CENTRE OF TESTING SERVICE INTERNATIONAL

OPERATE ACCORDING TO ISO/IEC 17025

COMPILE REPORT

Compile Report Number : CNB3170831-02998-CO

CTS (Ningbo) Testing Service Technology Co., Ltd.

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COMPILE REPORT OF MSDS

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1 General Information

1.1 Application Details

Name	:	Ningbo welding material factory
Address	:	Meilin, Zhuangqiao, Ningbo
Contact	:	/
Telephone	:	/
Fax	:	/
Mobile telephone	:	/
Email	:	/

1.2 Manufacturer & Buyer

Manufacturer name	:	Ningbo welding material factory
Address	:	Meilin, Zhuangqiao, Ningbo
Contact	:	/
Telephone	:	/
Fax	:	/
Mobile telephone	:	/
Email	:	/
Buyer name	:	/

1.3 Description of the Compile Item

Sample name	:	Solder wire
Model No.	:	/
Brand name	:	/
Condition of sample(s)	:	EFFECTIVE

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2 Compile Results

2.1 General Information

2.1.1 Sample Receiving Date

Sep. 11, 2017

2.1.2 Compile Period

Sep. 11, 2017 to Sep. 12, 2017

2.1.3 Compile Requested

MSDS report of products

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2.2 Results

MSDS (Material Safety Data Sheet)	
1 Identification of the substance / Preparation and of the company	
PRODUCT NAME	: Solder wire
PRODUCT TYPE	: /
Manufacturer/Supplier	: Ningbo welding material factory
ADDRESS	: Meilin, Zhuangqiao, Ningbo
TEL	: /
FAX	: /
E-mail	: /

2 HAZARDS IDENTIFICATION

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008.**

The product is not classified according to the CLP regulation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **2.3 Emergency overview**

This product consists of silver grey metal wire which contains core of rosin. There is no immediate health hazard associated with the wire product and it is not reactive under normal circumstances of use. Though the wire is not flammable, if involved in a fire and exposed to extremely high temperatures, harmful fumes of metal oxides may be generated.

During soldering operations, the most significant routes of exposure are inhalation, and contact of the skin and eyes. Molten solder can cause thermal burns. Prolonged or repeated exposure to tin fumes can result in benign pneumoconiosis, which causes inflammation of the lungs, but there is no distinct fibrosis or evidence of disability.

· **2.4 Potential health effects information**

Inhalation: The fumes generated during soldering operations may cause respiratory irritation.

Ingestion: Ingestion is not expected to occur in normal use.

Eye Contact: Contact with the wire form of this product can be physically damaging to the eye. Contact with the molten core solder will cause burn to the eyes. Fumes generated during soldering operations can be irritating to the eyes.

Skin Contact: Contact of the wire form of this product with skin is not anticipated to be irritating. Contact with the molten core solder will burn contaminated skin. Fumes generated during soldering operations can be irritating to the skin.

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3 COMPOSITION / INFORMATION ON INGREDIENTS

Pure□ Admixture□
Composition:

Chemical Name	In % By Weight	CAS No.	EC No.	Molecular Formula
Tin	99.3	7440-31-5	231-141-8	Sn
Copper	0.7	7440-50-8	231-159-6	Cu

Abbreviation: CAS: Chemical Abstract Service
EC: European Inventory of Existing Commercial chemical Substances

4 FIRST AID MEASURES

Inhalation：If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.
Ingestion：Give water to drink. Induce vomiting only to a conscious, non-convulsing individual. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Skin：*Dust:* Remove contaminated clothing, shoes and leather goods (e.g., watchbands, belts). Quickly and gently blot or brush away excess material. Wash gently and thoroughly with lukewarm gently flowing water and non-abrasive soap for 5 minutes. If irritation persists, repeat flushing. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or else discard. *Molten Metal:* Flush contact area to solidify and cool but do not attempt to remove encrusted material or clothing. Cover burns and seek medical attention immediately.
Eyes：Do not allow victim to rub eye(s). Let the eye(s) water naturally for a few minutes. If particle/dust does not dislodge, flush with lukewarm, gently flowing water for 5 minutes or until particle/dust is removed, while holding eyelid(s) open. If irritation persists, immediately obtain medical attention. DO NOT attempt to manually remove anything stuck to the eye.

