



**CENTRE OF TESTING SERVICE
INTERNATIONAL**

OPERATE ACCORDING TO ISO/IEC 17025

COMPILE REPORT

Compile Report Number : CNB3131128-04613-CO

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

Fl.2 South Huoju Building, No.181 Canghai Rd., Jiangdong High-tech Park, Ningbo China

PHONE +86-574-87912121 FAX +86-574-87907993

**COMPILE REPORT OF MSDS**

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 1 of 11

Table of contents

1	General Information	2
1.1	Application Details	2
1.2	Manufacturer & Buyer	2
1.3	Description of the Compile Item	2
2	Compile Results	3
2.1	General Information	3
2.1.1	Sample Receiving Date	3
2.1.2	Compile Period	3
2.1.3	Compile Requested	3
2.2	Results	4
3	Sample Reference Photo	11

The measurement results only apply to the submitted samples.
Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service

**COMPILE REPORT OF MSDS**

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 2 of 11

1 General Information**1.1 Application Details**

Name : NINGBO SOLDERING MATERIAL FACTORY
Address : MEILIN ,JIANGBEI DISTRICT,NINGBO
Contact : jiang xinling
Telephone : 87355461
Fax : /
Mobile telephone : /
Email : /

1.2 Manufacturer & Buyer

Manufacturer name : /
Address : /
Contact : /
Telephone : /
Fax : /
Mobile telephone : /
Email : /
Buyer name : /

1.3 Description of the Compile Item

Sample name : solder wire
Common name : solder wire
End Uses : solder
Model No. : /
Brand name : /
Condition of sample(s) : EFFECTIVE



COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 3 of 11

2 Compile Results

2.1 General Information

2.1.1 Sample Receiving Date

Nov. 28, 2013

2.1.2 Compile Period

Nov. 28, 2013 to Dec. 6, 2013

2.1.3 Compile Requested

MSDS report of products

The measurement results only apply to the submitted samples.
Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service



COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
 DATE : Dec. 6, 2013
 PAGE : 4 of 11

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	: /			
ADDRESS	: /			
TEL	: /			
FAX	: /			
E-mail	: /			
2 HAZARDS IDENTIFICATION				
Emergency Overview: A silvery-grey, heavy, soft metal that does not burn in bulk. Finely-divided dust clouds are a moderate fire and explosion hazard, however. This alloy contains 39.2% lead and fumes generated in a fire situation present the risk of lead inhalation and absorption. Possible cancer and reproductive hazard due to the lead content. SCBA and full protective clothing required for fire emergency response personnel. Potential Health Effects: Inhalation or ingestion of lead-containing dust or fumes may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm, and joint pain. Prolonged exposure may also cause central nervous system damage, gastrointestinal disturbances, anemia, kidney dysfunction and possible reproductive effects. Pregnant women should be protected from excessive exposure to prevent lead crossing the placental barrier and causing infant neurological disorders. Lead is considered a potential human carcinogen by IARC, ACGIH and NTP (see Toxicological Information, Section 11). Potential Environmental Effects: The product, a tin-lead alloy, is unlikely to yield direct ecological effects, as the constituent metals (i.e., tin and lead), are generally not readily bioavailable. However, processing of the product or extended exposure in both aquatic and terrestrial environments may lead to the release of tin and lead compounds in more bioavailable, and therefore, potentially toxic, forms (see Ecological Information, Section 12). EU Risk Phrase(s): R61 - May cause harm to the unborn child; R62 - Possible risk of impaired fertility; R20/22 - Harmful by inhalation and if swallowed; R33 - Danger of cumulative effects.				
3 Composition / Information on ingredients				
Pure ☐ Admixture ☒ Composition:				
Chemical Name	In % By Weight	CAS No.	EC No.	Molecular Formula
Tin	58.8	7440-31-5	231-141-8	Sn
Lead	39.2	7439-92-1	231-100-4	Pb
Rosin	2	8050-9-7	232-475-7	C19H29COOH
Abbreviation: CAS: Chemical Abstract Service EC: European Inventory of Existing Commercial chemical Substances				

The measurement results only apply to the submitted samples.
 Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service



COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 5 of 11

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: NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 2 – 8 oz. (60 – 240 ml) of water. If vomiting occurs naturally, have victim rinse mouth with water again. Obtain medical advice and bring a copy of this MSDS.

