

***** M A T E R I A L S A F E T Y D A T A S H E E T *****

Version Date.....11/29/10 TUF KUT A=COBALT, CHROMIUM & NICKEL
 Print Date.....11/29/10

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SECTION 1 PRODUCT IDENTIFICATION

COMPANY NAME WHO SENT MSDS..... HARRIS PRODUCTS GROUP
 COMPANY ADDRESS..... 4501 QUALITY PLACE
 MASON OHIO 45040
 EMERGENCY PHONE NUMBER..... (800)-424-9300
 MSDS VERSION NUMBER..... 2
 TRADE NAME..... TUF KUT

HAZARD RATING (HMIS)..... HEALTH-3
 FLAMMABILITY-0
 REACTIVITY-0
 OTHER-1
 HMIS DESIGNATION KEY..... 4-SEVERE HAZARD
 3-SERIOUS HAZARD
 2-MODERATE HAZARD
 1-SLIGHT HAZARD
 0-MINIMAL HAZARD

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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>
COPPER (DUST)	44-97	7440-50-8		1 MG/M3	YES
ZINC (OXIDE)	0-45	7440-66-6		5 MG/M3	YES
IRON	0-1.5	13463-40-6		10 MG/M3	YES
MANGANESE	0-1.5	7439-96-5		1 MG/M3	YES
NICKEL	0-15	7440-02-0		1 MG/M3	YES
SILICON	0-3.5	7440-21-3		10 MG/M3	NA
TIN	0-3	7440-31-5		2 MG/M3	NA
SILVER	0-0.7	7440-22-4		0.01 MG/M3	YES
TITANIUM	0-20	13463-67-7		10 MG/M3	NA
TUNGSTEN CARBIDE	41-97	NA		5 MG/M3	NA
COBALT	3-30	7440-48-4		0.1 MG/M3	YES
TANTALUM CARBIDE	5 MG/M3	NA		5 MG/M3	NA
CHROMIUM CARBIDE	0-5.1	NA		.5 MG/M3	NA
CHROMIUM	0-4.5	7440-47-3		.5 MG/M3	YES

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SECTION 3 PHYSICAL PROPERTIES

BOILING POINT..... NA

SECTION 3

PHYSICAL PROPERTIES

CONT'D

MELTING POINT..... NA
VAPOR PRESSURE..... NA
VAPOR DENSITY (AIR = 1)..... NA
SOLUBILITY IN WATER..... INSOLUBLE
SPECIFIC GRAVITY..... 11.0 TO 15.5
EVAPORATION RATE..... NA
APPEARANCE AND ODOR..... DARK GREY METAL. NO ODOR.

SECTION 4

FIRE AND EXPLOSION DATA

FLASH POINT..... NA
EXTINGUISHING MEDIA..... NA
SPECIAL PROCEDURES..... NA
UNUSUAL HAZARDS..... NA

SECTION 5

REACTIVITY DATA

STABILITY..... STABLE
CONDITIONS TO AVOID..... NONE
HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR
INCOMPATIBILITY..... NA
HAZARDOUS DECOMPOSITION PRODUCTS NA

SECTION 6

HEALTH HAZARD DATA

ROUTES OF ENTRY..... INHALATION, SKIN AND INGESTION
HEALTH HAZARDS..... DUST FROM GRINDING CAN CAUSE IRRITATION
OF THE NOSE AND THROAT. IT ALSO HAS THE
POTENTIAL FOR CAUSING TRANSIANT OR PERMAN-
ENT RESPIRATORY DISEASE, INCLUDING OCCUPA-
TIONAL ASTHMA & INTERSTINAL LIBROSIS, IN A
SMALL PERCENTAGE OF EXPOSED INDIVIDUALS.
IT'S REPORTED THAT COBALT DUST IS THE MOST
PROBABLE CAUSE OF SUCH RESPIRATORY
DISEASES.
SEE ADDITONAL INFORMATION IN SECTION 6.

SECTION 6

HEALTH HAZARD DATA

CONT'D

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.... DURING WELDING BECOMES HAZARDOUS WITHOUT VENTILATION. FUMES MAY CAUSE DIZZINESS, AND/OR NAUSEA.

MEDICAL CONDITIONS FROM EXPOSURE
EMERGENCY & FIRST AID..... SEE ADDITIONAL INFORMATION IN THIS SECTION
MOVE TO WELL VENTILATED AREA, CONSULT A PHYSICIAN.

