



Meets the Requirements of OSHA Standard 29 CFR 1910.1200 Hazard Communication and EPA Supplier Notification Requirements under Section 313 of the Emergency Planning and Community Right-to-Know Act.

SAFETY DATA SHEET (SDS)

SDS ISCO-003 Rev 2

RENEWAL DATE 01/22

MANGANESE BRONZE INGOTS

SECTION 1—PRODUCT IDENTIFICATION & COMPANY INFORMATION

PRODUCT NAME

MANGANESE BRONZE INGOTS

OTHER DESIGNATIONS:

UNS ALLOY Copper Alloy and/or Proprietary Designations:

C67300	C86300	C86700	C99700
C86100	C86400	C86800	C99750
C86200	C86500	C99600	

MANUFACTURER'S NAME

I. Schumann Co LLC

STREET ADDRESS

22500 Alexander Road

EMERGENCY TELEPHONE NO.

440-439-2300

MAILING ADDRESS

22500 Alexander Road

TELEPHONE NO.

440-439-2300

CITY, STATE, ZIP CODE, COUNTRY

Bedford, Ohio 44146 USA

FAX NO.

440-439-0317

E-MAIL ADDRESS/WEBSITE

www.ischumann.com

RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Solid metal shapes; no restrictions

SECTION 2—HAZARD IDENTIFICATION

CLASSIFICATION

The INGOTS are metallic articles that do not present hazards in their original form.

HAZARD STATEMENT:



WARNING

Fumes from hot processes may contain other compounds with different exposure limits. Dust or fumes generated by melting, machining, grinding, welding or thermal cutting of the product may produce airborne contaminants. Consult Sections 3 & 8 for further information.

PRECAUTIONARY STATEMENT:

- Do not breathe fumes
- Wear protective gloves
- Do not eat, drink, or smoke when using this product

SECTION 3—COMPOSITION/INFORMATION ON INGREDIENTS		
CHEMICAL NAME/COMMON NAME/SYNONYM	Wt %	CAS NUMBER
Aluminum (Al) Metal	0.5-7.5	7429-90-5
Cobalt (Co) Metal	0.0-0.2	7440-48-4
Copper (Cu) Metal	54.0-68.0	7440-50-8
Iron (Fe) Metal	0.4-4.0	1309-37-1
Lead (Pb) Metal	0.0-2.0	7439-92-1
Manganese (Mn) Metal	0.1-23.0	7439-96-5
Nickel (Ni) Metal	0.0-6.0	7440-02-0
Tin (Sn) Metal	0.0-2.5	7440-31-5
Zinc (Zn) Metal	17.1-42.0	7440-66-6
SECTION 4—FIRST AID MEASURES		
EYE CONTACT:	Not applicable to solid articles	
SKIN CONTACT:	No special requirements for solid articles	
INGESTION:	Not applicable	
INHALATION:	Not applicable	
SECTION 5—FIREFIGHTING MEASURES		
FLAMMABLE PROPERTIES: The product in its present form is noncombustible.		
EXTINGUISHING MEDIA: Use fire extinguishing materials suitable for the surrounding environment.		
UNUSUAL FIRE AND EXPLOSION HAZARDS: If the alloys in their molten form come in contact with water, a severe steam reaction will cause the molten metal to be sprayed about the area.		
PROTECTION OF FIREFIGHTERS: Not applicable		
SECTION 6—ACCIDENTAL RELEASE MEASURES		
Not applicable		
SECTION 7—HANDLING & STORAGE		
RECOMMENDED STORAGE		
No special requirements		
PROCEDURES FOR HANDLING		
Proper hand and foot protection is recommended.		
SECTION 8—EXPOSURE CONTROLS/PERSONAL PROTECTION		
ENGINEERING CONTROLS		
None Required prior to melting. There are no health hazards from the product in solid form.		
SUBSTANCE	ACGIH TLV mg/m³	OSHA PEL mg/m³
Aluminum (Al) Metal		
Total Dust	N/E	15
Respirable Dust	1 (R)	5 (R)
Cobalt (Co) Metal	0.02	0.1
Copper (Cu) Metal	1	1
Iron (Fe) Metal	N/E	N/E
Lead (Pb) Metal	0.5	30µg/m ³ AL 50µg/m ³ PEL (See 29CFR1910.1025)
Manganese (Mn) Metal	N/E	N/E
Nickel (Ni) Metal	1.5 (I)	1
Tin (Sn) Metal	2	2
Zinc (Zn) Metal	N/E	N/E

SUPPLEMENTAL INFORMATION

Fumes from hot processes may contain other compounds with different exposure limits than those listed herein. Dust or fumes generated by machining, grinding, welding or thermal cutting of the INGOT may produce airborne contaminants. Exposure limits for the most common contaminants are offered as reference. Please consult a competent person for guidance on exposure assessment and controls.

