, Assessment factor: 1, Extrapolation method: . PNEC sediment (marine water) 56,5 mg/kg dw, Assessment factor: 1, Extrapolation method: . PNEC soil 35,6 mg/kg dw, Assessment factor: 1, Extrapolation method: . PNEC STP (wastewater-treatment facilities) 52 mg/l, Assessment factor: 100, Extrapolation method: .

8.2. Exposure controls

Appropriate engineering controls:	Wear the personal protective equipment specified below.
Personal protective equipment, eye/face protection:	Wear safety goggles if there is a risk of eye splash. Eye protection must conform to EN 175.
Personal protective equipment, skin protection:	Wear protective gloves which protect against contact and splashing from molten metal. Gloves must conform to EN 12477.
Personal protective equipment, respiratory protection:	In case of heating/use of the product in an area with inadequate ventilation, wear respiratory protection with filter B/P3. Respiratory protection must conform to one of the following standards: EN 136/140/145.
Environmental exposure controls:	Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State:	Solid substance
Colour:	Grey / White
Odour:	No data
Odour threshold:	No data
pH (solution for use):	No data
pH (concentrate):	No data
Melting point/freezing point:	217-310 °C
Initial boiling point and boiling range:	>600°C
Flash point:	No data
Evaporation rate:	No data
Flammability (solid, gas):	No data
Upper/lower flammability limits:	No data
Upper/lower explosive limits:	No data
Vapour pressure:	No data
Vapour density:	No data
Relative density:	7,2-7,5 g/cm ³
Solubility:	Insoluble
Partition coefficient n-octanol/water:	No data
Auto-ignition temperature:	No data
Decomposition temperature:	No data
Viscosity:	No data
Explosive properties:	No data
Oxidising properties:	No data

9.2. Other information

None.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with the following: Strong alkalis/ Strong oxidisers/ Strong acids.

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong alkalis/ Strong oxidisers/ Strong acids.

10.6. Hazardous decomposition products

Product decomposes in fire conditions or when heated to high temperatures, and inflammable and toxic gases may be released.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral:	The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met. 7440-22-4-B: Rat: LD50 = >10000 mg/kg 7440-02-0: Rat: LD50 = >9000 mg/kg
Acute toxicity - dermal:	The product does not have to be classified. Test data are not available.
Acute toxicity - inhalation:	The product does not have to be classified. Test data are not available. The product does not release hazardous vapours in metallic form. Metallic oxides which are hazardous to inhale are formed during soldering/welding.
Skin corrosion/irritation:	The product does not have to be classified. Test data are not available. May cause slight irritation.
Serious eye damage/eye irritation:	The product does not have to be classified. Test data are not available. Temporary irritation.
Respiratory sensitisation or skin sensitisation:	The product does not have to be classified. Test data are not available.
Germ cell mutagenicity:	The product does not have to be classified. Test data are not available.
Carcinogenic properties:	The product does not have to be classified. Test data are not available.
Reproductive toxicity:	The product does not have to be classified. Test data are not available.
Single STOT exposure:	The product does not have to be classified. Test data are not available. Inhalation of smoke from the soldering / welding process may cause irritation to the upper airways. May cause a burning sensation in the nose, mouth and throat, as well as headaches, coughing and discomfort.
Repeated STOT exposure:	The product does not have to be classified. Test data are not available. Prolonged exposure to welding smoke and particles constitutes a risk of developing asthmatic diseases, various respiratory disorders and cancer of the respiratory system. Prolonged inhalation may cause water in the lungs.
Aspiration hazard:	The product does not have to be classified. Test data are not available.
Other toxicological effects:	None known.

SECTION 12: Ecological information

12.1. Toxicity

The product does not have to be classified. Test data are not available. The product contains small quantities of environmentally hazardous substances.

12.2. Persistence and degradability

The concept of biodegradability is not relevant, as the product contains inorganic matter only.

7440-66-6-D: Not readily biodegradable.

12.3. Bioaccumulative potential

No bioaccumulation expected.

12.4. Mobility in soil

Test data are not available.

12.5. Results of PBT and vPvB assessment

No assessment required, as the product contains inorganic matter only.

12.6. Other adverse effects

None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Avoid discharge to drain or surface water. Contact the local authorities.

EWC code: Depends on line of business and use, for instance 17 04 07 mixed metals

SECTION 14: Transport information

The product is not covered by the rules for transport of dangerous goods.

14.1. UN number

-

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

-

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Special provisions: None.

15.2. Chemical safety assessment

Chemical safety assessment has not been performed.

SECTION 16: Other information

Abbreviation explanations:

PBT: Persistent, Bioaccumulative and Toxic vPvB: Very Persistent and Very Bioaccumulative
STOT: Specific Target Organ Toxicity

Classification method:

Calculation based on the hazards of the known components.

H-phrases:

No H-phrases.

Training:

A thorough knowledge of this safety data sheet should be a prerequisite condition.

Other information:

This safety data sheet has been prepared for and applies to this product only. It is based on our current knowledge and the information that the supplier was able to provide about the product at the time of preparation. The safety data sheet complies with applicable law on preparation of safety data sheets in accordance with 1907/2006/EC (REACH) as subsequently changed.
