

MATERIAL SAFETY DATA SHEET

Identity : Tin ball

MSDS - T 015 REV. A

Section I - Manufacturer's Information

Manufacturer Name	KOKI PRODUCTS CO., LTD.		
Address 9/1 Moo 4, Soi TeedInthal, Teparak Road, Bangplee, Samutprakam 10540 Thailand	For Information		
	Tel. (+662) 385 6757-80, 755 3300-3		
	Fax (+662) 385 5013, 755-3304		

Section II - Hazardous Ingredients/Identify Information

Hazardous Components	CAS No.	OSHA PEL	ACGIH TLV	%
Tin	7440-31-5	2.00 mg/m ³	2.00 mg/m ³	99.85

Section III - Physical/Chemical Characteristics

Boiling Point	NA	Specific Gravity (H ₂ O = 1)	7.3
Vapor Pressure (mm Hg)	NA	Melting Point (°C) ALLOYS	232
Vapor Density (AIR = 1)	NA	Evaporation Rate (Butyl Acetate = 1)	NA
Solubility in Water	Insoluble		
Appearance and Odor	Yellow-gray metal, odorless		

Section IV - Fire and Explosion Hazard Data

Flash Point NA	Flammable Limits	LEL	UEL
Extinguishing Media Carbon dioxide and/or dry chemical			
Special Fire Fighting Procedures Use self-contained breathing apparatus and full protective clothing for fires in enclosed areas.			
Unusual Fire and Explosion Hazards When heated to high temperatures, lead emits highly toxic fumes.			

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Section V - Reactivity Data

Identity : Tin ball

Stability	Unstable		Conditions to Avoid	Keep away from heat, sparks and open flames.
	Stable	X		
Incompatibility Strong oxidizing materials, acids, hydrogen peroxide.				
Hazardous Decomposition or Byproducts Lead oxide fume				
Hazardous Polymerization	May Occur		Conditions to Avoid	NA
	Will Not Occur	X		

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Section VI - Health Hazard Data

Route of Entry :	Inhalation	Skin	Ingestion
Health Hazards	<p>When heated, vapors can cause irritation to eyes, nose and throat. May cause headache.</p> <p>The chief effects of excessive lead intake are anemia, neurological disorders, and kidney damage.</p>		
Carcinogenicity :	Not listed NTP	IARC Monographs	OSHA Regulated
Signs and Symptoms of Exposure	<p>Symptoms of the neurological effects may include irritability, headaches, insomnia, delirium, convulsion, muscular tremors, and palsy of the extremities.</p>		
Medical Condition :	Generally Aggravated by Exposure		
Emergency and First Aid Procedures	<p>Inhalation : Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be removed from exposure and a physician consulted.</p> <p>Ingestion : Call a physician at once.</p> <p>Skin : For hot metal burns, exposed area should be cooled with water and medical attention sought. After handling solder paste, wash thoroughly with soap and water.</p>		

Section VII - Precautions for Safe Handling and Use :

Step to be Taken in Case Material is Released or Spilled	Avoid inhalation of solder and rosin fume or dust. Vacuuming is recommended.
Waste Disposal Method :	Contact supplier or a licensed chemical waste disposal contractor for treatment, packaging, and disposal requirements.
Precautions to be Taken in Handling & Storing :	Avoid breathing smoke during soldering. Wash hands before eating/smoking after handling solder.
Other Precautions	

Section VIII - Control Measures

Respiratory Protection :	A NIOSH approved dust/fume respirator should be worn where applicable limits may be exceeded.		
Ventilation	Local Exhaust	Remove smoke from breathing area	Special Not required
	Mechanical		Other
Protective Gloves	Use plastic or rubber gloves and aprons where necessary to avoid skin contact.		Eye Protection
			Safety glasses or goggles should be worn in areas where splashing may occur.
Other Protective Clothing or Equipment :	Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.		
Work/Hygienic Practices			

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	Stable	X		
Incompatibility Strong oxidizing materials, acids, hydrogen peroxide.				
Hazardous Decomposition or Byproducts Lead oxide fume				
Hazardous	May Occur		Conditions to Avoid	NA
	Polymerization	Will Not Occur		

Section VI - Health Hazard Data

Route of Entry :	Inhalation	Skin	Ingestion
Health Hazards	<p>When heated, vapors can cause irritation to eyes, nose and throat. May cause headache.</p> <p>The chief effects of excessive lead intake are anemia, neurological disorders, and kidney damage.</p>		
Carcinogenicity :	Not listed NTP	IARC Monographs	OSHA Regulated
Signs and Symptoms of Exposure	<p>Symptoms of the neurological effects may include irritability, headaches, insomnia, delirium, convulsion, muscular tremors, and palsy of the extremities.</p>		
Medical Condition :	Generally Aggravated by Exposure		
Emergency and First Aid Procedures	<p>Inhalation : Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be removed from exposure and a physician consulted.</p> <p>Ingestion : Call a physician at once.</p> <p>Skin : For hot metal burns, exposed area should be cooled with water and medical attention sought. After handling solder paste, wash thoroughly with soap and water.</p>		

Section VII - Precautions for Safe Handling and Use

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Waste Disposal Method :	<p>Contact supplier or a licensed chemical waste disposal contractor for treatment, packaging, and disposal requirements.</p>		
Precautions to be Taken in Handling & Storing :	<p>Avoid breathing smoke during soldering. Wash hands before eating/smoking after handling solder.</p>		
Other Precautions			

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Respiratory Protection :	<p>A NIOSH approved dust/fume respirator should be worn where applicable limits may be exceeded.</p>		
Ventilation	Local Exhaust	Remove smoke from breathing area	Special Not required
	Mechanical		Other
Protective Gloves	<p>Use plastic or rubber gloves and aprons where necessary to avoid skin contact.</p>		<p>Eye Protection</p> <p>Safety glasses or goggles should be worn in areas where splashing may occur.</p>
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