Material Safety Data Sheet

Section 1. Product and Company Identification

Common Name	**Aim Free**
Product type	**Metal alloy**
Synonym	Aquasol, Sn/Sb/Cu/Ag
Material Uses	Industrial applications: Soldering Metal industry: Metallurgy.
Supplier	AIM
Manufacturer	AIM 9100 Henri-Bourassa east, Montreal, Quebec, Canada, H1E 2S4, (514)494-2000

Code	Not available.
Validation Date	**1/29/2002**
Version Number	**1**

In Case of Emergency **INFOTRAC**
(North America): (800) 535-5053
(International): (352) 323-3500

Section 2. Hazardous Components

Name	CAS #	% by Weight	Toxicity Data (*LC50/LD50, TLV*)
1) Tin	7440-31-5	60-100	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.
2) Antimony	7440-36-0	0.5-1.5	ORAL (LD50): Acute: 7000 mg/kg [Rat.]. TWA: 0.5 (mg/m^3) from OSHA (PEL) [United States] [1993] TWA: 0.5 (mg/m^3) from ACGIH (TLV) [United States] [1989] INHALATION
3) Copper	7440-50-8	1-5	TWA: 0.2 (mg/m^3) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 0.2 (mg/m^3) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 1 (mg/m^3) from NIOSH [United States] [1994] INHALATION TWA: 0.1 (mg/m^3) from OSHA (PEL) [United States] [1989] INHALATION

Section 3. Hazards Identification

Physical State and Appearance Solid. (Lustrous solid.)

Emergency Overview WARNING!

Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Avoid exposure during pregnancy. Wash thoroughly after handling.

Routes of Entry . Inhalation. Ingestion.

Potential Acute Health Effects

Eyes As shipped, this product is non-hazardous in case of eye contact (irritant).

Skin Sensitization of the product: Not available.
As shipped, this product is non-hazardous in case of skin contact (irritant, sensitizer). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation Fumes in concentrations greater than the TLV may be hazardous in case of inhalation, lungs sensitizer.

Continued on Next Page

Ingestion	Fumes in concentrations greater than the TLV 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 eye contact (irritant), of ingestion, of inhalation. This product may be hazardous in case of skin contact (irritant, sensitizer). Non-corrosive for skin. Non-permeator by skin.
Medical Conditions Aggravated by Overexposure:	
Overexposure /Signs/Symptoms	
See Toxicological Information (section 11)	

Section 4. First Aid Measures

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 causes 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 immediate medical attention.
Hazardous Inhalation	No additional information.
Ingestion	DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Hazardous Ingestion	No additional information.
Notes to Physician	

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 applicable.
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)	
Special Remarks on Fire Hazards	Massive metal is nonflammable.
Special Remarks on Explosion Hazards	No additional remark.

Continued on Next Page

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.

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 in a cool and well-ventilated area. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.

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;
Body	Lab coat.
Respiratory	(handling) No special protective clothing is required. (remelting) dust or 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 OSHA (PEL) [United States] [1997] INHALATION Respirable. TWA: 2 (mg/m³) from ACGIH (TLV) [United States] [1994] INHALATION Respirable.
2) Antimony	TWA: 0.5 (mg/m³) from OSHA (PEL) [United States] [1993] TWA: 0.5 (mg/m³) from ACGIH (TLV) [United States] [1989] INHALATION
3) COPPER	TWA: 0.2 (mg/m³) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 0.2 (mg/m³) from ACGIH (TLV) [United States] [1994] INHALATION TWA: 1 (mg/m³) from NIOSH [United States] [1994] INHALATION TWA: 0.1 (mg/m³) from OSHA (PEL) [United States] [1989] INHALATION

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid. (Lustrous solid.)
Molecular Weight	Not applicable.
Chemical formula	Not applicable.
pH (1% Soln/Water)	Not applicable.
Acid Value (IPC TM-650, 2.3.13)	Not available.

Odor	Odorless.
Taste	Not applicable.
Color	Silver-grey.
Specific Gravity	7.35 (Water = 1)

Continued on Next Page

Boiling/Condensation Point	Not available.
Melting/Freezing Point	225 to 258°C (437 to 496.4°F)
Critical Temperature	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
VOC	
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	

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, moisture.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	No.
Corrosivity	Not considered to be corrosive for metals and glass according to our database.
Special Remarks on Corrosivity	No additional remark.

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**: Not available. **MUTAGENIC EFFECTS**: Not available. **TERATOGENIC EFFECTS**: Not available. **DEVELOPMENTAL TOXICITY**: PROVEN [Antimony] The product may be toxic to the reproductive system, lungs. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Toxicity to Animals	Acute oral toxicity (LD50): 7000 mg/kg [Rat.]. (Antimony).

Continued on Next Page

Special Remarks on Chronic Effects on Humans	Human: ANTIMONY passes through the placental barrier and is detected in maternal milk. Human: COPPER passes through the placenta, excreted in maternal milk. Overexposure to tin oxide fumes may result in benigne pneumoconiosis (stannosis). Overexposure to fumes may cause irritation to the respiratory tract, digestive system and to the eyes. 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!
Special Remarks on Toxicity to Animals	No additional remark.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Biodegradable/OECD	
Mobility	
	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	Not available.
Waste Stream	Not available.

Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Special Provisions for Transport	Not applicable.
Special Provisions for Transport	
IMO/IMDG Classification	Not controlled under IMDG.
Marine Pollutant	
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

HCS CLASS: Irritating substance.
HCS CLASS: Sensitizing substance.
HCS CLASS: Target organ effects.

U.S. Federal Regulations

State Regulations

California prop. 65: No products were found.

International Regulations

EINECS

DSCL (EEC) R36- Irritating to eyes.

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

BIRTH DEFECT HAZARD
CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECT.
CAUSES SEVERE EYE IRRITATION.
CAUSES DAMAGE TO THE FOLLOWING ORGANS: KIDNEYS, LUNGS, REPRODUCTIVE SYSTEM, LIVER, RESPIRATORY TRACT, SKIN, EYES.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE ALLERGIC 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. -Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Rota, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. -TSCA (Toxic Substance Contral Act), Chemical Substance Inventory List, 1985. - IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) - LOLIPRO vol. 13, Environmental Health & Safety Series II, Micromedex Inc.

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 on 1/29/2002.

Verified by P. Diallo.

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Continued on Next Page

Information/Contact **AIM**
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