# Safety Data Sheet

## Tin Sn99,9, Sn99,85, HQ000

Replaces date: 9/17/2021

Revision date: 12/1/2022
Version: 2.2.0

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

### 1.1. Product identifier

**Trade name:** Tin Sn99,9, Sn99,85, HQ000

**Substance name:** Tin

**CAS No:** 7440-31-5

**EC No:** 231-141-8

**REACH Reg. No.:** 01-2119486474-28-0024

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

**Recommended uses:** Tinning. For use in alloys.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

| | |
|---|---|
| Company: | Boliden Bergsøe A/S |
| Address: | Hvissingevej 116 |
| Zip code: | 2600 |
| City: | Glostrup |
| Country: | DENMARK |
| E-mail: | metal.glostrup@boliden.com |
| Phone: | +45 43268300 |

### 1.4. Emergency Telephone Number

+45 43 26 83 00 (company)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**CLP-classification:** The product shall not be classified as hazardous according to the classification and labeling rules for substance 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 labeling rules for substance and mixtures.

### 2.3. Other hazards

PBT/vPvB: No assessment required, as the product contains inorganic matter only.
Endocrine disrupting properties: None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

| Substance | CAS No./ EC No./ REACH Reg. No. | Concentration | Notes | CLP-classification |
|---|---|---|---|---|
| Tin | 7440-31-5<br>231-141-8<br>01-2119486474-28-0024 | ≥ 98.5 % | | |

Please see section 16 for the full text of H- / EUH-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 contact:** Wash skin with soap and water. Seek medical advice in case of persistent discomfort.

**Eye contact:** Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.

**General:** 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. Do not store with the following: Acids/ Alkalis/ Oxidisers.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| | |
|---|---|
| **Occupational exposure limit:** | Contains no substances subject to reporting requirements |
| **Measuring methods:** | Compliance with occupational exposure limits may be checked by occupational hygiene measurements. |
| **Legal basis:** | Commission Directive 2000/39/EC (Occupational Exposure Limits) as subsequently amended. Last amended by Commission Directive 2019/1831/EU. Directive 2004/37/EC (Exposure to carcinogens or mutagens at work) as subsequently amended. Last amended by Directive 2022/431/EU. |

### 8.2. Exposure controls

| | |
|---|---|
| **Appropriate engineering controls:** | Wear the personal protective equipment specified below. |
| **Personal protective equipment, hand 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

| Parameter | Value/unit |
|---|---|
| State | Solid substance |
| Colour | Grey / White |
| Odour | No data |
| Solubility | Insoluble in the following: Water. |

| Parameter | Value/unit | Remarks |
|---|---|---|
| Odour threshold | No data | |
| Melting point | 231.9 °C | #Not translated# |
| Freezing point | No data | |
| Initial boiling point and boiling range | 2507 °C | #Not translated# |
| Flammability (solid, gas) | No data | |
| Flammability limits | No data | |
| Explosion limits | No data | |
| Flash Point | No data | |
| Auto-ignition temperature | > 400 °C | |
| Decomposition temperature | No data | |
| pH (solution for use) | No data | |
| pH (concentrate) | No data | |
| Kinematic viscosity | No data | |
| Viscosity | No data | |
| Partition coefficient n-octonol/water | No data | |
| Vapour pressure | 0.01 hPa | |
| Density | No data | |
| Relative density | 7.31 g/cm³ | |
| Vapour density | No data | |
| Relative density (sat. air) | No data | |
| Particle characteristics | No data | |

### 9.2. Other information

**Other Information:** None.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with the following: Acids/ Alkalis/ Oxidisers.

### 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 oxidisers/ Strong alkalis/ Strong acids.

### 10.6. Hazardous decomposition products

None known.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

**Acute toxicity - oral**

**Tin, cas-no 7440-31-5**

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|
| Rat | LD50 | | > 2000 mg/kg | | OECD 423 | |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

**Acute toxicity - dermal**

**Tin, cas-no 7440-31-5**

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|
| Rat | LD50 | | > 2000 mg/kg | | OECD 402 | |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

**Acute toxicity - inhalation**

**Tin, cas-no 7440-31-5**

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|
| Rat | LD50 | | > 5 mg/l | | OECD 403 | |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.
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**

**Tin, cas-no 7440-31-5**

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|
| Rabbit | | | | Non-irritating | | |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.
May cause slight irritation.

**Serious eye damage/eye irritation**

**Tin, cas-no 7440-31-5**

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|
| Rabbit | | | | Non-irritating | | |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

**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. Based on existing data, the classification criteria are deemed not to have been met. 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.

### 11.2. Information on other hazards

**Endocrine disrupting properties:** None known.

**Other toxicological effects:** None known.

## SECTION 12: Ecological information

### 12.1. Toxicity

**Tin, cas-no 7440-31-5**

| Organism | Species | Exposure time | Test Type | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|---|
| Fish | Pimephales promelas | | 96hLC50 | > 12.4 µg/l | | OECD 203 | |
| Crustacea | Daphnia magna | | 7dEC50 | > 3200 µg/l | | | |
| Algae | Pseudokirchneriella subcapitata | | 72hEC50 | > 19.2 µg/l | | OECD 201 | |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

### 12.2. Persistence and degradability

### 12.3. Bioaccumulative potential

**Tin, cas-no 7440-31-5**

| Organism | Species | Exposure time | Test Type | Value | Conclusion | Test method | Source |
|---|---|---|---|---|---|---|---|
| | | | Log Kd: | 2.1 - 4.3 | | | |

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. Endocrine disrupting properties

None known.

### 12.7. Other adverse effects

None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Avoid discharge to drain or surface water.
If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste (Dir. 2008/98/EU). Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.
Empty, cleansed packaging should be disposed of for recycling. Uncleansed packaging is to be disposed of via the local waste-removal scheme.

**Category of waste:** EWC code: Depends on line of business and use, for instance 17 04 06 tin
Absorbent/cloth contaminated with the product: EWC code: 15 02 03 Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02.

## SECTION 14: Transport information

**14.1. UN number or ID number:** Not applicable.
**14.2. UN proper shipping name:** Not applicable.
**14.3. Transport hazard class(es):** Not applicable.
**14.4. Packing group:** Not applicable.
**14.5. Environmental hazards:** Not applicable.

### 14.6. Special precautions for user

None.

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

## 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

| REACH Reg. No. | Substance name |
|---|---|
| 01-2119486474-28-0024 | Tin |

## SECTION 16: Other information

### Version history and indication of changes

| Version | Revision date | Responsible | Changes |
|---|---|---|---|
| 2.2.0 | 12/1/2022 | Bureau Veritas HSE / MPE | 1, 2, 16 |

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

# Safety Data Sheet

## Tin Sn99,9, Sn99,85, HQ000

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**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.

**Training advice:** A thorough knowledge of this safety data sheet should be a prerequisite condition.

**Classification method:** Calculation based on the hazards of the known components.

### SDS is prepared by

| | |
|---|---|
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