

**** MATERIAL SAFETY DATA SHEET ****

Version Date.....08/02/01 4130 A=CHROMIUM

Print Date.....04/11/02

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SECTION 1 PRODUCT IDENTIFICATION

COMPANY NAME WHO SENT MSDS... HARRIS WELCO
 COMPANY ADDRESS..... 1051 YORK ROAD KINGS MOUNTAIN, NC 28086
 EMERGENCY PHONE NUMBER..... (800)-424-9300
 MSDS VERSION NUMBER..... 2
 TRADE NAME..... 4130
 HAZARD RATING (HMIS)..... HEALTH-3 FLAMMABILITY-1 REACTIVITY-0 OTHER-2
 HMIS DESIGNATION 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>OSHA PEL</u>	<u>ACGIH TLV (Mg/M3)</u>	<u>SEC 313</u>
IRON	55.-70.0	7439-89-6		10 AS FE203	NA
MANGANESE	<.55	7439-96-5		1	YES
SILICON	<.2	7440-21-3		3 AS SiO2	NA
CHROMIUM	.9-.94	7440-47-3		.05 (CHROMIUM VI)	YES
MOLYBDENUM	<.18	7439-98-7		10	NA

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..... SOLID WIRE OR ROD.

SECTION 4 FIRE AND EXPLOSION DATA

FLASH POINT..... NA
 EXTINGUISHING MEDIA... SEE BELOW
 SPECIAL PROCEDURES... SEE BELOW
 UNUSUAL HAZARDS..... WELDING ARC AND SPARKS CAN IGNITE COMBUSTIBLES AND FLAMMABLES. REFER TO AMERICAN NATIONAL STANDARD Z49.1 FOR FIRE PREVENTION DURING THE USE OF WELDING AND ALLIED PROCEDURES

SECTION 5 REACTIVITY DATA

STABILITY..... STABLE
 CONDITIONS TO AVOID..... NONE UNLESS OTHERWISE SPECIFIED
 HAZARDOUS POLYMERIZATION..... NA
 INCOMPATABILITY..... NONE
 HAZARDOUS DECOMPOSITION PRODUCTS... THE COMPOSITION AND QUALITY OF WELDING FUMES AND GASES ARE DEPENDENT UPON THE METAL BEING WELDED, THE PROCESS, PROCEDURE AND ELECTRODES USED. OTHER CONDITIONS WHICH ALSO INFLUENCE THE COMPOSITION AND QUANTITY OF FUMES AND GASES TO WHICH WORKERS MAY BE EXPOSED INCLUDE: COATINGS ON METAL BEING WELDED (SUCH AS PAINT, PLATING, OR GALVANIZING), THE NUMBER OF WELDERS AND VOLUME OF THE WORK AREA, THE QUALITY AND AMOUNT OF VENTILATION, THE POSITION OF WELDER'S HEAD WITH RESPECT TO FUME PLUME, AND THE PRESENCE OF CONTAMINANTS IN ATMOSPHERE (CHLORINATED HYDROCARBON VAPORS FROM CLEANING AND DEGREASING ACTIVITIES). WHEN ELECTRODE IS CONSUMED, THE FUME AND GAS DECOMPOSITION PRODUCTS GENERATED ARE DIFFERENT IN PERCENT AND FORM FROM INGREDIENTS IN SECTION 2. FUME AND GAS DECOMPOSITION

SECTION 5

REACTIVITY DATA

CONT'D

PRODUCTS, AND NOT INGREDIENTS IN ELECTRODE, ARE IMPORTANT. CONCENTRATION OF GIVEN FUME OR GAS COMPONENT MAY DECREASE OR INCREASE BY MANY TIMES ORIGINAL CONCENTRATION. NEW COMPOUNDS IN ELECTRODE MAY FORM. DECOMPOSITION PRODUCTS OF NORMAL OPERATION INCLUDE THOSE ORIGINATING FROM VOLATILIZATION, REACTION, OR OXIDATION OF MATERIALS IN SECTION 2, PLUS THOSE FROM BASE METAL AND COATING, ETC., AS NOTED ABOVE. REASONABLY EXPECTED FUME CONSTITUENTS OF PRODUCT COULD INCLUDE PRIMARILY OXIDES OF IRON; SECONDARILY OXIDES OF CHROMIUM, NICKEL, MANGANESE, SILICON, AND MOLYBDENUM. PRESENT OSHA EXP. LIMITS FOR HEXAVALENT-CHROMIUM IS .05 MG/M3 AND NICKEL 1MG/M3 WHICH WILL RESULT IN SIGNIFICANT REDUCTION FROM 5MG/M3 GENERAL FUME LEVEL. GASEOUS REACTION IN PRODUCTS MAY INCLUDE CARBON MONOXIDE AND CARBON DIOXIDE. OZONE AND NITROGEN OXIDES MAY BE FORMED BY THE RADIATION FROM ARC, IN ADDITION TO SHIELDING GASES LIKE ARGON AND HELIUM WHEN EMPLOYED. ONE RECOMMENDED WAY TO DETERMINE COMPOSITION AND QUANTITY OF FUMES AND GASES IS TO TAKE AIR SAMPLE FROM INSIDE WELDER'S HELMET IF WORN OR IN BREATHING ZONE. SEE AWS F1.1 AND AWS F1.2 -1985, AVAILABLE FROM THE AMERICAN WELDING SOCIETY. SEE AWS PUBLICATION: "FUMES AND GASES IN THE WELDING ENVIRONMENT".

