



Health 1
 Flammability 0
 Reactivity 0
 Protection 0

MATERIAL SAFETY DATA SHEET

Metallic Resources, Inc.

A. GENERAL INFORMATION

TRADE NAME (COMMON NAME OR SYNONYM) SC995e (Cobalt995 tm) Sn99.5/Cu0.5/Co		PRODUCT CODE# 100	
CHEMICAL NAME Tin/Copper/Cobalt Alloy			
FORMULA Sn99.5/Cu0.5/Co		MOLECULAR WEIGHT 118.7	
ADDRESS (No., STREET, CITY, STATE AND ZIP CODE) 2116 Enterprise Parkway Twinsburg, Ohio 44087			
CONTACT Metallic Resources, Inc. or contact any emergency room within 15 minutes of your location.		PHONE NUMBER (330) 425-3155	ISSUED DATE: 11/15/2004 REVISED DATE: 4/19/2006

B. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	C.A.S. #	WT. %	PERMISSIBLE AIR CONCENTRATION
Tin	7440-31-5	99.5	2 mg/Cubic Meter <input checked="" type="checkbox"/> OSHA <input type="checkbox"/> ACGIH <input type="checkbox"/> OTHER

C. FIRST AID MEASURES

INHALATION: This material is generally considered non-toxic; but should a person complain about malaise such as headache, nausea, vomiting, vertigo, remove from contaminated area. If malaise persists, seek medical attention.

INGESTION: Cannot be swallowed - Solid material.

EYES: Not applicable - Solid material.

SKIN: If burned by molten alloy, apply burn ointment.

NOTE: If there is any discomfort, see MSDS for flux used in conjunction with alloy.

D. HAZARDOUS INFORMATION**HEALTH**

INHALATION Generally not a problem. Sensitive people may experience head ache or nausea which is usually transient.

INGESTION Tin is relatively non-toxic but may cause fever, nausea, stomach cramps or diarrhea.

SKIN Accidental burn by molten alloy.

EYES Not Applicable

MEDICAL CONDITIONS POSSIBLY AGGRAVATED

Not Applicable - Considered non-toxic.

UNUSUAL CHRONIC TOXICITY

Unknown - Considered non-toxic.

FIRE AND EXPLOSION

FLASH POINT Not Applicable <input type="checkbox"/> OPEN CUP <input type="checkbox"/> CLOSED CUP	°C	AUTO IGNITION TEMPERATURE Not Applicable	°C	FLAMMABLE LIMITS IN AIR (% BY VOL.) Not Applicable
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UNUSUAL FIRE AND EXPLOSION HAZARDS

Moderate in the form of fine dust in presence of open flame.

E. PRECAUTIONS/PROCEDURES**FIRE EXTINGUISHING AGENTS RECOMMENDED**

Not Applicable.

FIRE EXTINGUISHING AGENTS TO AVOID

CAUTION! Water in contact with molten metal generates a lot of steam and molten metal splashing.

SPECIAL FIRE FIGHTING PRECAUTIONS

In case of high temperature fire, above 1000C-2000F, self contained respiratory system against metal fumes.

ENGINEERING CONTROLS

None required in solid state. In molten state. In Molten state, good ventilation or exhaust to keep fumes below permissible limit.

NORMAL HANDLING

Commensurable with common sense and good practice.

STORAGE

Nothing exceptional.

SPILL OR LEAK

In solid state, pick-up and reuse. In molten state, let solidify and reuse if not contaminated. If contaminated put in container and send back to refinery. Vacuum fine dust.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

None required in solid state. In molten state, good ventilation and exhaust.

PERSONAL HYGIENE

None required in solid state. In molten state, good ventilation or exhaust.

F. PERSONAL PROTECTIVE EQUIPMENT**RESPIRATORY PROTECTION**

None in solid state. In molten state, respirator approved by NIOSH or Mine Safety & Health Administration, if good ventilation or exhaust not available.

EYES AND FACE

None in solid state. Safety glasses or face cover up obligatory when molten to protect against possible splashing.

HANDS, ARMS, AND BODY

Heat resistant gloves, leather apron obligatory when molten to protect against possible splashing.

OTHER CLOTHING AND EQUIPMENT

Appropriate equipment for work.

G. PHYSICAL DATA**MATERIAL IS (AT NORMAL CONDITIONS):**

Liquid Solid Gas

APPEARANCE AND ODOR

Silver-gray metal, odorless
 Various shapes and sizes

BOILING POINT 2260°C - 4100°F

Melting Point 227°C - 440°F

SPECIFIC GRAVITY

(H₂O = 1)

7.31

VAPOR DENSITY

(AIR = 1)

Unknown

SOLUBILITY IN WATER

(% by Weight) Insoluble

pH

Not Applicable

VAPOR PRESSURE

(mm Hg at 20°C) (PSIG)
 Not Applicable

EVAPORATION RATE

(Butyl Acetate = 1) (Ether = 1)
 Not Applicable

% VOLATILES BY VOLUME

(At 20°C)

Not Applicable

H. REACTIVITY DATA**STABILITY**

UNSTABLE STABLE

CONDITIONS TO AVOID

Not Applicable

INCOMPATIBILITY (MATERIAL TO AVOID)

Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS

Not Applicable.

HAZARDOUS POLYMERIZATION

MAY OCCUR WILL NOT OCCUR

CONDITIONS TO AVOID

Not Applicable

I. ENVIRONMENTAL**EPA HAZARDOUS SUBSTANCE?**

Yes No

IF SO, REPORTABLE QUANTITY: _____

40 CFR
116-117

WASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS)

Send back to refinery for reclamation.

RCRA STATUS OF UNUSED MATERIAL:

Not Applicable.

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J. REFERENCES

PERMISSIBLE CONCENTRATION REFERENCES

OSHA, NIOSH, ACGIH, Merck Index, NTP (National Toxicity Program)

HAZARD INFORMATION REFERENCES

OSHA: "Dangerous Properties of Industrial Material" by Irwin Sax.

GENERAL

K. ADDITIONAL INFORMATION

One should remember that when handling this material when molten, any malaise, such as headache, nausea, vomiting or vertigo can be related to the flux used in conjunction with the alloy.

Due to the unpredictable responses of an individual to fumes and vapors it is advisable not to allow pregnant women in a soldering area.

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