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. Lead 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

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

The measurement results only apply to the submitted samples.

Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service



COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
 DATE : Dec. 6, 2013
 PAGE : 6 of 11

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. Workers should wash and change clothing following cleanup of a spill to prevent personal contamination with lead dust.

Environmental Precautions: The constituent metals in this product (an alloy) have relatively low bioavailability; however, compounds of the constituent metals (in particular, lead), under certain chemical conditions, can yield toxic effects to aquatic and terrestrial plants and animals. Releases of the product to water and soil should, therefore, be prevented.

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, covered area away from incompatible materials and food or feedstuffs. Ingots suspected of containing moisture should be THOROUGHLY DRIED before being added to a molten bath. Otherwise, entrained moisture could expand explosively and spatter molten metal out of the bath.

EU Safety Phrase(s): S53 - Avoid exposure - obtain special instructions before use;
 S45 - In case of accident, or if you feel unwell, seek medical advice immediately (show the label where possible).

8 Exposure controls / personal protection

Control Parameters

Exposure Standards (Safe Work Australia)

Tin (metal):

TWA: - ppm / 2 mg/ m³

STEL: - ppm / - mg/ m³

Tin, organic compounds (as Sn):

TWA: - ppm / 0.1 mg/m³

STEL: - ppm / 0.2 mg/ m³

Lead (as Pb):

TWA: - ppm / 0.05 mg/ m³

STEL: - ppm / - mg/ m³

Engineering Controls: Adequate mechanical ventilation to control airborne concentrations below the exposure guidelines/limits.

The measurement results only apply to the submitted samples.

Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service



COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 7 of 11

Personal Protective Equipment (PPE)

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: 328°C (Lead) 232°C (Tin)

Boiling Point/Range: 1740°C (Lead) 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: 1 mmHg @ 973°C (Lead)(negligible @ 20°C)

Vapour Density: Not volatile

Relative Density (Specific Gravity): approx. 7.5 g/cm³

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.

The measurement results only apply to the submitted samples.

Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service

COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 8 of 11

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. Powdered lead fused with ammonium nitrate poses a risk of explosion. Solutions of sodium azide in contact with lead-containing materials can form lead azide, which is a detonating compound.

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 lead 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. Tin is much less toxic than lead and the health effects are therefore due principally to the lead content.

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 result in benign pneumoconiosis (stannosis), which causes inflammation of the lungs, but there is no distinct fibrosis or evidence of disability.

Lead:

Lead can be harmful when ingested or inhaled. Overexposure to lead can cause lead poisoning, which is characterized by decreased physical fitness, fatigue, sleep disturbance, headache, aching bones and muscles, constipation, abdominal pains, and decreased appetite. These symptoms are reversible and complete recovery is possible. However, continued over-exposure to lead can lead to increased symptoms and chronic systemic disorders. The kidneys, blood, gastrointestinal tract, nervous system, male and female reproductive system can all be adversely affected by concentrations of lead in the body. Pregnant women should be protected from excessive exposure in order to prevent lead crossing the placental barrier and causing infant neurological disorders. Teratogenic and mutagenic effects from exposure to lead have been reported in some studies but not in others. The literature is inconsistent and no firm conclusions can be drawn at this time. Lead and lead compounds are listed as an *A3 Carcinogen (Confirmed Animal Carcinogen with Unknown Relevance to Humans)* by the ACGIH. IARC has listed lead compounds as *Group 2A Carcinogens (Probably Carcinogenic to Humans)* while lead metal is listed as *Group 2B (Possibly Carcinogenic to Humans)*. The NTP has also listed lead and lead compounds as *Reasonably Anticipated to be a Human Carcinogen*. OSHA and the EU do not currently list lead as a human carcinogen. Chronic overexposure to tin can result in a benign pneumoconiosis called stannosis. This form of pneumoconiosis produces progressive x-ray changes of the lungs as long as exposure exists, but there is no evidence of disability and no special complicating factors. Tin is not considered a human carcinogen by the ACGIH, IARC, NTP, OSHA or the EU.