SECTION 6

HEALTH HAZARD DATA

ROUTES OF ENTRY..... NA
HEALTH HAZARDS..... ELECTRIC ARC-WELDING MAY CREATE: FUMES AND GASES CAN BE DANGEROUS. ARC RAYS CAN INJURE EYES AND BURN SKIN. ELECTRIC SHOCK CAN KILL.
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..... SEE BELOW.
MEDICAL CONDITIONS FROM EXPOSURE... SHORT TERM TO WELDING FUMES-DIZZINESS, NAUSEA, DRYNESS & IRRITATION OF NOSE, EYES THROAT, CHEST TIGHTNESS, FEVER, ALLERGIC REACTION. LONG TERM-SIDEROSIS, BELIEVED TO AFFECT PULMONARY FUNCTION.
EMERGENCY & FIRST AID..... REMOVE TO FRESH AIR, OBTAIN MEDICAL ATTENTION. EMPLOY FIRST AID TECHNIQUES RECOMMENDED BY AM. RED CROSS.
ADDITIONAL INFORMATION..... NA

SECTION 7

PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL AND LEAK PROCEDURES..... NA
WASTE AND DISPOSAL METHOD..... PREVENT WASTE FROM CONTAMINATING SURROUNDING ENVIRONMENT. DISCARD ANY PRODUCT RESIDUE, DISPOSABLE CONTAINER OR LINER IN ENVIRONMENTALLY ACCEPTABLE MANNER, IN FULL COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.
HANDLING AND STORING PRECAUTIONS... USE EXHAUST SYSTEM. MAKE SURE INHALED AIR DOES NOT CONTAIN FUME CONSTITUENTS ABOVE PERMISSIBLE EXPOSURE LEVELS. OTHER PRECAUTIONS FOR ADDITIONAL SAFETY INFORMATION ON WELDING AND CUTTING, SEE AMERICAN STANDARD Z49.1-1983, SAFETY IN WELDING AND CUTTING, AND THE WELDING HANDBOOK, VOL. 1, CHAPTER 9, SAFE PRACTICES IN WELDING AND CUTTING, BOTH AVAILABLE FROM AM WELDING SOCIETY INC., 550 N.W. LEJNUE RD., PO BOX 351040, MIAMI, FL 33135. PHONE 305-443-9353.
OTHER PRECAUTIONS..... NA

SECTION 8

CONTROL MEASURES

RESPIRATORY MEASURES..... USE RESPIRABLE FUME RESPIRATORY OR AIR SUPPLIED RESPIRATOR WHEN IN CONFINED SPACE OR LOCAL EXHAUST DOES NOT KEEP EXPOSURE BELOW RECOMMENDED EXPOSURE LIMIT
VENTILATION..... USE ENOUGH LOCAL VENTILATION, AND LOCAL EXHAUST AT ARC TO KEEP FUMES AND GASES FROM WORKER'S BREATHING ZONE AND GENERAL AREA. TRAIN WORKER TO KEEP HEAD OUT OF FUMES
PROTECTIVE GLOVES..... SEE OTHER PROTECTIVE EQUIPMENT
EYE PROTECTION..... WEAR HELMET, FACE SHIELD WITH FILTER LENS, PROTECTIVE SCREENS, FLASH GOGGLES TO SHIELD OTHERS. START WITH SHADE TOO DARK THEN GO TO LIGHTER SHADE WHICH GIVES SUFFICIENT VIEW OF WELD ZONE.
OTHER PROTECTIVE EQUIPMENT... HAND, HEAD, BODY PROTECTION TO PREVENT INJURY FROM RADIATION, SPARKS AND ELECTRICAL SHOCK. DO NOT TOUCH LIVE ELECTRICAL PARTS AND INSULATE FROM WORK AND GROUND.

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SECTION 8

CONTROL MEASURES

CONT'D

WORK/HYGIENIC PRACTICES..... FOR MAXIMUM SAFETY: BE CERTIFIED FOR, AND WEAR A RESPIRATOR AT ALL TIMES WHEN WELDING OR BRAZING.

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SECTION 9

DISCLAIMER

THIS DATA IS BELIEVED TO BE ACCURATE. HARRIS WEL

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SECTION 10

ADDITIONAL INFORMATION

NA = NOT AVAILABLE CARCINOGENITY INFORMATION; CHROMIUM COMPOUND ARE REQUIRED BY OSHA TO BE CONSIDERED CARCINOGENIC.

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SECTION 11

ADDITIONAL INFORMATION