

# PHOS-BRONZE C

## MATERIAL SAFETY DATA SHEET

01/11/00

MSDS PROVIDED BY:  
**STOODY INDUSTRIAL AND WELDING SUPPLY, INC.**  
3316 National Ave., San Diego, Ca. 92113  
Phone: (619) 234-6750  
**MILITARY EMERGENCY RESPONSE NUMBER 1-800-851-8061**

VERSION DATE 12/28/95 (REPRODUCED SIWS)

PHOS-BRONZE C

### SECTION 1

### PRODUCT IDENTIFICATION

COMPANY NAME WHO PROVIDED MSDS..... HARRIS WELCO. DIV. OF J.W. HARRIS CO., INC.  
COMPANY ADDRESS..... 1051 YORK RD  
KINGS MOUNTAIN, NC 28086  
EMERGENCY PHONE NUMBER..... (800)-424-9300  
MSDS VERSION NUMBER..... 2  
TRADE NAME..... PHOS-BRONZE C  
HAZARD RATING (HMIS)..... HEALTH - 3  
FLAMMABILITY - 2  
REACTIVITY - 2  
OTHER - 2  
HMIS DESIGNATED KEY..... 4 - SEVERE HAZARD  
3 - SERIOUS HAZARD  
2 - MODERATE HAZARD  
1 - SLIGHT HAZARD  
0 - MINIMAL HAZARD

### SECTION 2

### HAZARDOUS COMPONENTS

<u>MATERIAL</u>	<u>% BY WEIGHT</u>	<u>CAS NUMBER</u>	<u>ACGIH TLV (Mg/M3)</u>	<u>SEC 313</u>
COPPER (FUME)	95	7440-50-8	0.2 MG/M3	YES
COPPER (DUST)	95	7440-50-8	1.0 MG/M3	YES
TIN	5	7440-31-5	2.0 MG/M3	NA
PHOSPHORUS	0.2	7723-14-0	0.1 MG/M3	NA
LEAD	0.05	7439-92-1	0.15 MG/M3	YES
ZINC (FUME) AS ZINC OXIDE	.2	1314-13-2	5 MG/M3 (AS DUST 2)	YES
NICKEL	.05	7440-02-0	1 MG/M3	YES
SILICON	NA	7440-21-3	2	NA
MANGANESE (FUME)	NA	7439-96-5	1 MG/M3 (5 MG/M3 DUST)	YES
IRON (OXIDE FUME)	.1	1309-37-1	5 MG/M3	NA

### SECTION 3

### PHYSICAL PROPERTIES

BOILING POINT..... NA  
MELTING POINT..... 880 - 1150 C (SOLIDUS)  
VAPOR PRESSURE..... 1628 C (CU)  
1492 C (SN)  
76.6 C (P)  
VAPOR DENSITY (AIR=1)..... NA  
SOLUBILITY IN WATER..... INSOLUBLE  
SPECIFIC GRAVITY..... 8.33-8.94  
EVAPORATION RATE..... NA  
APPEARANCE AND ODOR..... RED, YELLOW, OR SILVER LUSTROUS METAL THAT BECOMES DULL ON EXPOSURE TO AIR.

### SECTION 4

### FIRE AND EXPLOSION DATA

FLASH POINT..... NA  
EXTINGUISHING MEDIA..... USE SPECIAL MIXTURE OF DRY CHEMICAL. DO NOT USE WATER OR MOIST SAND. FIRE FIGHTERS SHOULD WEAR NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING.  
SPECIAL PROCEDURES..... POWDER EXTINGUISHER AGENT SHOULD BE APPLIED GENTLY ON METAL FIRES TO AVOID BREAKING ANY CRUST WHICH MAY HAVE FORMED OVER METAL.  
UNUSUAL HAZARDS..... ALLOY MAY DIFFER WIDELY IN COMBUSTIBILITY FROM THEIR CONSTITUENT METALS. METALS TEND TO BE MOST REACTIVE IN A FINELY DIVIDED FORM (E.G. DUST, CLOUDS, METAL PARTICLES).

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**SECTION 5**

**REACTIVITY DATA**

STABILITY .....	STABLE
CONDITIONS TO AVOID .....	HIGH TEMPERATURES OF SMELTING, WELDING, OR FIRE MAY CAUSE PRODUCTION OF METAL FUMES.
HAZARDOUS POLYMERIZATION .....	NA
INCOMPATIBILITY .....	ISOLATE FROM OXIDIZING ACIDS (E.G. HNO <sub>3</sub> , H <sub>2</sub> , SO <sub>4</sub> ). IN THE PRESENCE OF WET ACETYLENE, AND AMMONIA, COPPER ALLOYS REACT READILY TO FORM EXPLOSIVE ACETYLIDES WHICH WILL REACT VIOLENTLY WITH ABOVE MATERIAL.
HAZARDOUS DECOMPOSITION PRODUCTS.....	CU <sub>2</sub> O AND OTHER METAL COMPONENT OXIDES. OTHER DECOMPOSITION PRODUCTS PRODUCED UNDER HIGH TEMPERATURE CANNOT ACCURATELY BE PREDICTED AT THIS TIME.

