

**MATERIAL SAFETY DATA SHEET**

CODE M/L 1116

This Material Safety Data Sheet complies with OSHA Communication Standard 29CFR 1910.1200 and the Hazardous Products Act of the Canada Labour Code

**PRODUCT: Tin/Copper and Tin/Copper/Silver (<1%Ag) Rosin Core Wire Solder****COMMON NAME OF SYNONYMS:** Includes trade name products: Bernzomatic**SECTION I**

**MANUFACTURERS NAME:** Taracorp/IMACO, Inc.  
1690 Lowery Street  
Winston-Salem, NC 27101

**INFORMATION PHONE:** 336-777-8600  
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(TRANSPORTATION/CHEMTREC)  
**PREPARATION DATE:** November 1998

**SECTION II HAZARDOUS INGREDIENTS**

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>US-NIOSH RTECS NO.</u>	<u>US OSHA 8-HR AL</u>	<u>US OSHA 8-HR PEL</u>	<u>ACGIH 8-HR TLV</u>	<u>APPROX. VOLUMN PERCENT</u> <u>1</u>	<u>WT. PERCENT</u> <u>2</u>
SOLDER	COMPONENT					97.0	
	S						
Tin	7440-31-5	XP7320000	NE	2.0mg/mg3	2.0mg/mg3		Balance
Copper	7440-50-8 Dust	GL5325000	NE	1.0mg/mg3	1.0mg/mg3		1.0-10.0
	Fume						
Silver	7440-22-4	VW3500000	NE	0.01mg/m3	0.1mg/m3		<1.0
CORE	COMPONENTS					3.0 (3)	
Rosin	65997-06-0	NK	NE	0.1mg/m3 (4)	0.1mg/m3 (4)		3.0

**NOTES:** 1-Product volume formulation is relatively constant.

2-Product weight formulation is to customer specification and appears on product packaging or packing slip.

3-Remaining constituents, by volume, are inert or constitute less than the declaratory reporting threshold.

4-Aliphatic Aldehydes, measured as formaldehyde (CAS #50-00-0; rtecs #LP89250000), best indicator of rosin pyrolysis products.

NE=NONE ESTABLISHED AL=ACTION LEVEL PEL=PERMISSIBLE EXPOSURE LIMIT TLV=THRESHOLD LIMIT VALUE

**SECTION III PHYSICAL DATA**

<b>APPEARANCE &amp; ODOR (AT NORMAL CONDITIONS):</b>	Solder is solid- Silver to silver-gray meallc metal-No odor: Contains core of light yellow color with rosin odor.
<b>SPECIFIC GRAVITY (H20=1):</b>	7.4
<b>MELTING POINT RANGE (DEGREES F):</b>	227-250 (441-482 Degrees F)
<b>BOILING POINT (DEGREES C):</b>	No information Available
<b>SOLUBILITY IN WATER:</b>	Insoluble
<b>EVAPORATION RATE (BUTYL ACETATE=1):</b>	Not applicable
<b>VAPOR DENSITY (AIR=1):</b>	Not applicable
<b>VAPOR PRESSURE (mmHg):</b>	Not applicable
<b>PH:</b>	Not applicable

**SECTION IV EXPLOSION HAZARD DATA**

<b>FLASH POINT:</b>	Non-Flammable
<b>FLAMMABLE LIMITS:</b>	Not Applicable
<b>EXTINGUISHING MEDIA:</b>	No specific agents available
<b>SPECIAL FIRE FIGHTING PROCEDURES</b>	If involved in fire, use full protective clothing and NIOSHA/MSHA approved self-contained breathing apparatus operated in a positive-pressure mode.
<b>UNUSUAL FIRE &amp; EXPLOSION HAZARDS:</b>	The solid metal form is not a fire hazard. However, dust generated from processing operations may present a moderate fire or explosion hazard.

**SECTION V REACTIVITY DATA**

<b>STABILITY:</b>	Stable
<b>CONDITIONS TO AVOID:</b>	Not Applicable
<b>INCOMPATIBLTY:</b>	Chlorine, Turpentine, Magnesium, Acetylene Gas. Never mix molten metal with water.-it will explode.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	At temperatures above the melting point metal oxide fumes may be evolved.
<b>HAZARDOUS POLYMERIZATION:</b>	Will not occur.