SUBSTANCE	ACGIH TLV mg/m ³	OSHA PEL mg/m ³
Aluminum Oxide (Al) Total Dust Respirable Dust	N/E 1 (R)	15 5 (R)
Cobalt (Co) Metal Dust and Fume Metal and Inorganic Compounds	N/E 0.02	0.1 N/E
Copper Compounds Fume (Cu) Dusts and Mists (Cu)	0.2 1	0.1 1
Iron Compounds Iron Oxide (Fe ₂ O ₃) Fume Iron Oxide (Fe ₂ O ₃) Respirable	N/E 5 (R)	10 N/E
Lead Compounds Inorganic Compounds (Pb)	0.05	30µg/m ³ AL 50µg/m ³ PEL (See 29CFR1910.1025)
Manganese Compounds (Mn) Fume and Inorganic Compounds	0.02 (R) 0.1 (I)	5 (C)
Nickel Compounds (Ni) Insoluble, Inorganic Compounds Soluble, Inorganic Compounds Nickel Oxide	0.2 (I) 0.1 (I) 0.2 (I)	1 1 1
Tin Oxide (Sn)	2	N/E
Zinc Compounds (Zn) Zinc Oxide Total Dust Zinc Oxide Respirable Dust Zinc Oxide Fume	N/E 2 / 10 STEL N/E	15 5 5

TERMS

All exposure limits referenced herein are 8 hour time weighted averages (TWA) unless otherwise noted.

N/E = None Established

C = Ceiling

I = Inhalable fraction

R = Respirable fraction

STEL = Short Term Exposure Limit

TLV = Threshold Limit Value/American Conference of Governmental Industrial Hygienists (ACGIH)

PEL = Permissible Exposure Limit / OSHA

AL = Action Level / OSHA

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

PERSONAL PROTECTION Proper hand and foot protection is recommended.				
SECTION 9—PHYSICAL & CHEMICAL PROPERTIES				
APPEARANCE /PHYSICAL STATE Solid, Orange-red to brown in color				
ODOR/ODOR THRESHOLD None		VAPOR DENSITY Not applicable		
MELTING POINT/FREEZING POINT Approximately 1085°C (1984°F) for copper		SPECIFIC GRAVITY (relative density) 8.96 g/cm ³ for copper (water = 1)		
BOILING POINT 2562°C (4644°F) for copper		VAPOR PRESSURE Not applicable		
FLASH POINT Not applicable for solid product		EVAPORATION RATE Not applicable		
FLAMMABILITY Product not flammable in solid form		SOLUBILITY IN WATER Insoluble		
UPPER AND LOWER FLAMMABILITY LIMITS Not applicable for product in solid form		pH Not applicable		
AUTO IGNITION TEMPERATURE Not applicable		VISCOSITY Not applicable		
DECOMPOSITION TEMPERATURE Not applicable		PARTITION COEFFICIENT Not applicable		
SECTION 10—STABILITY & REACTIVITY				
CHEMICAL STABILITY: Product is stable in solid form				
CONDITIONS TO AVOID: None				
REACTIVITY: Not reactive		INCOMPATIBLE MATERIALS: Not applicable to product in solid form.		
HAZARDOUS DECOMPOSITION PRODUCTS None		HAZARDOUS POLYMERIZATION Not applicable		
SECTION 11—TOXICOLOGICAL INFORMATION				
POTENTIAL HEALTH EFFECTS				
EYE CONTACT: None				
SKIN: None				
INGESTION: None				
INHALATION: None				
Carcinogen Classification of Ingredients				
INGREDIENT	OSHA	NTP	IARC	TARGET ORGAN(S)
Cobalt and Compounds	NL	NL	2B	Lung
Lead and Inorganic Compounds	NL	R	2A	Lung, Stomach, Liver, Kidney
Nickel Metal	NL	K	2B	Lung, Nasal passages
TERMS				
OSHA—Occupational Safety & Health Administration Y = Listed as a Human Carcinogen				
NTP—National Toxicology Program K = Known to be a Human Carcinogen R = Reasonably Anticipated to be a Human Carcinogen (RAHC)				
IARC—International Agency for Research on Cancer 1 = Carcinogenic to Humans 2A = Probably Carcinogenic to Humans 2B = Possibly Carcinogenic to Humans 3 = Unclassifiable as to Carcinogenicity in Humans 4 = Probably not Carcinogenic to Humans				
Other NL = Not Listed				

