Material Safety Data Sheet

Section 1. Product and Company Identification

Common Name	**Sn-Pb NC 251**	**Code**	Not available
Product type	**Solder paste (No Clean)**	**Validation Date**	**5/7/2004**
		Version number	**2**
Synonym	FOR ALL ALLOYS (Sn-Pb) NC 251		
Material Uses	Industrial applications: Electronics industry. Soldering		
Supplier	AIM	**In Case of Emergency**	**INFOTRAC** **(North America): (800) 535-5053** (International): (352) 323-3500
Manufacturer	AIM 9100 Henri-Bourassa east Montreal, Quebec, Canada, H1E 2S4, (514) 494-2000		

Section 2. Hazardous Components

Name	CAS #	% by Weight	Toxicity Data (*LC50/LD50, TLV*)
1) LEAD	7439-92-1	Variable	TWA: 0.05 (mg/m^3) from ACGIH (TLV) [United States] [1995] INHALATION TWA: <0.1 (ppm) from NIOSH INHALATION Respirable.
2) Tin	7440-31-5	Variable	TWA: 2 (mg/m^3) from OSHA (PEL) [United States] [1997] INHALATION Respirable. TWA: 2 (mg/m^3) from ACGIH (TLV) [United States] [1994] INHALATION Respirable.
3) Rosin	8050-09-7	1-5	Not available.

Section 3. Hazards Identification

Physical State and Appearance	Solid. (Paste.)
Emergency Overview	WARNING!! Risk of cancer depends on duration and level of exposure Avoid contact with eyes DO NOT ingest. Do not breathe dust Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Avoid exposure during pregnancy. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.
Routes of Entry	Inhalation. Ingestion.
Potential Acute Health Effects	
Eyes	This product may be hazardous in case of eye contact (irritant).
Skin	This product may be hazardous in case of skin contact (irritant, sensitizer).
Inhalation	Fumes and/or dusts produced by this product may be hazardous in case of inhalation.
Ingestion	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, of inhalation. This product may be hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant).
Medical Conditions Aggravated by Overexposure:	Repeated exposure to toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Overexposure /Signs/Symptoms	Not available.
See Toxicological Information (section 11)	

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get 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: DO NOT USE WATER. Cover with antiseptic ointment and steril gauze. Seek IMMEDIATE medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek 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 reenter the mouth and throat. NEVER give an unconscious person anything to ingest. Seek medical attention.
Hazardous Ingestion	Not available.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Combustible. (organic medium)
Auto-Ignition Temperature	Not available.
Flash Points	The lowest known value is OPEN CUP: 180°C (356°F). (Cleveland.). (Rosin)
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2). Some metallic oxides. Depending on conditions, some aliphatic aldehydes and carboxylic acids also may be formed.
Fire Hazards in Presence of Various Substances	Combustible in presence of open flames and sparks, of heat.
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of shocks.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. NO water jet.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Fire Hazards	Metallic part of product is nonflammable. The organic medium may burn if exposed to direct flame.
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures

Small Spill and Leak	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.
Large Spill and Leak	Our data base contains no additional information in case of a large spill and/or a leak of the product.

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Section 7. Handling and Storage

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.
Storage	Keep container dry. Keep in a cool place.

Section 8. Exposure Controls, Personal Protection

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 Protection	
Eyes	Safety glasses or splash goggles;
Body	Lab coat.
Respiratory	Wear appropriate respirator when ventilation is inadequate. Be sure to use a MSHA/NIOSH approved respirator or equivalent. dust or fume respirator ;
Hands	Gloves (disposable, vinyl).
Feet	Not applicable.

*** Note:Suggested protective clothing may not be adequate for a specific process. Consult a specialist before using.**

Personal Protection in Case of a Large Spill	No additional information

Product Name	**Exposure Limits**
1) (See section 2)	

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid. (Paste.)	**Odor**	Typical rosin.
Molecular Weight	Not applicable.	**Taste**	Not applicable.
Chemical formula	Not applicable.	**Color**	Dark grey.
pH (1% Soln/Water)	Neutral.	**Specific Gravity**	Weighted average: 5-6 (Water = 1)

Acid Value (IPC TM-650, 2.3.13)	Not available.
Boiling/Condensation Point	Not available.
Melting/Freezing Point	Not available
Critical Temperature	Not available.
Vapor Pressure	not available
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
VOC	Not available.

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Viscosity	Dynamic: 350 to 1200 KcPs (see certificate for specific value)
$LogK_{ow}$	The product is insoluble in water and oil.
Ionicity (in Water)	Non-ionic.
Dispersion Properties	Is not dispersed in cold water, hot water, n-octanol, acetone. See solubility in diethyl ether.
Solubility	Partially soluble in methanol. Very slightly soluble in diethyl ether. Insoluble in cold water, hot water, n-octanol, acetone.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Stable in normal conditions. Over melting point, toxic metallic oxides may be evolved. A small amount of organic fumes may also be evolved.
Incompatibility with Various Substances	Reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Will not occur.
Corrosivity	Corrosive in presence of copper.
Special Remarks on Corrosivity	The Organic medium in a paste has the task of cleaning (removing and preventing oxydation) the surface for soldering.