**SECTION VI HEALTH HAZARD DATA****NOTE:** Exposure to the solid form of this product presents few health hazards in itself. However, normal handling or processing of this material may result in the generation of tin and copper dusts and/or fumes, which may present a health hazard.**ROUTES OF ENTRY :** Inhalation of dust/fume & ingestion of dust.**SYMPTOMS & EFFECTS OF OVEREXPOSURE :**Chronic (prolonged) overexposure to tin can result in benign pneumoconiosos (stannois). This form of pneumoconiosos produces progressive x-ray changes of the lungs as long as exposure exists, but there is

no distinctive fibrosis, no evidence of disability and no special complicating factors. Acute (severe short-term) overexposure to tin can cause irritation of the eyes, skin, mucous membranes and respiratory system. Acute overexposure to tin can cause irritation of the eyes, skin mucous membranes and respiratory system. Acute overexposure to Copper dusts or fumes can cause metal fume fever with flu-like symptoms such as sweet metal taste, dry throat, coughing, fever and chills, tight chest, dyspnea, headache, blurred vision, back pain, nausea, vomiting, fatigue. Symptoms usually disappear within 24 hours. Copper may cause skin and hair discoloration. Inhalation of copper dusts may cause changes in the gums and mucous lining of the mouth which is generally attributable to localized tissue effect rather than general toxicity. Acute overexposure to the rosin pyrolysis products is characterized by the following symptoms: irritation to eyes, nose throat, lacrimation; burning nose and cough.

#### **MEDICAL CONDITIONS POSSIBLE**

#### **AGGRAVATED BY EXPOSURE**

#### **CARCINOGENICITY**

#### **ADDITIONAL INFORMATION**

:Pre-existing conditions of the lungs. Wilson's Disease (Genetic Trait)

:Not listed as a carcinogen by NTP, IARC, OSHA, ACGIH

In industrial/commercial processing operations, pre-employment medical evaluations are recommended for large users of this product. Attention should be directed to skin, eyes, respiratory tract, pulmonary function and neurological health. Periodic medical examinations should be repeated on an annual basis for those employees exposed to potentially hazardous levels of this product.

#### **EMERGENCY & FIRST AID PROCEDURES**

**SKIN:** Normal hygiene procedures - wash with soap and water. If rash develops get medical attention.

**EYES:** Flush well with running water to remove particulate. If irritation persists get medical attention.

**ACUTE:** Remove from exposure. Obtain medical attention. If breathing has

**INHALATION:** stopped, initiate artificial resuscitation.

**INGESTION:** Give water; induce vomiting in a conscious individual; obtain medical attention.

### **SECTION VII PROTECTION MEASURES**

**RESPIRATORY PROTECTION:** Respiratory protection is required where airborne exposures exceed US-OSHA/ACGIH permissible air concentrations. Respirator selection shall be made in accordance with the US OSHA Respiratory Protection Standard, 29CFR 1910.134.

**VENTILATION** :Ventilation, as described in "Industrial Ventilation, A Manual of Recommended Practice", by the American Conference of Governmental Industrial Hygienists, is recommended to maintain exposure levels below the permissible exposure limits (PEL's) or threshold limit values (TLV's) specified by US-OSHA or other local or state regulations.

**PROTECTIVE GLOVES** :Recommended for prolonged contact/heat. Required above the lead PEL.

**EYE PROTECTION** :Safety glasses or goggles are recommended where the possibility exists of getting dust particles in the eyes. Safety glasses with faceshield are recommended around molten metal.

**OTHER PROTECTIVE EQUIPMENT** : Safety equipment should be worn as appropriate for the work environment.

**WORK/HYGIENIC PRACTICES** :Do not permit eating, drinking, or the use of cosmetics or tobacco products while handling or processing material or in solder work areas. Practice good oral hygiene procedures. Wash hands and face thoroughly before eating, drinking, applying cosmetics or using tobacco products. Avoid inhalation and ingestion of product, and activities which generate dust or fume. Keep melting/soldering temperatures as low as possible to minimize the generation of fume.

