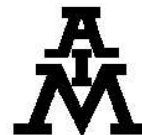


# SAFETY DATA SHEET

ALLOY SN100C



Safety Data Sheet according to GB/T 16483-2008 and GB/T 17519-2013

## Section 1. Chemical product and company identification

**GHS product identifier** : ALLOY SN100C  
**Chemical name** : tin  
**GHS reference number** : GHS049  
**Product type** : Solid. [Lustrous solid.]

### Identified uses

Not applicable.

### Supplier's details

: International:  
AIM  
9100 Henri Bourassa East  
Montreal, QC  
H1E 2S4  
(514) 494-2000  
  
In China:  
AIM Solder (CHANGXING) Company Limited  
No.1208-D Chenwang Rd., Taihu St.  
Changxing County, Huzhou, Zhejiang  
0572-6683800  
  
In Malaysia:  
AIM Solder (Malaysia)  
No. 2A, Jalan Industri Seri Juru,  
Taman Industri Seri Juru, 14000 Bukit Mertajam,  
Pulau Pinang, Malaysia  
+6012 800 1936

**Emergency telephone number (with hours of operation)** : INFOTRAC  
North America: (800) 535-5053  
International: (352) 323-3500

## Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

**Classification of the substance or mixture** : AQUATIC HAZARD (ACUTE) - Category 1  
AQUATIC HAZARD (LONG-TERM) - Category 1

### GHS label elements

#### Hazard pictograms

:



**Signal word** : Warning

**Hazard statements** : Very toxic to aquatic life with long lasting effects.

### Precautionary statements

**Prevention** : Avoid release to the environment.

**Response** : Collect spillage.

**Storage** : Not applicable.

## Section 2. Hazards identification

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Chemical name** : tin  
**Other means of identification** : Tin powder; Tin metal; Tin flake; Metallic tin; Tin - Metal; Tin, metal; TIN GRANULAR; TIN MOSSY; TIN AND COMPOUNDS

### CAS number/other identifiers

**CAS number** : Not applicable.  
**EC number** : 231-141-8

| Ingredient name | %          | CAS number |
|-----------------|------------|------------|
| Tin             | 95 - 99.99 | 7440-31-5  |
| copper          | 0.1 - 10   | 7440-50-8  |
| Nickel          | 0 - 0.1    | 7440-02-0  |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.

## Section 4. First aid measures

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

## Section 6. Accidental release measures

- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits   |
|-----------------|---|
| tin             | <b>ACGIH TLV (United States, 3/2020).</b><br>TWA: 2 mg/m <sup>3</sup> , (as Sn) 8 hours. Form: Inhalable fraction |
| copper          | <b>GBZ 2.1 (China, 8/2019).</b><br>PC-TWA: 1 mg/m <sup>3</sup> , (as Cu) 8 hours. Form: dust                      |
| Nickel          | <b>ACGIH TLV (United States, 3/2020).</b><br>TWA: 1.5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction         |

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Solid. [Lustrous solid.]
- Color** : Gray. Silver-white. White.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : 227°C (440.6°F)
- Boiling point** : 2260°C (4100°F)
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Massive metal is nonflammable. Dust and powders may be flammable.
- Lower and upper explosive (flammable) limits** : Not applicable.
- Vapor pressure** : Not available.
- Vapor density** : Not applicable.
- Relative density** : 7.28
- Solubility** : Insoluble in the following materials: cold water, hot water, METHANOL, diethyl ether, n-octanol and acetone.
- Solubility in water** : <0.000004 g/l [EU A.6]
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** : >400°C (>752°F) [EU A.16]
- Decomposition temperature** : Not available.
- Viscosity** : Not applicable.

## Section 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactivity</b>                         | : No specific test data related to reactivity available for this product or its ingredients.           |
| <b>Chemical stability</b>                 | : The product is stable.   |
| <b>Possibility of hazardous reactions</b> | : Under normal conditions of storage and use, hazardous reactions will not occur.                      |
| <b>Conditions to avoid</b>                | : No specific data.  |
| <b>Incompatible materials</b>             | : No specific data.  |
| <b>Hazardous decomposition products</b>   | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result    | Species    | Dose    | Exposure |
|-------------------------|-----------|------------|---------|----------|
| Nickel                  | LDLo Oral | Guinea pig | 5 mg/kg | -        |

**Conclusion/Summary** : No additional remark.

#### Irritation/Corrosion

No known significant effects or critical hazards.

#### Sensitization

No known significant effects or critical hazards.

#### Mutagenicity

No known significant effects or critical hazards.

#### Carcinogenicity

No known significant effects or critical hazards.

#### Reproductive toxicity

No known significant effects or critical hazards.

#### Teratogenicity

No known significant effects or critical hazards.

#### Specific target organ toxicity (single exposure)

No known significant effects or critical hazards.

#### Specific target organ toxicity (repeated exposure)

No known significant effects or critical hazards.

