



MATERIAL SAFETY DATA SHEET

Section 1 - IDENTIFICATION

Product name	Sn62 and Sn63 NC 254
Other names	Not available
Recommended use/s	Solder paste for industrial applications in the electronics industry. Soldering.
Supplier name	Chemtools Pty Ltd
Address	Unit 4,3 Pullman Place, Emu Plains, NSW, 2750
Telephone number	02 4735 3126
Fax	02 4735 3746
Emergency telephone number	Australia: Poisons Information Centre 13 1126 International: Infotrac (708) 918-1900

Section 2 - HAZARDS IDENTIFICATION

General hazard statement	Classified as Hazardous according to the criteria of SafeWork Australia and the ADG Code
Hazard classification	Hazardous Substance. Non Dangerous Goods.
Risk phrase(s)	R20/22- Harmful by inhalation and if swallowed. R36/38- Irritating to eyes and skin. R42/43- May cause sensitization by inhalation and skin contact. R33- Danger of cumulative effects. R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrase(s)	S22- Do not breathe dust. S24- Avoid contact with skin. S37- Wear suitable gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S61- Avoid release to the environment. Refer to special instructions/safety data sheet
Routes of entry	Inhalation. Ingestion.
Potential acute health effects	<u>Inhalation:</u> Fumes and/or dusts produced by this product may be hazardous in case of inhalation. <u>Skin:</u> This product may be hazardous in case of skin contact (irritant, sensitiser). Skin inflammation is characterised by itching, scaling, reddening, or, occasionally, blistering. <u>Eyes:</u> This product may be hazardous in case of eye contact (irritant) <u>Ingestion:</u> Fumes and/or dusts produced by this product may be hazardous in case of ingestion.
Potential chronic health effects	Fumes and/or dusts produced by this product may be hazardous in case of ingestion, or inhalation. This product may be hazardous in case of skin contact (irritant, sensitiser), of eye contact (irritant) Cancer hazard. Contains material which can cause cancer. Contains material which can cause birth defect.

Section 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Chemical Name	CAS Number	Proportion % w/w
Tin	Tin	7440-31-5	50 - 65
Lead	Lead	7439-92-1	30 - 40
Silver	Silver	7440-22-4	1.5 - 2.0
Rosin		8050-09-7	1.5 - 5.0
Hydrogenated Rosin		65997-06-0	1.5 - 5.0

Section 4 - FIRST AID MEASURES



Standard SUSDP First Aid Statement	If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 13 1126 (Australia).
Description of necessary measures according to routes of exposure	
Eye contact	Check for and remove any contact lenses. DO NOT use an eye ointment. Seek medical attention.
Skin contact	Prolonged and repeated contact with bare skin may cause irritation. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap.
Hazardous skin contact	MOLTEN METAL can cause SEVERE BURNS. In case of burns: Hold burnt area under cold running water for at least 15 minutes. Cover with antiseptic ointment and sterile gauze. Seek IMMEDIATE medical attention.
Inhalation	Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.
Hazardous inhalation	Fumes in high concentrations: May be harmful if inhaled. If the victim is not breathing, perform mouth-to-mouth resuscitation. SEEK IMMEDIATE MEDICAL ATTENTION.
Ingestion	Remove dentures if any. Have conscious person drink several glasses of water or milk. INDUCE VOMITING BY sticking finger in throat. Lower the head so that the vomit will not re-enter the mouth and throat. NEVER give an unconscious person anything to ingest. Seek immediate medical attention.
Hazardous ingestion	No additional information
Indication of medical attention and special treatment needed including description of most important symptoms, acute and delayed	
Aggravated medical conditions caused by exposure	Repeated exposure to toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 5 - FIREFIGHTING MEASURES

Suitable extinguishing media	Small fire: Use DRY chemical powder. Large fire: Use water spray, fog or foam. NO water jet.
Hazards from combustion products	Products are carbon oxides; carbon monoxide and carbon dioxide. Some metallic oxides. Depending on conditions, some aliphatic aldehydes and carboxylic acids may also be formed.
Special protective precautions	
Special equipment for fire fighters	Use an approved/certified respirator or equivalent
Hazchem Code	
Special remarks on fire hazards	Metallic part of product is non-flammable. The organic medium may burn if exposed to direct flame. Non explosive in presence of shocks, of heat.