ADDITIONAL INFORMATION..... SYMPTOMS INCLUDE PRODUCTIVE COUGH, WHEEZING, SHORTNESS OF BREATH, CHEST-TIGHTNESS AND WEIGHT LOSS. INTERSTITIAL LIBROSIS (LUNG SCARRING) CAN LEAD TO PERMANENT DISABILITY OR DEATH. CERTAIN PULMONARY CONDITIONS MAY BE AGGRAVATED BY EXPOSURE. CAN CAUSE IRRITATION OR AN ALLERGIC SKIN RASH DUE TO COBALT SENSITIZATION. CERTAIN SKIN CONDITIONS, SUCH AS DRY SKIN, MAY BE AGGRAVATED BY EXPOSURE. CAN CAUSE IRRITATION TO EYES. REPORTS OUTSIDE THE INDUSTRY SUGGEST THAT INGESTION OF SIGNIFICANT AMOUNTS OF COBALT HAS THE POTENTIAL OF CAUSING BLOOD, HEART AND OTHER ORGAN PROBLEMS. APPLICABLE FOR DUSTS OR MISTS: IF SYMPTOMS OF PULMONARY INVOLVEMENT DEVELOP (COUGHING, WHEEZING, SHORTNESS OF BREATH, ETC.) REMOVE FROM EXPOSURE AND SEEK MEDICAL ATTENTION. IF IRRITATION OR RASH OCCURS, THOROUGHLY WASH AFFECTED AREA WITH SOAP & WATER AD ISOLATE FROM EXPOSURE. EYE CONTACT, WASH WITH COPIOUS AMOUNTS OF WATER. IF SWALLOWED, DILUTE WITH LARGE AMOUNT OF WATER, INDUCE VOMITING AND SEEK MED. ATTEN.

SECTION 7

PRECAUTIONS FOR SAFE HANDLING AND USE

SPILL AND LEAK PROCEDURES..... VENTILATE AREA OF SPILL. CLEAN UP USING METHODS WHICH AVOID DUST GENERATION SUCH AS VACUUM (WITH APPROPRIATE FILTER TO PREVENT AIRBORNE DUST LEVELS WHICH EXCEED THE PEL OR TLV), WET DUST MOP OR WET CLEAN-UP. IF AIRBORNE DUST IS GENERATED, USE AN APPROPRIATE NIOSH APPROVED RESPIRATOR.

WASTE AND DISPOSAL METHOD..... DISPOSE OF IN ACCORDANCE WITH APPROPRIATE GOVERNMENTAL REGULATIONS. MAY BE SOLD AS SCRAP FOR RECLAIM.

SECTION 7

PRECAUTIONS FOR SAFE HANDLING AND USE

CONT'D

HANDLING AND STORING PRECAUTIONS MAINTAIN GOOD HOUSEKEEPING PROCEDURES TO PREVENT DUST ACCUMULATION DURING GRINDING. AVOID DUST INHALATION AND DIRECT SKIN CONTACT WITH DUST.

OTHER PRECAUTIONS.....

REFER TO USA STANDARD 249.1 "SAFETY IN WELDING AND CUTTING" FOR SPECIFIC PRECAUTIONS IN ALL PHASES OF WELDING CUTTING AND BRAZING. PUBLISHED BY THE AMERICAN WELDING SOCIETY.

SECTION 8

CONTROL MEASURES

RESPIRATORY MEASURES..... USE AN APPROPRIATE NIOSH APPROVED RESPIRATOR IF AIRBORNE DUST CONCENTRATIONS EXCEED THE APPROPRIATE PEL OR TLV. ALL APPROPRIATE REQUIREMENTS SET FORTH IN 29 CFR 1910.134 SHOULD BE MET.

VENTILATION..... USE LOCAL EXHAUST VENTILATION WHICH IS ADEQUATE TO LIMIT PERSONAL EXPOSURE TO AIRBORNE DUST TO LEVELS WHICH DON'T EXCEED THE PEL OR TLV. IF SUCH EQUIPMENT IS NOT AVAILABLE, USE RESPIRATORS AS SPECIFIED ABOVE.

PROTECTIVE GLOVES..... PROTECTIVE WELDING GLOVES.

EYE PROTECTION..... WELDING GOGGLES, OR HELMET OVER SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT..... NA

WORK/HYGIENIC PRACTICES..... 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 WEL

SECTION 10

ADDITIONAL INFORMATION

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

TUF KUT A=COBALT, CHROMIUM & NICKEL

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SECTION 10

ADDITIONAL INFORMATION

CONT'D

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SECTION 11

ADDITIONAL INFORMATION