



MATERIAL SAFETY DATA SHEET

Section 1 - IDENTIFICATION

Product name	SAC305 NC257-2
Other names	Not available
Recommended use/s	Solder paste for industrial applications in the electronics industry.
Supplier name	Okay Technologies
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
Hazard classification	Hazardous Substance. Non Dangerous Goods.
Risk phrase(s)	Irritant R36/38 – Irritating to eyes and skin. R42/43 – May cause sensitisation by skin contact and by inhalation.
Safety phrase(s)	S2 – Keep out of the reach of children S24 – Avoid contact with the skin S37 – Wear suitable gloves S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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). Inflammation of the eyes is characterised by redness, watering and itching. <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). As shipped this product is not hazardous in case of skin contact (permeator). Non-corrosive for skin.

Section 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Chemical Name	CAS Number	Proportion % w/w
Tin	Tin	7440-31-5	700 - 100
Silver	Silver	7440-22-4	1.5 – 5
Hydrogenated Rosin		65997-06-0	1.5 – 5

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. Flush eyes with plenty of water for at least 15 minutes. DO NOT use an eye ointment. Seek immediate medical attention.
Skin contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Seek medical attention.



Hazardous skin contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. MOLTEN METAL can cause SEVERE BURNS. In case of burns: run cold water over the affected area for at least 20 minutes then place a sterile covering over the area. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Hazardous inhalation	No additional information. Seek immediate medical attention.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
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, nitrogen oxides and some metallic oxides; carbon monoxide, carbon dioxide.
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. Dust and powders may be flammable (tin). 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 and dispose of according to local and regional authority requirements. <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	

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, Do not ingest.. 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. Follow special instructions on container and analysis reports for additional storage information.

Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

National exposure standards	<u>Tin</u> TWA: 2 mg/m ³ from HSIS Respirable <u>Silver</u> TWA: 0.1 mg/m ³ from HSIS Respirable <u>Rosin, hydrogenated</u> Not available.
Biological limit values	No information.
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.
Personal protection in case of a large spill	No additional information.

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: 246 ° 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 5.96 (water = 1.0)
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, and 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 may emit toxic metallic oxide fumes. A small amount of organic fumes may also be evolved.
Conditions to avoid	
Incompatible materials	Reactive with oxidising agents.
Hazardous decomposition products	Tin oxide fumes.
Hazardous reactions	
Hazardous polymerisation	

Section 11 - TOXICOLOGICAL INFORMATION

Health effects from likely routes of exposure

Toxicity to animals	<u>Hydrogenated Rosin</u> Rat – Acute Oral LD50: 8400 mg/Kg Guinea Pig – Acute Oral LD50: 5000 mg/Kg
	<u>Rosin</u> Not available

**Chronic effects on humans**

Carcinogenic effects: [Tin]: Classified (None) by NIOSH. [Silver]: Classified (None) by NIOSH. [Copper]: Classified (None) by NIOSH. [Rosin]: Classified 4 (Probably not for human) by IARC. [Rosin thermal decomposition product (as formaldehyde)]: Classified + (Proven) by NIOSH.

Developmental toxicity: Not toxic.

Mutagenic effects: Not available.

Teratogenic effects: Not available.

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 exposure to toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Other toxic effects on humans

No additional information.

Special remarks on chronic effects on humans

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**

Waste must be disposed of in accordance with local regulations.

Special precautions for landfill or incineration

No additional information.

Section 14 - TRANSPORT INFORMATION**Dangerous Goods Classification**

Not a Dangerous Good by the ADG Code. [Australia]

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 SUSDP)**

Based on the ingredients this product is not a scheduled poison.



**Additional national and/or international regulatory information
Classifications**

Section 16 - OTHER INFORMATION

Date of preparation or last revision of this MSDS 08 March 2010

Key/legend to abbreviations and acronyms used in the MSDS

IATA – International Air Transport Association
WHMIS – Workplace Hazardous Materials Information System
HSIS – Hazardous Substance Information System
ACGIH – American Conference of Government Industrial Hygienists
IARC – Inter Agency Regulatory Council
NOHSC – National Occupational Health and Safety Commission (Australia)
SUSDP – 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 SAC305 NC257-2 dated 04/04/2008
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