#### Aspiration hazard

No known significant effects or critical hazards.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

|                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : No known significant effects or critical hazards. |
| <b>Inhalation</b>   | : No known significant effects or critical hazards. |
| <b>Skin contact</b> | : No known significant effects or critical hazards. |

## Section 11. Toxicological information

**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

**Other information** : To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.  
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result                           | Species  | Exposure |
|-------------------------|----------------------------------|--|----------|
| copper                  | Acute EC50 1100 µg/l Fresh water | Aquatic plants - Lemna minor   | 4 days   |
|                         | Acute EC50 2.1 µg/l Fresh water  | Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
|                         | Acute IC50 13 µg/l Fresh water   | Algae - Pseudokirchneriella subcapitata - Exponential growth phase       | 72 hours |
|                         | Acute IC50 5.4 mg/l Marine water | Aquatic plants - Plantae - Exponential growth phase                      | 72 hours |

## Section 12. Ecological information

|        |                                    |  |          |
|--------|------------------------------------|--|----------|
| Nickel | Acute LC50 0.072 µg/l Marine water | Crustaceans - Amphipoda - Adult  | 48 hours |
|        | Acute LC50 7.56 µg/l Marine water  | Fish - Periophthalmus waltoni - Adult  | 96 hours |
|        | Chronic NOEC 2.5 µg/l Marine water | Algae - Nitzschia closterium - Exponential growth phase                      | 72 hours |
|        | Chronic NOEC 7 mg/l Fresh water    | Aquatic plants - Ceratophyllum demersum                                      | 3 days   |
|        | Chronic NOEC 0.02 mg/l Fresh water | Crustaceans - Cambarus bartonii - Mature                                     | 21 days  |
|        | Chronic NOEC 2 µg/l Fresh water    | Daphnia - Daphnia magna  | 21 days  |
|        | Chronic NOEC 0.8 µg/l Fresh water  | Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)     | 6 weeks  |
|        | Acute EC50 2 ppm Marine water      | Algae - Macrocystis pyrifera - Young   | 4 days   |
|        | Acute EC50 450 µg/l Fresh water    | Aquatic plants - Lemna minor   | 4 days   |
|        | Acute EC50 1000 µg/l Marine water  | Daphnia - Daphnia magna  | 48 hours |
|        | Acute IC50 0.31 mg/l Marine water  | Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling) | 48 hours |
|        | Acute LC50 1.3 ppm Fresh water     | Fish - Cyprinus carpio - Juvenile (Fledgling, Hatchling, Weanling)           | 96 hours |
|        | Chronic NOEC 100 mg/l Marine water | Algae - Glenodinium halli  | 72 hours |
|        | Chronic NOEC 3.5 µg/l Fresh water  | Fish - Cyprinus carpio   | 4 weeks  |

### Persistence/degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

Soil/water partition coefficient ( $K_{oc}$ ) : Not available.

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

|                            | China          | UN             | IMDG           | IATA           |
|----------------------------|----------------|----------------|----------------|----------------|
| UN number                  | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| UN proper shipping name    | -              | -              | -              | -              |
| Transport hazard class(es) | -              | -              | -              | -              |
| Packing group              | -              | -              | -              | -              |
| Environmental hazards      | No.            | No.            | No.            | No.            |
| Additional information     | -              | -              | -              | -              |

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**Safety, health and environmental regulations specific for the product** : No known specific national and/or regional regulations applicable to this product (including its ingredients).

**China inventory (IECSC)** : All components are listed or exempted.

### List of Goods banned for Importing

None of the components are listed.

### List of Goods banned for Exporting

None of the components are listed.

### List of Toxic Chemicals Severely Restricted for Importing & Exporting by China

None of the components are listed.

### International regulations

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### International lists

#### National inventory

**Australia** : All components are listed or exempted.

**Canada** : All components are listed or exempted.

**Europe** :

## Section 15. Regulatory information

|                          |  |
|--------------------------|--|
| <b>Japan</b>             | : <b>Japan inventory (CSCL):</b> Not determined.<br><b>Japan inventory (ISHL):</b> Not determined. |
| <b>Malaysia</b>          | : Not determined   |
| <b>New Zealand</b>       | : All components are listed or exempted.   |
| <b>Philippines</b>       | : All components are listed or exempted.   |
| <b>Republic of Korea</b> | : All components are listed or exempted.   |
| <b>Taiwan</b>            | : All components are listed or exempted.   |
| <b>United States</b>     | : All components are active or exempted.   |

## Section 16. Other information

### History

|                                       |             |
|---------------------------------------|-------------|
| <b>Date of printing</b>               | : 4/29/2024 |
| <b>Date of issue/Date of revision</b> | : 4/29/2024 |
| <b>Date of previous issue</b>         | : 4/24/2024 |
| <b>Version</b>                        | : 0.21      |

|                             |  |
|-----------------------------|--|
| <b>Key to abbreviations</b> | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>UN = United Nations |
|-----------------------------|--|

|                   |                  |
|-------------------|------------------|
| <b>References</b> | : Not available. |
|-------------------|------------------|

📌 Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.