SECTION 1 - PRODUCT IDENTIFICATION AND USE
Product Identifier: 1520E Silver Solder
Product Application: Solder
Manufacturers Name: IMPERIAL SMELTING AND REFINING CO. LTD.
Complete Address: 451 DENISON ST. MARKHAM, ONTARIO L3R 1B7
Emergency Telephone No.: (905) 475-9566
Suppliers Name: 
Complete Address: 
Emergency Telephone No.: 

SECTION 2 - HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Ingredients</th>
<th>%</th>
<th>CAS #</th>
<th>TLV (mg/m3)</th>
<th>STEL (mg/m3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILVER</td>
<td>49.00 – 56.00</td>
<td>7440-22-4</td>
<td>0.1</td>
<td>2.0</td>
</tr>
<tr>
<td>COPPER</td>
<td>24.00 – 31.00</td>
<td>7440-50-8</td>
<td>0.2</td>
<td>2.0</td>
</tr>
<tr>
<td>ZINC</td>
<td>14.00 – 21.00</td>
<td>7440-66-6</td>
<td>5.0</td>
<td>10.0</td>
</tr>
<tr>
<td>TIN</td>
<td>1.00 - 5.00</td>
<td>7440-31-5</td>
<td>2.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

SECTION 3 - PHYSICAL DATA

<table>
<thead>
<tr>
<th>Physical State -</th>
<th>SOLID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance -</td>
<td>Wire or sheet</td>
</tr>
<tr>
<td>Density (g/cm3) -</td>
<td>9.21</td>
</tr>
<tr>
<td>Liquidus (C) -</td>
<td>680</td>
</tr>
<tr>
<td>Solidus (C) -</td>
<td>640</td>
</tr>
</tbody>
</table>

Information Not Applicable: Odour threshold; vapour pressure; vapour density; evaporation rate; pH

SECTION 4 - FIRE AND EXPLOSION DATA

Flammability: None
Extinguishing Media: Class D extinguisher; sand or other non-flammable solid
Information Not Applicable: Flashpoint; upper and lower flammable limit; auto ignition temperature; hazardous combustion products

SECTION 5 - REACTIVITY DATA

Chemical Stability: Product is stable under normal ambient working conditions
Incompatibility: Keep product away from strong acids, halogens or acetylene. This alloy is a solder so its use generally involves melting the material supplied. Small additions of water to molten metal can cause an explosion and must be avoided. It is strongly recommended that any solder join be solid before water quenching if that is part of the process.
Hazardous Decomposition Products: On excessive heating, this product may decompose and liberate metal fumes. Avoid exposure to temperatures over 800 °C / 1472 °F.
SECTION 6 - TOXICOLOGICAL PROPERTIES

Route of Entry: Inhalation or skin contact

Effects of Acute Exposure to Material: INHALATION OF FRESHLY FORMED FUME MAY CAUSE METAL FUME FEVER. INITIAL SYMPTOMS INCLUDE DRYNESS AND IRRITATION OF THE THROAT. SEVERAL HOURS AFTER EXPOSURE, SIGNS INCLUDE A METALLIC TASTE IN THE MOUTH, HEADACHE, FEVER, CHILLS, EXCESSIVE SWEATING, MUSCLE PAINS, NAUSEA, VOMITING AND WEAKNESS. RECOVERY FROM SYMPTOMS OCCURS WITHIN 48 HOURS. METAL FUME FEVER IS NOT USUALLY FATAL

Effects of Chronic Exposure: There are no known chronic effects relating to repeated incidences of metal fume fever.

Carcinogenicity: N. AV  Teratogenicity: N. AV  Mutagenicity: N. AV

Synergistic Materials: NONE  LD50: N. AV  LC50: N. AV

SECTION 7 - PREVENTIVE MEASURES

Engineering Controls: Local exhaust is recommended when soldering with this alloy. A health and safety consultant can assess your individual ventilation needs see; Industrial Ventilation: A manual recommended practice; by the Acgih

Personal Protective Equipment:
Gloves: Wear hand protection to suit the process being used, and if dermatitis results from handling.
Respirator: Low fume concentrations in vicinity of TLV, use portable fume respirator or high efficiency particulate filter (NIOSH APPROVED)
Consult: CSA STD. Z94.4-M1982 “Selection, Care and Use of Respirator”
Eye Protection: Wear eye protection suited to the procedure being used. Tinted shielded safety glasses and / or suitable face shield should be worn to protect against molten metal splashes and strong ultra-violet or infrared energy emitted form the molten metal.
Consult: CSA STD. Z94.3-M1982 “Industrial Eye and Face Protectors”

Leak and Spill Procedures: Spill of metal in as supplied condition should be swept up and stored as outlined below. Use only if the spilled metal can be cleaned to remove any contamination. Molten metal should be smothered with sand or other suitable class D extinguishing media.

Waste Disposal: Return any spilled solder alloy to manufacturer for refining. Disposal procedures for soldered assemblies should be as per local requirements for the alloys involved.

Storage Requirements: Store in dry container away from incompatibles

SECTION 8 - FIRST AID MEASURES

If a person breathes in large amounts of metal fume, move them to fresh air. If breathing has stopped, perform artificial respiration and arrange for medical attention. Keep the person warm and at rest. If breathing is difficult, provide oxygen. Take the person to medical attention if they exhibit symptoms of metal fume fever noted in Section 6. Administer first aid to burns caused by molten metal. If dermal irritation initiates from handling material, wash affected area thoroughly with soap and water. Seek medical attention as appropriate.

SECTION 9 - PREPARATION DATE OF MSDS

Prepared by: A. Anderson, Senior Project Manager
Phone Number: (905) 475-9566  Date: September 20, 2006