Section 11. Toxicological Information

Toxic and Chronic Effects on Humans	Fumes and/or dusts produced by this product may be hazardous in case of ingestion, of inhalation. This product may be hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant). **CARCINOGENIC EFFECTS**: **[LEAD]** - Classified A3 (Proven for animal) by ACGIH, 2B (Possible for human) by IARC. **MUTAGENIC EFFECTS**Not available. **TERATOGENIC EFFECTS [LEAD]** - Classified 1 by European Union. **DEVELOPMENTAL TOXICITY**: **[LEAD]** - Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN]. The product may be toxic to blood, kidneys, lungs, the nervous system, the reproductive system, spleen, brain, digestive system, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), 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.
Toxicity to Animals	No specific information is available in our data base regarding the toxicity to animals.
Special Remarks on Chronic Effects on Humans	Human: LEAD crosses the placental barrier. CHRONIC OVEREXPOSURE EFFECTS; Increase of LEAD LEVEL in blood, muscle soreness, metallic taste, abdominal cramps, headaches. (Note: the above statements apply to ingested and/or inhaled particles) Repeated and prolonged contact with bare skin may cause an allergic reaction (sensitization) in susceptible individuals.
Special Remarks on Other Toxic Effects on Humans	MOLTEN METAL can cause severe BURNS! Inhalation of smoke and fumes, at high temperatures, may cause an asthmatic reaction in some individuals. *If this product is heated to temperatures sufficient to produce smoke or fumes, the TLV-TWA of 0.1 mg/m3 (as formaldehyde, as per ACGIH), for rosin core pyrolysis products should be observed.
Special Remarks on Toxicity to Animals	No additional remark.

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Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Biodegradable/OECD	Not available.
Mobility	Not available.
	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 more toxic.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream	Not available.

Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
	Not regulated
Special Provisions for Transport	Not applicable.
Special Provisions for Transport	
IMO/IMDG Classification	Not controlled under IMDG.
Marine Pollutant	Not available.
ADR/RID Classification	Not controlled under ADR (Europe).
ICAO/IATA Classification	Not controlled under IATA.

Section 15. Regulatory Information

HCS Classification	Class: Sensitizing substance. Class: Target organ effects. Class: Reproductive toxins.
U.S. Federal Regulations	TSCA inventory: ALL COMPONENTS SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Tin; LEAD; Rosin SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Tin: immediate health hazard; LEAD: delayed health hazard; Rosin: immediate health hazard, delayed health hazard SARA 313 toxic chemical notification and release reporting: LEAD: 0.1% Clean water act (CWA) 307: LEAD Clean water act (CWA) 311: No products were found.

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Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

State Regulations

Rhode Island RTK hazardous substances: Tin; Lead
Pennsylvania RTK: Tin: (generic environmental hazard); Lead;
Florida: Tin; Lead;
Minnesota: Tin; Lead; Rosin;
Michigan critical material: Lead
Massachusetts RTK: Tin; Lead;
New Jersey: Tin; Lead
New Jersey spill list: Tin

California prop. 65: This product contains **Lead** for which the State of California has found to cause cancer, birth defects or other reproductive harm (male,female), which would require a warning under the statute.
(no significant risk level) : **Lead**: 0.0005 mg/day (inhalation)

International Regulations

EINECS

Not available.

DSCL (EEC)

20/22- Harmful by inhalation and if swallowed.
36/38- Irritating to eyes and skin.
42/43- May cause sensitization by inhalation and skin contact.
R50/53- Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
61- May cause harm to the unborn child.
62- Possible risk of impaired fertility.

International Lists

Australia (NICNAS): All compounds

Korea (TCCL): All compounds

Philippines (RA6969): All compounds

Section 16. Other Information

Hazardous Material Information System (U.S.A.)

Health	*	1
Fire Hazard		1
Reactivity		0
Personal Protection		E

National Fire Protection Association (U.S.A.)

Label statements

BIRTH DEFECT HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECT
VERY TOXIC TO AQUATIC ORGANISMS.
HARMFUL IF INHALED OR SWALLOWED.
MAY CAUSE EYE IRRITATION.
MAY CAUSE RESPIRATORY AND SKIN REACTION.
POSSIBLE CANCER HAZARD
CONTAINS MATERIAL WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA.
MAY BE HARMFUL TO ENVIRONMENT IF RELEASED IN LARGE AMOUNTS.

References

-ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. -CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database -Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. Sigma-Alrich handbook of fine chemicals, 1998 -TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985.

Other Special Considerations

-ALL INGREDIENTS WITH SUSCEPTIBLE HAZARDS THAT ARE PRESENT IN A CONCENTRATION GREATER THAN 1 % (GREATER THAN 0.1 % FOR CARCINOGENS) HAVE BEEN DISCLOSED IN THIS SAFETY DOCUMENT.

Document Modifications

New document

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