### **SECTION VIII PRECAUTIONS FOR SAFE HANDLING & USE**

#### **PRECAUTIONS TO BE TAKEN**

**IN HANDLING & STORING** :Practice good housekeeping procedures to prevent dust accumulations. Keep material dry. Avoid storage near incompatible materials (See Section V). Keep product away from children and their environment.

**OTHER PRECAUTIONS** :Special attention is drawn to the requirements of the U.S. OSHA Lead Standard (1910.1025) and Respirator Standard (1910.134) should airborne exposures exceed the U.S. OSHA (PEL). Inadvertant contaminants to product such as moisture, ice, snow, grease or oil can cause an explosion when charged to a molten metal bath or melting furnace (Preheating metal will remove moisture from product).

### **SECTION IX SPILL OR LEAK PROCEDURES**

**SPILL OR LEAK PROCEDURES** :1)Material in dust form-minimize exposure. Clean up using dustless methods (i.e. Vacuum). Do not use compressed air. 2)Place in closed labeled containers for recycling or disposal. 3)Keep out of waterways.

**NOTE:** Cleanup personnel should wear protective clothing and respiratory protection where significant dust/fume exposure exists.

**OTHER PROCEDURES** : We recommend that the purchaser establish a spill prevention, control and counter measure plan. This plan should include procedures for proper storage as well as clean-up of spills or leaks. The procedures should conform to safe practices and provide for proper recovery and/or disposal. Depending on the quantity spilled, notification to the U.S. National Response Center (800-424-8802) may be required in case of hazardous substances. (See USEPA and USDOT regulations:also various state and local regulations.)

**WATER DISPOSAL METHODS** :May have value on a recycled basis. If disposed of, dispose of in a permitted disposal site in accordance with all federal, state and local disposal or discharge regulations. Under the U.S. Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the product falls under the RCRA as a hazardous waste. This is because product uses, transformations, synthesis, mixtures, etc. may cause the resulting end-product to be classified as hazardous.

### **SECTION X UNITED STATES SARA TITLE III INFORMATION**

This product/mixture contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of title III of the U.S. Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372. The percent by weight of each toxic chemical and its associated chemical abstract system (CAS) number are to found in Section II of this Material Safety Data Sheet.

CHEMICAL NAME	EHS RQ (LBS) *1	EHS TPQ (LBS) *2	SEC.313 *3	313 CATEGORY *4	311/312 CATEGORY *5
Copper	Not Applicable	Not Applicable	YES	Copper	H-1

**-FOOTNOTES-**

- \*1= Reportable quantity of extremely hazardous substance, Section 302.
- \*2= Threshold planning quantity, extremely hazardous substance, Section 302.
- \*3= Toxic chemical list, Section 313
- \*4= Chemical category as required by Section 313 (40 CFR 372.42). Subject to annual release reporting requirements.
- \*5= Hazard category for SARA Section 311/312 reporting:  

Health H-1=Immediate (ACUTE) Health Hazard	Physical P-3= Fire Hazard
H-2=Delayed (CHRONIC) Health Hazard	P-4= Sudden Release of Pressure Hazard
	P-5= Reactive Hazard

**SECTION XI UNITED STATES CERCLA SECTION 103 INFORMATION**

This product/mixture contains the following chemicals subject to the release reporting of Section 302.

<b>CHEMICAL NAME</b>	RQ (LBS) (*1)
Copper	5000

**-FOOTNOTES-**

- \*1= Reportable quantity (RQ) under CERCLA Section 302. Spills to the environment exceeding the reportable quantity in any 24 hour period must be reported to the U.S. National Response Center (800) 424-8802. No reporting of releases of the hazardous substance(s) is required if the diameter of the pieces of the solid metal(s) released is equal to or exceeds 100 micrometers (0.004 inches).

**SECTION XII USDOT TRANSPORTATION INFORMATION (172.101)**

DOT SHIPPING NAME	:This product is not regulated by the USDOT as shipped.
HAZARD CLASS	:NOT APPLICABLE
UN/ID NO.	:NOT APPLICABLE
DOT LABELS(S)	:NOT APPLICABLE

**SECTION XIII ADDITIONAL INFORMATION**

United States -State Hazardous Substance Lists: Tin and Copper appear on the state hazardous substance lists of MA and NJ.  
Canada- HOA WHMIS List: Copper appears on the Canadian HPA WHMIS Chemical List.

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