

223 COPPER BASE ELECTRODE

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 12/31/97 (Rewritten SIWS)

223 COPPER BASE ELECTRODE

A=NICKEL

Print Date 01/11/00

SECTION 1

PRODUCT IDENTIFICATION

COMPANY NAME WHO SENT MSDS.. HARRIS WELCO, DIV. OF J.W. HARRIS CO., INC.
COMPANY ADDRESS..... 1051 YORK ROAD
KINGS MOUNTAIN, NC 28086
EMERGENCY PHONE NUMBER..... (800)-424-9300
MSDS VERSION NUMBER..... 1
TRADE NAME..... 223 COPPER BASE ELECTRODE
HAZARD RATING (HMIS)..... NA
HMIS DESIGNATION KEY..... 4- SEVER HAZARD, 3- SEVIOUS 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 (Ma/M3)</u>	<u>SEC 313</u>
NICKEL	1-11	744G-02-0	0.1	YES*
*INTERNATIONAL AGENCY FOR RESEARCH ON CANCER				
TIN	1-11	7440-31-5	2.0	NO
COPPER	87-97	7440-50-8	0.2 AS FUME	NO
MANGANESE	1-11	7439-96-5	1	NO
ZINC	1-11	744G-66.-6	5	NO
SILICON	1-11	7440-21-3	3 AS S102	NO
CALCIUM FLUORIDE	1-11	14542-23-5	2.5 AS F	NO
SEE SECTION 10 FOR ADDITIONAL INFORMATION				

SECTION 3

PHYSICAL PROPERTIES

BOILING POINT..... NA
MELTING POINT..... NA
VAPOR PRESSURE..... NA
VAPOR DENSITY (AIR = 1)..... NA
SOLUBILITY IN WATER..... NA
SPECIFIC GRAVITY..... NA
EVAPORATION RATE..... NA
APPEARANCE AND ODOR..... FLUX COATED ELECTRODE

SECTION 4

FIRE AND EXPLOSION DATA

FLASH POINT..... NON-FLAMMABLE - WELDING ARC AND SPARKS CAN IGNITE COMBUSTIBLES. REFER TO AMERICAN NATIONAL STANDARD Z49.1 FOR FIRE PREVENTION DURING WELDING.
EXTINGUISHING MEDIA..... NA
SPECIAL PROCEDURES..... NA
UNUSUAL HAZARDS..... NA

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SECTION 5	REACTIVITY DATA
STABILITY.....	SEE BELOW
CONDITIONS TO AVOID.....	SEE BELOW
HAZARDOUS POLYMERIZATION.....	SEE BELOW
CONDITIONS TO AVOID.....	SEE BELOW
INCOMPATABILITY.....	SEE BELOW
HAZARDOUS DECOMPOSITION PRODUCTS.....	SEE BELOW

REACTIVITY DATA:
 WELDING FUMES CANNOT BE CLASSIFIED SIMPLY. THE COMPOSITION AND QUANTITY OF BOTH ARE DEPENDENT UPON THE METAL BEING WELDED, THE PROCESS, PROCEDURES AND ELECTRODES USED. OTHER CONDITIONS WHICH ALSO INFLUENCE THE COMPOSITION AND QUANTITY OF THE FUMES AND GASES TO WHICH WORKERS MAY BE EXPOSED INCLUDE COATINGS ON METAL, NUMBER OF WELDS AND VOLUME OF WORK AREA. QUALITY & AMOUNT OF VENTILATION, POSITION OF WELDOR'S HEAD WITH RESPECT TO FUME PLUME & PRESENCE OF CONTAMINANTS IN ATMOSPHERE. WHEN ELECTRODE CONSUMED, THE FUME & GAS DECOMPOSITION PRODUCTS ARE DIFFERENT IN PERCENT AND FORM FROM THE INGREDIENTS LISTED IN SECTION II. FUME AND GAS DECOMPOSITION PRODUCTS, NOT INGREDIENTS IN ELECTRODE ARE IMPORTANT.

DECOMPOSITION PRODUCTS INCLUDE THOSE ORIGINATING FROM THE VOLATIZATION, REACTION, OR OXIDATION OF MATERIALS IN SECTION II & THOSE FROM BASE METAL, COATING, ETC. COMPONENTS ARE VIRTUALLY ALWAYS PRESENT AS COMPLEX COMPOUNDS, NOT METALS. (CHARACTERIZATION OF ARC WELDING FUME: AMERICAN WELDING SOCIETY). REASONABLY EXPECTED FUME CONSTITUENTS INCLUDE FLUORIDES AND COMPLEX OXIDES OF IRON AND NICKEL. GASEOUS REACTION PRODUCT MAY INCLUDE CARBON MONOXIDE & CARBON DIOXIDE, OZONE & NITROGEN OXIDES MAY BE FORMED BY RADIATION FROM ARC TIG WELDING. ONE RECOMMENDED WAY TO DETERMINE THE COMPOSITION & QUANTITY OF FUMES AND GASES TO WHICH WORKERS ARE EXPOSED IS TO TAKE AN AIR SAMPLE INSIDE THE WELDOR'S HELMET, IF WORN, OR IN THE WORKER'S BREATHING ZONE. ANSI/AWS F1.1 AVAILABLE FROM THE AMERICAN WELDING SOCIETY. P.O. BOX 351040, MIAMI, FL 33135.