Section 6 - ACCIDENTAL RELEASE MEASURES

Emergency procedures	<u>Small spill and leak</u> – MOLTEN METAL: Let cool before picking up and returning to process or recycling. OTHER: Use appropriate tools to put the spilled solid in a container reserved to that effect. <u>Large spill</u> – Our data base contains no additional information in case of a large spill and/or leak of the product.
Methods and materials for containment and clean up	Carefully vacuum or sweep up spilled material and place into an appropriate container for disposal by incineration.

Section 7 - HANDLING AND STORAGE

Precautions for safe handling	Wear suitable protective clothing. Use in a well ventilated area. When using do not eat, drink or smoke. Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water.
Conditions for safe storage, including any incompatibilities	Keep container dry. Keep in a cool place. Suspected carcinogenic, teratogenic or mutagenic materials should be stored in a separate locked safety storage cabinet or room. Follow special instructions on container and analysis reports for additional storage information.

**Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION****National exposure standards**

Tin
TWA: 2mg/m³ from HSIS

Lead
TWA: 0.15 mg/m³ from HSIS

Silver
TWA: 0.1 mg/m³ from HSIS

Rosin, hydrogenated
If this product is heated to temperatures sufficient to produce smoke or fumes, the TLV-TWA of 0.1mg/m³ (as formaldehyde, as per HSIS), for rosin core pyrolysis products should be observed.

**Biological limit values
Engineering controls**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal protective equipment

HANDLING: gloves (disposable or vinyl), safety glasses or splash goggles, lab coat.
GENERAL USE: Use gloves [suitable to the operation], safety glasses or splash goggles; wear appropriate respirator when ventilation is inadequate. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Suggested protective clothing may not be adequate for a specific process. Consult a specialist before handling.
No additional information.

Personal protection in case of a large spill**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES****Appearance (colour, physical form, shape)**

Dark grey solid [paste].

Odour

Typical rosin.

pH

Not applicable.

Vapour pressure

Not available

Vapour density

Not available

Boiling point/range

Not available

Freezing/melting point

Melting point weighted average: 260° C

Solubility (specify solvent)

Insoluble in water and oil, n-octanol, acetone, partially soluble in diethyl ether, very slightly soluble in methanol.

Specific gravity or density

Weighted average 4.91

Flashpoint**Flammability****Upper and lower flammable limits****Ignition temperature****Viscosity**

350 to 1200 KcPs (see certificate for specific value)

Ionicity (in water)

Non-ionic

Dispersion properties

Is not dispersed in cold water, hot water, n-octanol, acetone.

Evaporation rate

Lower than 1

Water/Oil Dist. Coeff.**Corrosivity**

Corrosive in presence of copper. The organic medium in the paste has the task of cleaning (removing and preventing oxidation) the surface for soldering.

Section 10 - STABILITY AND REACTIVITY**Chemical stability**

The product is stable.

Conditions of instability

Stable in normal conditions. Over the melting point will emit toxic lead and tin oxide fumes. A small amount of organic fumes may also be evolved.

Conditions to avoid**Incompatible materials**

Reactive with oxidising agents.

Hazardous decomposition products

Lead and tin oxide fumes.

