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MATERIAL SAFETY DATA SHEET

I. IDENTIFICATION

COMPANY: WISCONSIN WIRE WORKS INC.
 ADDRESS: P.O. BOX 385, 319 UNIVERSAL ST, WALES, WISCONSIN 53183
 TELEPHONE: 262-968-6982; FAX 262-968-6985
 PRODUCTS: COPPER ALLOY WELDING WIRE
 PACKAGES: SPOOLS, REELS, OR STRAIGHT CUT LENGTHS
 DATE: 1 JANUARY 2007

II. MATERIAL IDENTIFICATION

WWW TRADE NAME	CDA NO	COMMON NAME	NOMINAL % COMPOSITION
WWW COPP WELD	C18900	Deox Copper	99Cu; .75Sn; .25Si; .20Mn
WWW SIL WELD	C65600	Silicon Bronze	96Cu; 3Si; 1Mn
WWW A1 BRONZE WELD	C61000	A1 Aluminum Bronze	93Cu; 7Al
WWW A2 BRONZE WELD	C61800	A2 Aluminum Bronze	88Cu; 9Al; 1Fe
WWW A3 BRONZE WELD	C62400	A3 Aluminum Bronze	86Cu; 11Al; 3Fe
WWW NICKEL BRONZE WELD	C63280	Nickel Aluminum Bronze	81Cu; 9Al; 4 Fe; 5Ni; 1Mn
WWW MANG-NICKEL BRONZE WELD	C63380	Manganese Nickel Aluminum	75Cu; 8Al; 3Fe; 2Ni; 12Mn
WWW PHOS C BRONZE	C52100	Phosphor Bronze	92Cu; 8Sn; .1P
WWW LOW FUMING BRONZE	C68100	Low Fuming Bronze	58Cu; 9Sn; 1Fe; Zn balance

Cu=Copper; Zn=Zinc; Si=Silicon; Fe=Iron; Mn=Manganese; Ni=Nickel; Al=Aluminum; Sn=Tin; P=Phosphorus
 Suspected contaminants: lead .05% and traces of all the metals above. Other metals in trace amounts may be found though they are not known to exist at harmful levels.

III. HAZARDOUS INGREDIENTS

The copper alloys listed above present no health hazards in their solid massive form. However, with some metal working processes hazardous conditions involving these metals may be created. Primarily the hazardous forms are; molten metals and their fumes, dust, and metallic salts. The most common practices to be concerned with, but not limited to, are melting, thermal cutting, welding, machining and grinding, and from chemical reactions used to clean the metal. These alloys primarily have not been tested as a whole but rather by their elemental components.

Material	CAS Number	Hazard	PEL mg/m ³	TLV mg/m ³
Copper	7440-50-8	fumes	0.1	0.2
		dust and mist	1.0	1.0
Aluminum	7429-90-5	metal dust	15	10
		respirable fraction	5	none est.
Iron	7439-89-6	iron oxide fume	-----	5
		Iron oxide dust	10	-----
Silicon	7440-21-3	total dust	10	.02
		respirable fraction	5	none est.
Manganese	7439-96-5	dust and compounds	5	5
Zinc	1314-13-5	dust	10	5
		fume	5	5
Tin	7440-31-5		2	2
Nickel	7440-02-0	metal dust	nil	1

IV. PHYSICAL DATA

Melting Point 880-1150 C	Specific Gravity 8.33-8.94	Vapor Pressure: No.
Vapor Density: No.	Solubility in water: Insoluble	Evaporation Rate: No.

Appearance and odor: red/yellow/gold in color with no odor.

V. EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: FLUSH WELL WITH RUNNING WATER TO REMOVE PARTICULATE; GET MEDICAL ATTENTION.

SKIN CONTACT: VACUUM OFF EXCESS DUST. WASH WELL WITH SOAP AND WATER. AVOID BLOWING PARTICULATE INTO THE ATMOSPHERE.

INHALATION: REMOVE TO FRESH AIR. GET MEDICAL ATTENTION.

INGESTION: SEEK MEDICAL ATTENTION IF LARGE QUANTITIES OF MATERIAL HAVE BEEN INGESTED.

VI. FIRE AND EXPLOSION HAZARD DATA

Flash point: NO; Method used: NO; Flammable limits: LET=no; MEL=no; extinguishing media see below;

Special fire fighting procedures: Solid, massive form is not combustible under normal conditions. Use fire fighting. Methods that is appropriate for surrounding fire. Small chips, fine turnings and dust may ignite readily. Use coarse water spray on chips, turnings, etc. Use class D extinguishing agents or dry sand to fines. DO NOT use halogenated agents on small chips or fines. Dust clouds may be explosive. PREVENT FORMATION OF A DUST CLOUD. Molten metal alloys may explode on contact with water. They may also react violently with water, rust and certain metal oxides. Fire fighters should wear self-contained breathing apparatus and protective clothing.

VII. HEALTH HAZARD DATA

SEE SECTION THREE FOR TLV. Primary routes of entry are inhalation of dust or fumes.

Under normal handling and use, exposure to copper alloy wire present few health hazards in itself. Thermal cutting and melting of copper alloys may produce fumes containing the component elements, and breathing these fumes may present potentially significant health hazards. The exposure levels in section III are relevant o fumes and dust.

Fumes of copper, manganese and zinc oxides may cause metal fume fever with flu-like symptoms. Copper may cause shin and hair discoloration. Overexposure to dusts and especially fumes containing component elements of tin alloys may cause skin, nose, mouth and eye irritation and lung changer in workers, potentially leading to pulmonary diseases. Dusts may result in benign pneumoconiosis. Silicon when heated in air can form silicon dioxide or silica, which may cause pulmonary fibrosis and silicosis on chronic exposure. The inhalation of iron oxide may cause an apparent benign pneumoconiosis called siderosis. Inhalation of aluminum dust or fines is a low health risk. Chronic exposure may cause pulmonary fibrosis characterized by breathing difficulty, coughing, shortness of breath, sneezing and other respiratory difficulties.

VIII. HANDLING AND STORAGE DATA

No special precautions are necessary for spills of bulk material. If large quantities of dust are spilled, remove by vacuuming or wet sweeping to prevent heavy concentration of airborne dust. Follow federal, state and local regulations concerning the disposal of waste. If exposure is above the PEL or TLV, NIOSA approved respirator for fume or dust, proper ventilation and exhaust must be used. During welding with this product protective gloves, eye wear and leather body clothing must be used as stated on the warning labels on product packaging.

IX. REACTIVITY DATA

Material is stable under normal conditions or use, storage and transportation. Molten metal may react violently with water. Avoid contact of finely divided material with heat, oxidizers acid, alkalies, molten lithium, and halogenated compounds. Material is incompatible with acids, bases and oxidizers and should be avoided. Hazardous polymerization will not occur.