






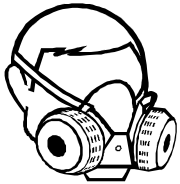
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Material Safety Data Sheet

| WHMIS (Pictogram) | WHMIS (Classification) | Protective Equipment |
|---|--|---|
|  | D-1B: Material causing Immediate and serious toxic effects. |    |

SECTION I: Product and Company Identification

| | | |
|-------------------------|---|-----------------------------------|
| Common Name: | LOW 117 | In Case Of Emergency |
| Trade Name: | LOW 117, CerroLow 117, AIM 47 | |
| Chemical Family: | Bismuth Based Alloy | Canutec (CAN): (613) 996-6666 |
| Material Use: | Soldering, Pouring | |
| Supplier Name: | Alchemy Castings 563 Kenilworth Ave. N. Hamilton, Ontario Canada L8H 4T8 | Date Prepared: August 2010 |

SECTION II: Composition and Information on Ingredients

| Name | CAS # | % by Weight | Exposure Limit | LD50 oral, rat |
|--------------|-----------|-------------|------------------------|------------------|
| Bismuth (Bi) | 7440-69-9 | 44.7 | No data | 500 mg/kg |
| Lead (Pb) | 7439-92-1 | 22.6 | 0.05 mg/m ³ | 790 mg/kg |
| Tin (Sn) | 7440-31-5 | 8.3 | 2.0 mg/m ³ | 72 mg/kg (mouse) |
| Cadmium (Cd) | 7440-43-9 | 5.3 | 0.01 mg/m ³ | 225 mg/kg |
| Indium (In) | 7440-74-6 | 19.1 | 0.1 mg/m ³ | 4200 mg/kg |

SECTION III: Physical Information

| | | | |
|--------------------------------|-----------------|-----------------------------------|---------------|
| Boiling Point (°C) | Unknown | Specific Gravity | 8.86 |
| Vapour Pressure (mm Hg) | Unknown | % Volatile (By Volume) | Not Pertinent |
| Vapour Density (Air=1) | Unknown | Evaporation Rate (Ether=1) | Not Pertinent |
| Solubility In Water | Nil | pH | Not Pertinent |
| Appearance | Metallic Silver | Melting Point (°C) | 47 |
| Odour | None | Form | Bar, Ingot |

SECTION IV: Transport Information

| | | | |
|----------------------|---------------|-----------------------|---------------|
| Shipping Name | Not Regulated | Class/Division | Not Pertinent |
| UN Number | Not Pertinent | Packing Group | Not Pertinent |

| SECTION V: Fire and Explosion Hazards | |
|--|--|
| Flash Point (°C) and Method | Dust may generate a fire |
| Flammable Limits in Air (Vol %) | Upper: Not Pertinent Lower: Not Pertinent |
| Means of Extinction | Class D – Dry Chemical or Sand |

| SECTION VI: Health Hazard and First Aid Data | |
|---|---|
| Ingestion | Effects: Diarrhea, nausea, vomiting, abdominal pain, headaches, muscle soreness, loss of appetite. |
| | First Aid: Seek medical aid. |
| Eye Contact | Effects: Molten metal could splash into eye. |
| | First Aid: Flush with cool water for 15 minutes and seek immediate medical aid. |
| Skin Contact | Effects: Not a recognized hazard. |
| | First Aid: If dust or mist gets on skin, wash skin with soap and water. Remove clothing and launder. |
| Skin Absorption | Not Pertinent |
| Inhalation | Dryness of throat, cough, pain in chest, fume fever, nausea, headaches, metallic taste, loss of appetite. |
| Effects of Acute Exposure | Diarrhea, nausea, salivation, abdominal pain, headaches, vomiting, lead encephalopathy. |
| Effects of Chronic Exposure | Muscle soreness, loss of appetite, metallic taste, abdominal cramps, high blood lead. |
| Carcinogenicity | IARC (Yes) |
| Mutagenicity | Yes |
| Teratogenicity | Yes |
| Reproductive Effects | Yes |

| SECTION VII: Reactivity Data | |
|---|---|
| Stability | Stable - Yes Conditions to Avoid Not Pertinent |
| Incompatible Materials | Water No Acid No Oxidizers Yes |
| | Corrosive No Alkali No Reducers No |
| | Other No |
| Hazardous Decomposition Products | Not Pertinent |
| Hazardous Polymerization | May Occur No Will Not Occur X |
| | Conditions to Avoid Not Pertinent |

| SECTION VIII: Preventative Measures | |
|---|--|
| Steps to be taken in case Material is Released or Spilled: If spill of dust, use cleanup methods which avoid dust generation. Use water and wet sweep or vacuum. | |
| Waste Disposal Method: Dispose of in accordance with appropriate federal and local regulations. | |
| Respiratory Protection: When engineering controls are not feasible to control overexposure, use appropriate NIOSH approved respirators. | |
| Engineering Controls | Local Exhaust Essential to keep worker exposure within allowable limits during welding or grinding. |
| | Mechanical (General) Not Applicable |
| | Special Not Applicable Other Not Applicable |
| | Not Applicable |
| Protective Gloves: As needed to protect against physical hazards. | Eye Protection: Safety glasses, goggles or face shield if molten. |
| Other Protective Equipment: Heat resistant leggings and gloves if pouring molten metal. | |

| SECTION IX: Special Precautions | |
|---|--|
| Precautions to be taken in Handling and Storing: The scrap metal itself presents no health hazard unless it is welded, burned, ground or cut. Possible fumes may be generated. Should have complete evaluation done. Wash hands and arms after handling. | |
| Special Precautions and Waste Disposal Methods: Return to manufacturer, scrap dealer, or dispose of in accordance to local & federal regulations. | |

| SECTION X: Notice to Reader | |
|---|--|
| The information contained in this MSDS was obtained from sources which are believed to be reliable. It is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. The manufacturer does not assume responsibility and expressly disclaims liability for any loss, damage, or expense arising out of or in any way connected with, the handling, storage, use or disposal of the product identified in this MSDS. | |

Prepared by: Health, Safety and Environment Department of Alchemy Castings