Hazardous reactions



Hazardous polymerisation

Section 11 - TOXICOLOGICAL INFORMATION

Health effects from likely routes of exposure

Toxicity to animals

Hydrogenated Rosin

Rat – Acute Oral LD₅₀: 8400 mg/kg

Guinea Pig – Acute Oral LD₅₀: 5000 mg/kg

Chronic effects on humans

Carcinogenic effects: [Lead]: Classified + (Proven) by OSHA, A3 (Proven for animal) by ACGIH, 2B (Possible for human) by IARC. [Rosen]: Classified 4 (Probably not for human) by IARC. [Rosen thermal decomposition product (as formaldehyde)]: Classified + (Proven) by NIOSH.

Developmental toxicity: Proven [Lead].

Mutagenic effects: Not available.

Teratogenic effects: Classified 1 by European Union.

The product may be toxic to lungs, upper respiratory tract, skin, eyes, blood, kidneys, the nervous system, the reproductive system, spleen, brain, digestive system, gastro-intestinal tract, eye, lens or cornea, thyroid.. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Other toxic effects on humans

Special remarks on chronic effects on humans

Human: Lead crosses the placental barrier.

Overexposure to fumes may cause irritation to the respiratory tract, digestive system and to the eyes. Overexposure to tin oxide fumes may results in benign pneumoconiosis (stannosis).

Repeated and prolonged contact may cause skin irritation, dermatitis and/or an allergic skin reaction (sensitisation) in susceptible individuals.

Special remarks on other toxic effects on humans

Inhalation of smoke or fumes, at high temperatures, may cause an asthmatic reaction in some individuals. Prolonged and repeated contact with bare skin may cause irritation or dermatitis. MOLTEN METAL can cause severe BURNS.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Not available.

Persistence and degradability

Not available.

Products of biodegradation

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the products of biodegradation

The products of degradation are less toxic than the product itself.

Mobility

Not available.

Environmental fate

Not available.

Bioaccumulative potential

Not available.

Section 13 - DISPOSAL CONSIDERATIONS

**Disposal methods and containers
Special precautions for landfill or incineration**

Waste must be disposed of in accordance with local, state and federal regulations.

Section 14 - TRANSPORT INFORMATION

Dangerous Goods Classification

Not a Dangerous Good (ADG Code)

UN Number

Not applicable

UN Proper Shipping Name

Not applicable

Class and subsidiary risk

Not applicable

Packing Group

Not applicable

Special precautions for user



Hazchem Code	Not applicable
IMDG Classification	Not controlled
IATA Classification	Not controlled
ADR/RID Classification	Not controlled (Europe)

Section 15 - REGULATORY INFORMATION

The regulatory status of a material (including its ingredients) under relevant Australian health, safety and environmental legislation

Poisons Scheduling (Australia SUSD) Based on the ingredients this product is not a scheduled poison.

Additional national and/or international regulatory information

Classifications WHMIS (Canada) WHMIS CLASS B-2: Flammable liquid with a flash point lower than 37.8 °C. WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC)

Section 16 - OTHER INFORMATION

Date of preparation or last revision of this MSDS 12 February 2010

Key/legend to abbreviations and acronyms used in the MSDS

IATA – International Air Transport Association
WHMIS – Workplace Hazardous Materials Information System
HSIS – Hazardous Substances Information System
ACGIH – American Conference of Government Industrial Hygienists
IARC – Inter Agency Regulatory Council
NOHSC – National Occupational Health and Safety Commission (Australia)
SUSD – Standard for the Uniform Scheduling of Drugs and Poisons (Australia)
STEL – Short Term Exposure Limit
OSHA – Occupational Safety and Health Administration
NTP – National Toxicology Program
PEL – Permissible Exposure Limit
TWA – Time Weighted Averages TLV - Threshold Limit Value
NIOSH – National Institute of Occupational Health and Safety

Literature references

Sources for data

United States MSDS for Sn62,Sn63 NC254 dated 27/07/2010
Australian ADG Code
HSIS – List of designated hazardous substances (Australia)
Standard for the Uniform Scheduling of Drugs and Poisons (Australia)

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.

End of MSDS