Material Safety Data Sheet

Section 1. Product and Company Identification

Common Name	**Alloy Sn50/Pb50**	**Code**	Not available.
		Validation Date	**02/24/2004**
Product type	**Metal alloy**	**Version Number**	**1**
Synonym	Not available.		
Material Uses	Not available.		
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) Tin	7440-31-5	50	TWA: 2 (mg/m³) from ACGIH (TLV) [United States] [1994] INHALATION Respirable.
2) LEAD	7439-92-1	50	TWA: 0.05 (mg/m³) from ACGIH (TLV) [United States] [1995] INHALATION TWA: <0.1 (ppm) from NIOSH INHALATION Respirable.

Section 3. Hazards Identification

Physical State and Appearance	Solid. (bar, ingot, solid wire)
Emergency Overview	WARNING!
	Risk of cancer depends on duration and level of exposure. Avoid contact with eyes, skin and clothing. DO NOT ingest. Avoid breathing dust. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Avoid exposure during pregnancy. Wash thoroughly after handling.
Routes of Entry	Inhalation. Ingestion.
Potential Acute Health Effects	
Eyes	As shipped, this product is not hazardous in case of eye contact (irritant).
Skin	As shipped, this product is not hazardous in case of skin contact (irritant, sensitizer).
Inhalation	As shipped, this product is not hazardous in case of inhalation.
Ingestion	As shipped, this product is not 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)	

Continued on Next Page

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 causes SEVERE BURNS! In case of BURNS: DO NOT USE WATER. Cover with antiseptic ointment and steril gauze. 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	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Hazardous Ingestion	Not available.
Notes to Physician	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of shocks, of heat.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Massive metal is nonflammable.
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	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.

Continued on Next Page

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 tightly closed. Keep container in a cool, well-ventilated area.

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	HANDLING: safety glasses REMELTING: splash goggles or face sheilds
Body	REMELTING: coveralls
Respiratory	REMELTING: dust and fume respirator. Wear appropriate respirator when ventilation is inadequate. Be sure to use a MSHA/NIOSH approved respirator or equivalent.
Hands	gloves (suitable to the operation)
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	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	**Exposure Limits**
1) TIN	TWA: 2 (mg/m³) from ACGIH (TLV) [United States] [1994] INHALATION Respirable.
2) LEAD	TWA: 0.05 (mg/m³) from ACGIH (TLV) [United States] [1995] INHALATION TWA: <0.1 (ppm) from NIOSH INHALATION Respirable.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid. (bar, ingot, solid wire)	**Odor**	not applicable.
Molecular Weight	Not applicable.	**Taste**	Not applicable
Chemical formula	Not applicable.	**Color**	silver-grey
pH (1% Soln/Water)	Not applicable.	**Specific Gravity**	9.3(Water = 1)

Acid Value (IPC TM-650, 2.3.13)	Not available.
Boiling/Condensation Point	Not available.
Melting/Freezing Point	183 to 216°C (361.4 to 420.8°F)
Critical Temperature	Not available.
Vapor Pressure	Not applicable
Vapor Density	Not available.
Volatility	Not available.

Continued on Next Page

Odor Threshold	Not available.
Evaporation Rate	Not available.
VOC	Not available.
Viscosity	Not available.
$LogK_{ow}$	The product is insoluble in water and oil.
Ionicity (in Water)	Non-ionic.
Dispersion Properties	Is not dispersed in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.
Solubility	Insoluble in cold water, hot water, methanol, diethyl ether, n-octanol, acetone.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Over melting point, toxic metallic oxides may be evolved.
Incompatibility with Various Substances	Reactive with oxidizing agents, acids.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Will not occur.
Corrosivity	Not considered to be corrosive for metals and glass according to our database.
Special Remarks on Corrosivity	Not available.

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. Repeated or prolonged exposure to the substance can produce target organs damage.
Toxicity to Animals	LD50: Not available. LC50: Not available.
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 [dust; fumes]) Overexposure to tin oxide fumes may result in benigne pneumoconiosis (stannosis). Repeated and prolonged contact with bare skin may cause irritation, dermatitis and/or an allergic reaction (sensitization) in susceptible individuals.
Special Remarks on Other Toxic Effects on Humans	MOLTEN METAL can cause severe BURNS! Prolonged and repeated contact with bare skin may cause irritation or dermatitis. Fumes and dust may irritate eyes, digestive system and respiratory tract.

Continued on Next Page

Special Remarks on Toxicity to Animals	No additional remark.

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 less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

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 available.	
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.	

Continued on Next Page

Section 15. Regulatory Information

HCS Classification

Class: Contains material which can cause cancer.
Class: Sensitizing substance.
Class: Target organ effects.
Class: Reproductive toxins.

U.S. Federal Regulations

TSCA inventory: Tin; Lead
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: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Lead: delayed health hazard
SARA 313 toxic chemical notification and release reporting: Lead: 0.1%
Clean water act (CWA) 307: No products were found.
Clean water act (CWA) 311: No products were found.
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; Lead
Florida: Tin; Lead
Minnesota: Tin; Lead
Michigan critical material: Lead
Massachusetts RTK: Tin; Lead
New Jersey: Tin; Lead
New Jersey spill list: Tin
California prop. 65: This product contains the following ingredients 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: **LEAD**
California prop. 65 (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.
33- Danger of cumulative effects.
36/38- Irritating to eyes and skin.
43- May cause sensitization by skin contact.
61- May cause harm to the unborn child.
62- Possible risk of impaired fertility.

International Lists

No products were found.

Section 16. Other Information

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

Health	*	1
Fire Hazard		0
Reactivity		0
Personal Protection		E

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

Label statements

CANCER HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE CANCER
BIRTH DEFECT HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECT.
CAUSES SEVERE RESPIRATORY TRACT IRRITATION.
CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, NERVOUS SYSTEM, REPRODUCTIVE SYSTEM, SPLEEN, BRAIN, DIGESTIVE SYSTEM, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, EYES.
MAY BE HARMFUL IF INHALED OR SWALLOWED.

Continued on Next Page

	MAY CAUSE EYE AND SKIN IRRITATION. MAY CAUSE SKIN REACTION.
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	
Validated by P. Diallo 02/24/2004.	**Verified by P. Diallo** **Printed 02/24/2004**
Information/Contact	**AIM** **25 Kenney Drive, Rhode Island, USA, 02920** **(401) 463-5605 (800) CALL AIM**