

## MATERIAL SAFETY DATA SHEET

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### 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

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

### SECTION 3 - PHYSICAL DATA

Physical State -	SOLID
Appearance -	Wire or sheet
Density (g/cm3) -	9.21
Liquidus (C) -	680
Solidus (C) -	640

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

### SECTION 4 - FIRE AND EXPLOSION DATA

Flammability: None

Explosion Data: 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 joint 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

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## 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 from 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

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## 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.

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## SECTION 9 - PREPARATION DATE OF MSDS

Prepared by: A. Anderson, Senior Project Manager

Phone Number: (905) 475-9566

Date: September 20, 2006

