

**MATERIAL SAFETY DATA SHEET**

CODE: M/L 041

This Material Safety Data Sheet complies with the U.S. OSHA Hazard Communication Standard 29CFR 1910.1200 Products Act of the Canada Labour Code

**PRODUCT: DUTCH-BOY® LEAD-FREE SOLDER**

NFPA/HMIS HAZARD CODES: HEALTH: 1/1 FIRE: 0/0 REACTIVITY: 0/0 SPECIAL: NA

0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**SECTION I**

**MANUFACTURERS NAME:** Taracorp  
1690 Lowery Street  
Winston-Salem, NC 27101  
**INFORMATION PHONE:** 336-777-8600

**PREPARATION DATE:** March 2003  
**EMERGENCY PHONE:** 800-424-9300  
(Transportation/Chemtrec)

**SECTION II HAZARDOUS INGREDIENTS**

INGREDIENT	CAS NO.	US-NIOSH RTECS NO.	US OSHA AL	US OSHA PEL	ACGIH TLV	WT. PERCENT
Tin	7440-31-5	XP7320000	NE	2.0mg/m3	2.0mg/m3	Balance
Copper	7440-50-8(dust) (fume)	GL5325000	NE	1.0 mg/m3 0.1 mg/m3	1.0 mg/mg3 0.2 mg/m3	4.95
Selenium	7782-49-2	VS7700000	NE	0.2 mg/m3	0.2 mg/m3	0.05

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

**SECTION III PHYSICAL DATA**

**APPEARANCE & ODOR (AT NORMAL CONDITIONS):** Solid - silver to silver gray metallic metal- No odor

**SPECIFIC GRAVITY (H2O=1):** 7.39

**MELTING POINT RANGE (DEGREES F):** 419 - 425

**BOILING POINT (DEGREES C):** Information not available

**SOLUBILITY IN WATER:** Insoluble

**EVAPORATION RATE (BUTYL ACETATE=1):** Not applicable

**VAPOR DENSITY (AIR=1):** Not applicable

**VAPOR PRESSURE (mmHg):** Not applicable

**PH:** Not applicable

**SECTION IV EXPLOSION HAZARD DATA**

**FLASH POINT:** Non-Flammable

**FLAMMABLE LIMITS:** Not Applicable

**EXTINGUISHING MEDIA:** No specific agents available

**SPECIAL FIRE FIGHTING PROCEDURES:** If involved in fire, use full protective clothing and NIOSHA/MSHA approved self-contained breathing apparatus operated in a positive-pressure mode.

**UNUSUAL FIRE & EXPLOSION HAZARDS:** 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**

**STABILITY:** Stable

**CONDITIONS TO AVOID:** Not Applicable

**INCOMPATIBILITY:** Chlorine, Turpentine, Magnesium, and Acetylene Gas

**HAZARDOUS DECOMPOSITION PRODUCTS:** At temperatures above the melting point metal oxide fumes may be evolved.

**HAZARDOUS POLYMERIZATION:** 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, antimony 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 pneumoconiosis (stannous) This form of pneumoconiosis 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. **Chronic** overexposure to **antimony** can lead to liver and kidney damage and central nervous system disorders. Antimony can cause eye and skin irritation and dermatitis. **Acute** (severe short-term) overexposure to **tin** can cause irritation of the eyes, skin, mucous membranes and respiratory system. **Acute** overexposure to **antimony** can cause upper respiratory tract infection and systemic antimony poisoning with symptoms including abdominal cramps, nausea, dizziness, dry throat and various nervous complaints, such as sleeplessness, Irritability and muscular pains. **Acute** overexposure to **copper** dusts or fumes can cause irritation of the eyes, nose, throat and skin, and under severe fume overexposure may cause metal fume fever either 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 in the mouth, which is generally attributable to, localized tissue effect rather than general toxicity.

### MEDICAL CONDITIONS POSSIBLY

**AGGRAVATED BY EXPOSURE:** Pre-existing conditions of the lungs, diseases of the kidneys, liver and nervous systems, Wilson's Disease (Genetic Trait).

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

**INHALATION:** Remove from exposure. Get medical attention.

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

**ADDITIONAL INFORMATION** For large users of this product, pre-employment medical evaluations are recommended. Attention should be directed to skin, eyes, respiratory tract, and pulmonary function. Periodic medical examinations should then be repeated on an annual basis for those employees exposed to potentially hazardous levels of this product. Some animal studies indicate that inhalation of antimony trioxide fume may pose an increased risk of lung cancer. ACGIH identifies antimony trioxide as a class A2 carcinogen (suspected human carcinogen). IARC classifies antimony trioxide (fume) as a Group 2B carcinogen (possibly carcinogenic to humans).

### 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.

**INHALATION:** Remove from exposure. Get medical attention.

**INGESTION:** Give water; induce vomiting in a conscious individual; get 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 face shield are recommended around molten metal.

**OTHER PROTECTIVE EQUIPMENT:** Safety equipment should be worn as appropriate for the work environment. Full protective clothing and shoes are required for employee exposure above the lead PEL. Other safety equipment should be worn as appropriate for the work environment. Keep work clothing separate from street clothes.

**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. Full protective clothing is required to worn by workers exposed to concentrations of lead/dust fume above the PEL, and showering is required before changing into street clothes. 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 fumes.

## 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 Respirator (1910.134) should airborne exposures exceed the U.S. OSHA PEL.

## 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.

## 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 be found in Section II of this Material Safety Data Sheet.

<u>CHEMICAL NAME</u>	<u>EHS RQ (LBS)</u>	<u>HS TPQ (LBS)</u>	<u>SEC.313</u>	<u>313 CATEGORY</u>	<u>311-312 CATEGORIES</u>
Copper	(*1) Not Applicable	(*2) Not Applicable	(*3) Yes	(*4) Copper	(*5) 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  
H-2=Delayed (CHRONIC) Health Hazard

Physical P-3= Fire 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.

<u>CHEMICAL NAME</u>	<u>RQ (LBS)</u>
Copper	(*1) 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 LABEL (S): NOT APPLICABLE

NO ADDITIONAL INFORMATION

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