5 FIRE-FIGHTING MEASURES

Suitable Extinguishing Media：Water spray, dry chemical, carbon dioxide or foam.
Fire and Explosion Hazards: Massive metal is not flammable or combustible. Finely-divided dust or powder is a moderate fire hazard and moderate explosion hazard when dispersed in the air at high concentrations and exposed to heat, flame, or other ignition sources. Explosions may also occur under certain circumstances upon contact with certain incompatible materials (see Stability and Reactivity, Section 10).
Fire Fighting: If possible, move material from fire area and cool material exposed to flame. Apply water, carbon dioxide, foam or dry chemical. Copper and tin oxide fumes may evolve in a fire. Fire fighters must be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full face-piece mask. Do not use direct water streams on fires where molten metal is present, due to the risk of a steam explosion that could potentially eject molten metal uncontrollably. Use a fine water mist on the front-running edge of the spill and on the top of the molten metal to cool and solidify it.
Flashpoint and Method: Not Applicable.
Upper and Lower Flammable Limit: Not Applicable.
Autoignition Temperature: Not Applicable.

6 ACCIDENTAL RELEASE MEASURES

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Procedures for Cleanup: Material is recyclable. Control source of spillage if possible to do so safely. Clean up spilled material immediately, observing precautions in Section 8, Personal Protection. Molten metal should be allowed to solidify before cleanup. Once solidified, wear gloves, pick up and return to process. Powder or dust should be cleaned up using methods that will minimize dust generation (e.g., vacuum solids.). Return uncontaminated spilled material to the process if possible. Place contaminated material in suitable labelled containers for later recovery or disposal. Treat or dispose of waste material in accordance with all local, regional, and national requirements.
Personal Precautions: Persons responding to an accidental release should wear protective clothing, gloves and a respirator (see also Section 8). Close-fitting safety goggles may be necessary in some circumstances to prevent eye contact with dust and fume. Where molten metal is involved, wear heat-resistant gloves and suitable clothing for protection from radiant heat and hotmetal splash as well as a respirator to protect against inhalation of fumes.
Environmental Precautions: In the event of a major spill, prevent spillage from entering drains or water courses.

7 HANDLING AND STORAGE

Precautions for Safe Handling:
Use of safe work practices are recommended to avoid eye or skin contact and inhalation of fumes during soldering operations. Use only with adequate ventilation.
Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.
Provide eyewash fountains and safety showers in close proximity to points of potential exposure.
Conditions for Safe Storage:
Store in a dry, well ventilated area. Keep material dry. Prevent dust accumulation. Keep away from incompatible materials.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters

Exposure Standards (Safe Work Australia)
Tin (metal):
TWA: - ppm / 2 mg/ m^3
STEL: - ppm / - mg/ m^3
Tin, organic compounds (as Sn):
TWA: - ppm / 0.1 mg/m^3
STEL: - ppm / 0.2 mg/ m^3
Copper (fume):
TWA: - ppm / 0.2 mg/ m^3
STEL: - ppm / - mg/ m^3
Copper, dusts & mists (as Cu):
TWA: - ppm / 1 mg/ m^3
STEL: - ppm / - mg/ m^3
Engineering Controls: Adequate mechanical ventilation to control airborne concentrations below the exposure guidelines/limits.

Personal Protective Equipment (PPE)

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Respiratory Protection：If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, use a Safe Work Australia approved respiratory protection (weld fume respirator or air line respirator). Respiratory protection is recommended to be worn during welding operations.
See Australian Standards AS/NZS 1715 and 1716 for more information.
Eye/Face Protection：Safety glasses with top and side shields or goggles.
See Australian Standards AS 1336 and AS/NZS 1337 for more information.
Contact lenses should not be worn when working with this chemical.
Skin Protection：Wear gloves that protect from sparks and flame and protective clothing.
See Australian Standards AS 2161 and 2919 and AS/NZS 2210 for more information.
Thermal Hazards：The molten material can present a significant thermal hazard. Wear safety glasses with top and side shields or goggles and protective equipment. Keep melting/soldering temperatures as low as possible to minimize generation of fumes.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance：Solid –silver grey metal. Contains core of rosin
Odour：No information available
Odour Threshold：No information available
pH：No information available
Melting Point / Freezing Point：1083°C (Copper) 232°C (Tin)
Boiling Point/Range:2595°C(Copper) 2260°C (Tin)
Flash Point：Not applicable
Evaporation Rate：Not applicable
Flammability：Not flammable
Lower Flammability or Explosive Limit：Not applicable
Upper Flammability or Explosive Limit：Not applicable
Vapour Pressure：Not volatile
Vapour Density：Not volatile
Relative Density (Specific Gravity)：approx. 6.4 g/cm^3
Solubility in Water：No information available
Partition coefficient: n-octanol/water：No information available
Auto-ignition Temperature：No information available
Decomposition Temperature：No information available
Viscosity：No information available
Percent Volatile by Weight：Not volatile

10 STABILITY AND REACTIVITY

Chemical Stability：Massive metal is stable and not considered reactive under normal temperatures and pressures.
Hazardous Polymerization or runaway reactions：Will not occur.
Conditions to Avoid：No information available.

