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-002 Rev 2

RENEWAL DATE 01/22

ALUMINUM BRONZE INGOTS

SECTION 1—PRODUCT IDENTIFICATION & COMPANY INFORMATION

PRODUCT NAME

ALUMINUM BRONZE INGOTS

OTHER DESIGNATIONS:
UNS ALLOY Copper Alloy Designations:

C95200	C95400	C95500	C95520	C95700	C95800
C95300	C95410	C95510	C95600	C95710	C99500

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	0.50-11.5	7429-90-5
Cobalt (Co) Metal	0.0-0.2	7440-48-4
Copper (Cu) Metal	71.0-91.5	7440-50-8
Iron (Fe) Metal	0.5-5.0	1309-37-1
Lead (Pb) Metal	0.0-0.25	7439-92-1
Manganese (Mn) Metal	0.0-14.0	7439-96-5
Nickel (Ni) Metal	0.0-5.5	7440-02-0
Silicon (Si) Metal	0.0-3.3	7440-21-3
Zinc (Zn) Metal	0.05-2.0	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: Not applicable

EXTINGUISHING MEDIA: Not applicable

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/m^3	OSHA PEL mg/m^3
Aluminum (Al) Metal Total Dust Respirable Dust	 N/E 1(R)	 15 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	$30\mu g/m^3$ AL $50\mu g/m^3$ PEL (See 29CFR1910.1025)
Manganese (Mn) Metal	N/E	N/E
Nickel (Ni) Metal	1.5 (I)	1
Iron (Fe) Metal	N/E	N/E

Silicon (Si) Metal Total Dust Respirable Dust	 N/E N/E	 15 5 (R)
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_2O_3) Total Dust Respirable Dust	 N/E 1	 15 5
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 (Fe2O3) Fume Iron Oxide (Fe2O3) Respirable	 N/E 5 (R)	 10 N/E
Lead Compounds Inorganic Compounds (Pb)	 0.05	 $30\mu g/m^3$ AL $50\mu g/m^3$ PEL (See 29CFR1910.1025)
Manganese Compounds (Mn) Inorganic Compounds Fume	 0.02 (R) 0.1 (I) 0.2	 5 (C) 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
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/m^3 = milligrams per cubic meter
$\mu g/m^3$ = 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 I 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)
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	DATE
EHS Department of I. Schumann Co LLC, Bedford Ohio	09/20

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.