

CHIP QUIK, INC.
The SMD Removal Solution
195 Falmouth Road Unit 1C
Mashpee, MA 02649

SMD 16NL
CHIP QUIK® REMOVAL ALLOY
NEW NO LEAD FORMULA

SMD 32NL
CHIP QUIK® REMOVAL ALLO
NEW NO LEAD FORMULA

Material Safety Data Sheet

Section 1. Product and Company Identification	
Common Name	Alloy Sn16.3/Bi54.1/In29.6
Code	Not available.
Product type	Metal alloy
Validation Date	5/1/2002
Synonym	Not available.
Version Number	1
Material Uses	Not available.
Supplier	AIM
Manufacturer	AIM
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	15-18	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) Indium	7440-74-6	25-32	TWA: 0.1 (mg/m ³) from ACGIH (TLV) [United States] [1986] Total. TWA: 0.1 (ppm) from ACGIH (TLV) [United States]

Section 3. Hazards Identification	
Physical State and Appearance	Solid. (Metal alloy)
Emergency Overview	WARNING!! Avoid contact with eyes, skin and clothing. DO NOT ingest. Avoid breathing dust. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
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). Non-corrosive for skin. Non-permeator by skin. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Inhalation This product may be hazardous in case of inhalation. Ingestion This product may be hazardous in case of ingestion.
Potential Chronic Health Effects	Chronic effects: This product may be hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant), of ingestion, of inhalation. Non-corrosive for skin. Non-permeator by skin.
Medical Conditions Aggravated by Overexposure:	Repeated or prolonged exposure is not known to aggravate medical condition.
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	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Hazardous Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. 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.
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.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill and Leak	Our data base contains no additional information in case of a spill and/or a leak of the product.

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Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin, and clothing. DO NOT ingest. Avoid breathing dust. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.
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	Splash goggles.
Body	Lab coat.
Respiratory	Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	Gloves.
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/m ³) from OSHA (PEL) [United States] [1997] <u>INHALATION</u> Respirable. TWA: 2 (mg/m ³) from ACGIH (TLV) [United States] [1994] <u>INHALATION</u> Respirable.
2) Indium	TWA: 0.1 (mg/m ³) from ACGIH (TLV) [United States] [1986] Total. TWA: 0.1 (ppm) from ACGIH (TLV) [United States]
Consult local authorities for acceptable exposure limits.	

Section 9. Physical and Chemical Properties

Physical State and Appearance	Solid. (Metal alloy)	Odor	Not available.
Molecular Weight	Not applicable.	Taste	Not applicable.
Chemical formula	Not applicable.	Color	Colorless.
pH (1% Soln/Water)	Not applicable.	Specific Gravity	Weighted average; 8.49 (Water = 1)
Acid Value (IPC TM-650, 2.3.13)	Not available.		
Boiling/Condensation Point	Not available.		
Melting/Freezing Point	Weighted average: 232.22°C (450°F)		
Critical Temperature	Not available.		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		

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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	Stable in normal conditions. Over melting point, will emit toxic indium oxides. (Indium)
Incompatibility with Various Substances	Very slightly reactive with oxidizing agents, acids, moisture.
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	This product may be hazardous in case of skin contact (irritant, sensitizer), of eye contact (irritant), of ingestion, of inhalation. Non-corrosive for skin. Non-permeator by skin. CARCINOGENIC EFFECTS: Classified NONE by NIOSH [Tin]. Classified NONE by NIOSH [Bismuth]. Classified NONE by NIOSH [Indium]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The product may be toxic to blood, kidneys, lungs, liver, heart, upper respiratory tract, skin, 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	Overexposure to fumes may cause irritation to the respiratory tract and to the eyes. (Indium)
Special Remarks on Other Toxic Effects on Humans	Inhalation of excessive amounts of indium oxide fumes may cause lung irritation. (Indium)
Special Remarks on Toxicity to Animals	No additional remark. (Tin)

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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 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 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.
U.S. Federal Regulations	TSCA inventory: Tin; Bismuth; Indium 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; Bismuth; Indium SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Tin: immediate health hazard; Bismuth: fire; Indium: delayed health hazard SARA 313 toxic chemical notification and release reporting: No products were found.

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	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 Pennsylvania RTK: Tin: (generic environmental hazard); Indium: (generic environmental hazard) Florida: Tin; Indium Minnesota: Tin; Indium Massachusetts RTK: Tin; Indium New Jersey: Tin; Indium New Jersey spill list: Tin California prop. 65: No products were found.
International Regulations	
EINECS	Not available.
DSCL (EEC)	36/38- Irritating to eyes and skin. 43- May cause sensitization by skin contact.
International Lists	Australia (NICNAS): Tin; Bismuth; Indium Korea (TCCL): Tin; Bismuth; Indium Philippines (RA6969): Tin; Bismuth; Indium

Section 16. Other Information

Hazardous Material Information System (U.S.A.)	Health	*	2	National Fire Protection Association (U.S.A.)	<p>Fire Hazard Reactivity Specific Hazard</p>
	Fire Hazard		0		
	Reactivity		1		
	Personal Protection		E		

Label statements

CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, LIVER, HEART, RESPIRATORY TRACT, SKIN, CRYSTALLINE LENS OR CORNEA.
MAY BE HARMFUL IF INHALED OR SWALLOWED.
MAY CAUSE EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.

References Not available.

Other Special Considerations -ALL COMPONENTS 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 5/1/2002.	Verified by P. Diallo. Printed 5/1/2002.
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