Rosin:

Acute exposure to rosin pyrolysis products (formaldehyde), may cause irritation of the eyes, nose and throat.

The measurement results only apply to the submitted samples.

Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service



COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
 DATE : Dec. 6, 2013
 PAGE : 9 of 11

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 lead compounds in more bioavailable forms. Compounds of lead have been shown to yield toxic effects in aquatic organisms, especially fish, at relatively low concentrations. Water hardness, pH and dissolved organic carbon content are physico-chemical characteristics which regulate the degree of toxicity by lead in solution. Lead compounds, however, are not particularly mobile in surface water or groundwater. In soil, lead has a tendency to become highly sorbed onto soil particles in accordance with certain soil properties. Lead also has the tendency to bioaccumulate in plants and animals in both aquatic and terrestrial environments.

Tin compounds have similar geochemical and ecological properties to those of lead but are considerably less toxic to aquatic and terrestrial organisms.

13 DISPOSAL CONSIDERATIONS

If material cannot be returned to process or salvage, dispose of only in accordance with applicable local, state/provincial and federal regulations. Waste material meets the requirements of a hazardous waste in most jurisdictions. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated in order to determine the proper waste classification and disposal methods.

14 TRANSPORT INFORMATION

Transport Canada and U.S. DOT Hazard Classification: Not a regulated product in ingot form.

Marine Pollutant: No.

IMO Classification: Not regulated.

15 REGULATORY INFORMATION

U.S.

Ingredients Listed on TSCA Inventory: Yes

Hazardous Under Hazard Communication Standard: Yes

CERCLA Section 103 Hazardous Substances: Lead... RQ: 10lb. (4.54 kg.)*

* reporting not required when diameter of the pieces of solid metal released is equal to or exceeds 100 micrometers.

EPCRA Section 302 Extremely Hazardous Substance: No Ingredients Qualify

EPCRA Section 311/312 Hazard Categories: Delayed (chronic) health hazard - Carcinogen
 Delayed (chronic) health hazard – Reproductive Toxin

EPCRA Section 313 Toxic Release Inventory (Supplier Notification): Lead... CAS No. 7439-92-1
 Percent by Weight: 39.2%

CANADIAN:

Ingredients Listed on DSL: Yes

The measurement results only apply to the submitted samples.

Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service

**COMPILE REPORT OF MSDS**

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 10 of 11

WHMIS Classification: D2A - Materials Causing other Toxic Effects - Very Toxic

EUROPEAN UNION:

Ingredients Listed on the European Inventory
of Existing Commercial Chemical Substances (EINECS): Yes

EU Classification: Toxic, Rep. Cat. 1 and Rep. Cat. 3

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

The measurement results only apply to the submitted samples.
Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service

COMPILE REPORT OF MSDS

REPORT No. : CNB3131128-04613-CO
DATE : Dec. 6, 2013
PAGE : 11 of 11

3 Sample Reference Photo



The measurement results only apply to the submitted samples.
Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

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

Fl.2 south Huoju Building, No.181 canghai Rd., Jiangdong High-tech Park Ningbo China

Tel: +86-574-87912121 (16 lines)

Fax: +86-574-87907993

Complaint line: +86-574-87908003

E-mail: cts@cts-lab.com

See Reverse For Terms And Conditions of Service