SECTION 12— ECOLOGICAL INFORMATION			
ECOTOXICITY Not applicable	PERSISTENCE AND DEGRADABILITY Not applicable		
BIOACCUMULATION POTENTIAL Not applicable	MOBILITY IN SOIL Not applicable		
OTHER ADVERSE EFFECTS Not applicable			
SECTION 13—DISPOSAL CONSIDERATIONS			
Recover or recycle if possible. Dispose of according to federal, state and local regulations. Dust collected from machining, welding, etc. may be classified as a hazardous waste. Consult federal, state and local regulations.			
SECTION 14—TRANSPORT INFORMATION			
US DEPARTMENT OF TRANSPORTATION (DOT)-HMR (Hazardous Materials Registration) Not Regulated	CANADIAN TRANSPORTATION OF DANGEROUS GOODS (TDG) Not regulated		
UN SHIPPING NAME Not regulated	UN NUMBER Not regulated		
TRANSPORT HAZARD CLASS Not regulated	PACKING GROUP Not regulated		
ENVIRONMENTAL HAZARDS None	LABEL(S) REQUIRED? No		
TRANSPORT IN BULK Not applicable	SPECIAL SHIPPING INFORMATION Not applicable		
SECTION 15—REGULATORY INFORMATION			
US-OSHA (Hazard Communication Standard) References: 29 CFR 1910.1200 Hazard Communication Standard The finished product is an article as defined in 29CFR 1910.1200 (c) 29 CFR 1910.1000 Air Contaminants 29CFR1910.1025 Lead			
US-EPA (Toxic Substances Control Act-TSCA) All components of these products are on the TSCA inventory list or are excluded from listing.			
US-EPA (SARA Title III) Releases to the environment of Copper, Lead, Nickel, Manganese and Zinc (fume or dust) are subject to reporting under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 when you exceed the threshold quantities. This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40 CFR 372):			
CHEMICAL NAME	De minimis, %	Wt %	CAS NUMBER
Copper (Cu) Metal	1.0	78.0-85.0	7440-50-8
Lead (Pb) Metal	0.1	6.5-13.0	7439-92-1
Nickel (Ni) Metal	0.1	0-0.8	7440-02-0
Manganese (Mn) Metal	1.0	0.1-23.0	7439-96-5
Zinc (Zn) Metal	1.0	0.5-4.0	7440-66-6
CANADA-WHMIS (Workplace Hazardous Materials Information System) This SDS has been prepared according to the hazard criteria of the Controlled Product Regulations (CPR) and the SDS contains the information required by the CPR			
CANADA DSL (Domestic Substances List) Inventory Status All components of these products are on the DSL Inventory.			
CEPA (Canadian Environmental Protection Act) Lead is on the Toxic Substances List.			

EINECS No. (European Inventory of Existing Commercial Chemical Substances) All components of these products are on the EINECS list.
RoHS (Restriction of Certain Hazardous Substances) Compliance Products comply with RoHS
CALIFORNIA PROPOSITION 65 Compliance WARNING: This product contains or produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25248.5 et seq.)
US STATE REGULATORY INFORMATION Some of the components listed in Section 3 may be covered under specific state regulations.

SECTION 16—OTHER INFORMATION

SDS ISSUED BY EHS Department of I. Schumann Co LLC, Bedford Ohio	DATE 09/20
<p>NOTE This data and label information is offered in good faith as typical values and not as a product specification. No warranty either expressed or implied is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review the recommendations in specific context of the intended use and determine if they are appropriate.</p>	