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Incompatible Materials： This material may react vigorously with strong acids, acetylene gas , turpentine , strong oxidizers such as hydrogen peroxide, chlorine, chlorine trifluoride, and active metals such as sodium, magnesium and potassium.
Hazardous Decomposition Products： High temperature operations such as oxy-acetylene cutting, electric arc welding or overheating of a molten bath will generate toxic metal oxide fumes. The fumes will contain oxides of copper and tin. The particle size of metal fumes is largely within the respirable size range, which increases the likelihood of inhalation and deposition of the fume within the body.

11 TOXICOLOGICAL INFORMATION

General: The major route of exposure is inhalation of fumes generated from high temperature processing. Dust generated by handling and processing also creates an inhalation and/or ingestion risk.

Toxicity
Tin:
Acute, short term exposure to tin fumes can cause irritation of the eyes, skin, mucous membranes and respiratory system.
Prolonged or repeated exposure to tin can results in benign pneumoconiosis (stannosis), which causes inflammation of the lungs, but there is no distinct fibrosis or evidence of disability.
Copper:
Oral TDLo (human) = 120 $\mu g/m^3$ – gastrointestinal tract effects
Acute, short term exposure to copper fumes can cause irritation of the eyes, skin, mucous membranes and respiratory system. Severe fume exposure may cause metal fume fever with flu-like symptoms such as sweet metal taste, dry throat, coughing, fever, tightness in chest, blurred vision, back pain, nausea, vomiting and fatigue. Symptoms usually disappear in 24 hours. Copper may cause skin and hair discolouration.
Rosin:
Acute exposure to rosin pyrolisis products (formaldehyde), may cause irritation of the eyes, nose and throat.

Acute:
Eye: Contact with the wire form of this product can be physically damaging to the eye. Contact with the molten core solder will cause burn to the eyes. Fumes generated during soldering operations can be irritating to the eyes.
Skin: Contact of the wire form of this product with skin is not anticipated to be irritating. Contact with the molten core solder will burn contaminated skin. Fumes generated during soldering operations can be irritating to the skin.
Inhalation: The fumes generated during soldering operations may cause respiratory irritation.
Ingestion: Ingestion is not expected to occur in normal use.

12 ECOLOGICAL INFORMATION

This product, a metal alloy, is relatively insoluble (and therefore not readily bioavailable); however, processing of the product or extended exposure in aquatic and terrestrial environments may lead to the release of tin and copper compounds in more bioavailable forms.

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13 DISPOSAL CONSIDERATIONS
Disposal methods and containers: Dispose according to applicable local and state government regulations. **Special precautions for landfill or incineration:** Please consult your state Land Waste Management Authority for more information.
14 TRANSPORT INFORATION
No transport restrictions. Not dangerous goods as per the IATA regulations.
15 REGULATORY INFORMATION
Tin, copper and rosin are listed in the Australian Inventory of Chemical Substances (AICS).
16 OTHER INFORMATION
The above information is based on the data of which we are aware and is believed to be correct as of the data hereof. Since this information may be applied under conditions beyond our control and with which may be unfamiliar and since data made available subsequent to the data hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Written by: Jessie Inspected by: Susei Approved by:

End of Report

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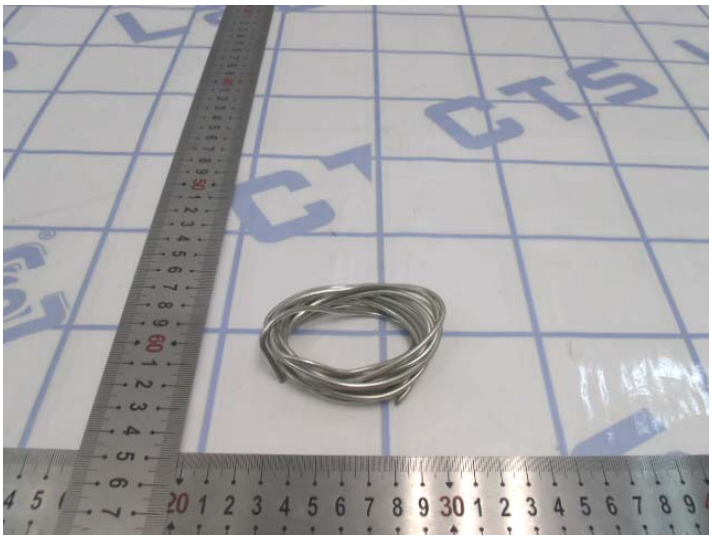
3 Sample Reference Photo



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