**SECTION 6**

**HEALTH HAZARD DATA**

ROUTES OF ENTRY .....	INHALATION, SKIN, INGESTION.
HEALTH HAZARDS .....	CHILLS, MUSCLE ACHES, NAUSEA, FEVER, DRY THROAT, COUGH, IRRITATED EYES, UPPER RESPIRATORY TRACT IRRITATION, METAL OR SWEET TASTE. DUSTS IRRITATE NOSE & TRACHEA, THIRST, RESTLESSNESS, CYANOSIS, HEPATOME GALY, JAUNDICE, SHOCK, DELIRIUM. OVEREXPOSURE MAY LEAD TO STOMATTIS, ANOREXIA, & ANEMIA. HEMOCHROMATOSIS HAS BEEN REPORTED. DUST OF TIN OXIDES HAVE CAUSED PNEUMOCONIOSIS. MAY PRODUCT ALLERGIC RESPONSES.
CARCINOGENICITY .....	THE STATE OF CALIFORNIA REQUIRES THE FOLLOWING INFORMATION: WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR REPRODUCTIVE HARM.
SIGNS & SYMPTOMS OF EXPOSURE .....	SEE ABOVE
MEDICAL CONDITIONS FROM EXPOSURE .....	SEE ABOVE.
EMERGENCY & FIRST AID.....	REMOVE PERSON FROM SOURCE. ADMINISTER ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED. EYE AND SKIN CONTACT – WASH AREA THOROUGHLY, INHALATION – REMOVE TO FRESH AIR, INGESTION – AND ALL ABOVE SEEK MEDICAL ATTENTION IF NEEDED OR IF LARGE QUANTITIES HAVE BEEN INGESTED, AND OR IN EYE, SKIN CONTACT.
ADDITIONAL INFORMATION .....	UNDER NORMAL HANDLING AND USE, EXPOSURE TO COPPER ALLOY WIRE PRESENTS FEW HAZARDS IN ITSELF. THERMAL CUTTING AND MELTING COPPER ALLOYS MAY PRODUCE FUMES CONTAINING THE COMPONENT ELEMENTS, & BREATHING THESE FUMES MAY PRESENT POTENTIALLY SIGNIFICANT HEALTH HAZARDS. THE EXPOSURE LEVELS IN SECTION 2 ARE RELEVANT TO FUMES AND DUST. FUMES OF COPPER, MANGANESE AND ZINC OXIDE MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS. COPPER MAY CAUSE SKIN AND HAIR DISCOLORATION. OVEREXPOSURE TO DUST AND ESPECIALLY FUME CONTAINING COMPONENT ELEMENTS OF TIN ALLOYS MAY CAUSE SKIN, EYE, NOSE, AND MOUTH IRRITATION & LUNG CHANGES IN WORKERS, POTENTIALLY LEADING TO PULMONARY DISEASES. DUST MAY RESULT IN A BENIGN PNEUMOCONIOSIS (STANNOSIS). NICKEL COMPOUNDS HAVE BEEN ASSOCIATED WITH ALLERGIC REACTIONS AND RASHES, AND LUNG CHANGES. NICKEL IS A RESPIRATORY IRRITANT AND CAN CAUSE PNEUMONITIS.

**SECTION 7**

**PRECAUTIONS FOR SAFE HANDLING AND USE**

SPILL AND LEAK PROCEDURES .....	SWEEP OR VACUUM UP SOLIDS BEING CAREFUL NOT TO RAISE DUST LEVELS. FOR MOLTEN SPILLS, KEEP AWAY FROM COMBUSTIBLES AND WATER, VENTILATE FUMES AND LET COOL BEFORE REMOVAL. WARN OTHER WORKERS OF SPILLS. PUT ON PROPER PROTECTIVE EQUIPMENT AND CLOTHING.
WASTE AND DISPOSAL METHOD.....	DISPOSE OF WASTE IN ACCORDANCE WITH LOCAL, FEDERAL AND STATE REGULATIONS. MATERIAL MAY BE RECYCLED. RECLAIM FOR REUSE IF POSSIBLE.
HANDLING AND STORING PRECAUTIONS .....	AVOID CONTACT OF METAL WITH INCOMPATIBLE MATERIALS (SEE SECTION 5).
OTHER PRECAUTIONS.....	NA

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**SECTION 8**

**CONTROL MEASURES**

RESPIRATORY MEASURES .....	WELDING, CUTTING AND BRAZING – REFER TO OSHA TITLE 29 CFR 1910.252 SUBPART O.
VENTILATION .....	AS REQUIRED TO MAINTAIN VAPOR CONCENTRATION BELOW TLVS.
PROTECTIVE GLOVES.....	PROTECTIVE GLOVES RECOMMENDED.
EYE PROTECTION .....	DUST PROOF SAFETY GOGGLES FOR WELDING (REFER TO OSHA TITLE: 29 CFR 1910.252).
OTHER PROTECTIVE EQUIPMENT .....	PERSONAL PROTECTIVE EQUIPMENT.
WORK/HYGIENIC PRACTICES .....	WASH HANDS BEFORE EATING, DRINKING, OR SMOKING, AND SHOWER AND CHANGE CLOTHING BEFORE LEAVING WORK. FOR MAXIMUM SAFETY: BE CERTIFIED FOR, AND WEAR A RESPIRATOR AT ALL TIMES WHEN WELDING OR BRAZING.

**SECTION 9**

**DISCLAIMER**

**THIS DATA IS BELIEVED TO BE ACCURATE. HARRIS WELCO MAKES NO WARRANTY TO AND DISCLAIMS ALL LIABILITY FROM RELIANCE ON THIS DATA.**

**SECTION 10**

**ADDITIONAL INFORMATION**

CARCINOGENIC INFORMATION: LEAD AND NICKEL COMPOUNDS ARE REQUIRED BY OSHA TO BE CONSIDERED CARCINOGENIC.  
NA = NOT APPLICABLE.