SECTION 6	HEALTH HAZARD DATA
ROUTES OF ENTRY.....	PRIMARY - INHALATION OF FUMES
HEALTH HAZARDS.....	THRESHOLD LIMIT - ACOIH RECOMMENDED GENERAL LIMIT FOR WELDING FUME NOC IS 5MG/M3. ACGIH 1984-85 PREFACE STATES – "THE TLV-TWA SHOULD BE USED AS GUIDES IN CONTROL OF HEALTH HAZARDS & SHOULD NOT BE USED AS FIRM LINES BETWEEN SAFE & DANGEROUS CONCENTRATIONS." SEE SECTION V FOR SPECIFIC FUME CONSTITUENTS WHICH MAY MODIFY THIS TLV.
CARCINOGENICITY.....	THE STATE OF CALIFORNIA REQUIRES THE FOLLOWING INFORMATION- WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.
SIGNS & SYMPTOMS OF EXPOSURE.....	FUMES & GASES CAN BE DANGEROUS TO HEALTH. PREEXISTING RESPIRATORY OR ALLERGIC CONDITIONS MAY BE AGGRAVATED. SHORT-TERM MAY RESULT IN DISCOMFORT, DIZZINESS, NAUSEA, DRYNESS OF THE NOSE, THROAT OR EYES.
MEDICAL CONDITIONS FROM EXPOSURE.....	LONG TERM-SIDEROSIS, MAY AFFECT PULMONARY FUNCTION. ARC RAYS CAN INJURE EYES AND BURN SKIN. ELECTRIC SHOCK CAN KILL.
EMERGENCY & FIRST AID.....	CALL FOR MEDICAL AID. EMPLOY FIRST AID TECHNIQUES RECOMMENDED BY AMERICAN RED CROSS.
ADDITIONAL INFORMATION.....	NA

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SECTION 7	PRECAUTIONS FOR, SAFE HANDLING AND USE
SPILL AND LEAK PROCEDURES	READ AND UNDERSTAND MANUFACTURER INSTRUCTIONS & PRECAUTIONARY LABEL. SEE AMERICAN NATIONAL STANDARD Z-49.1, SAFETY IN WELDING AND CUTTING, AMERICAN WELDING SOCIETY, P.O.BOX 351040, MIAMI, FL 33135 & OSHA PUBLICATIONS 2206 (29CFR 1920). U.S. GOVERNMENT PRINTING OFFICE. WASHINGTON, DC 20402 FOR MORE DETAIL.
WASTE AND DISPOSAL METHOD	DISPOSE OF ANY GRINDING DUST OR WASTE RESIDUES IN ACCORDANCE WITH EPA OR LOCAL REGULATIONS.
HANDLING AND STORING PRECAUTIONS	NA
OTHER PRECAUTIONS	NA

SECTION 8	CONTROL MEASURES
RESPIRATORY MEASURES	USE RESPIRABLE FUME RESPIRATOR OR AIR SUPPLIES RESPIRATOR WHEN WELDING IN CONFINED SPACE OR WHERE LOCAL EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE. BELOW TLV.
VENTILATION	USE ENOUGH VENTITATION TO KEEP FUMES & GASES BELOW TLV'S IN WORKER'S BREATHING ZONE AND GENERAL AREA. TRAIN WELDOR TO KEEP HIS HEAD OUT OF THE FUMES.
PROTECTIVE CLOVES.....	WELDER'S GLOVES
EYE PROTECTION	WEAR HELMET OR USE FACE SHIELD WITH FILTER LENS. START WITH SHADE DARKER TO SEE WELD ZONE. GO TO NEXT LIGHTER SHADE FOR SUFFICIENT VIEW OF WELD ZONE. PROVIDE SCREENS AND FLASH GOGGLES TO SHIELD OTHERS.
OTHER PROTECTIVE EQUIPMENT	HEAD, HAND AND BODY PROTECTION. SEE ANSI Z-49-1. INCLUDES-WELDOR'S GLOVES, PROTECTIVE FACE SHIELD. MAY INCLUDE ARM PROTECTORS, APRONS, HATS, SHOULDER PROTECTION, DARK SUBSTANTIAL CLOTHING.
WORK/HYGIENIC PRACTICES	TRAIN WELDOR NOT TO TOUCH LIVE ELECTRICAL PARTS AND TO INSULATE HIMSELF FROM WORK AND GROUND FOR MAXIUM SAFETYTY: 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 WE	

SECTION 10	ADDITIONAL INFORMATION
IMPORTANT: SECTION II COVERS THE MATERIAL OF WHICH THE PRODUCTS ARE MANUFACTURED. THE FUMES AND GASES ARE MANUFACTURED. THE "HAZARDOUS" IN "HARDOUS MATERIAL" SHOULD BE INERPRETED AS A TERM. REQUIRED AND DEFINED IN OSHA HAZARD COMMUNICATION STANDARD 29CFR 1910-1200 AND IT DOES NOT NECESSARILY IMPLY THE EXISTENCE OF HAZARD. NA - NOT APPLICABLE CARCINOCENITY INFORMATION: NICKEL COMPOUND ARE REQUIRED BY OSHA TO BE CONSIDERED CARCINOGENIC.	

SECTION 11	ADDITIONAL INFORMATION