

Material Safety Data Sheet
89-250-885/B

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER: ARCAIR AIR CARBON ARC ELECTRODES
CATALOG NUMBERS: 20-, 22-, 24-, 375- series
PRODUCT USE: Arc metal removal
MANUFACTURERS NAME: TWECO Products, Inc. EMERGENCY PHONE #: (316) 946-8308
STREET ADDRESS: 4200 West Harry St. P.O. Box 12250
CITY: Wichita STATE: Kansas ZIP CODE: 67277
PREPARED BY: Dennis Wilson PHONE NUMBER: (316)946-8308
DATE PREPARED: October 31 1990 DATE REVISED: January 4, 2000

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%/RANGE	CAS NUMBER	OSHA PEL	ACGIH TLV
Graphite, Synthetic	20-90*	7440-44-0	5mg/M3	3.5mg/M3
Graphite, Natural	20-90*	7782-42-5	15 mppcf	2.5mg/M3
Copper	10-30	7440-50-8	0.1mg/M3	0.1mg/M3(fume)

Note: Information for Welding Fume 5mg/M3

HEALTH AND PHYSICAL HAZARDS ASSOCIATED WITH AIR CARBON ARC ELECTRODES ARE ATTRIBUTABLE TO THE FUMES GENERATED WHEN THE ELECTRODES ARE USED AND CONSUMED.

Quantative analysis detected no trace of cadmium or mercury.

SECTION 313. SUPPLIER INFORMATION

THIS PRODUCT DOES DOES NOT CONTAIN TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

CAS NUMBER	CHEMICAL NAME	%
7440-50-8	Copper	<30

THIS INFORMATION MUST BE INCLUDED IN ALL MSDSs THAT ARE COPIED AND DISTRIBUTED FOR THIS PRODUCT.

*BATCH PERCENTAGES VARY GREATLY DEPENDING UPON AVAILABILITY.

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE: Solid ODOR AND APPEARANCE: No notable odor, copper coated black rod
VAPOR PRESSURE(mm Hg): N.App. VAPOR DENSITY(air=1): N.App.
EVAPORATION RATE: N.App. BOILING POINT (F/C): N.App. FREEZING POINT (F/C): N.App.
pH: N.App. SPECIFIC GRAVITY: N.App. SOLUBILITY: Not Soluble

SECTION 4 - FIRE AND EXPLOSION DATA

FLAMMABILITY: Yes No IF YES, MEANS OF EXTINCTION: Not Flammable
FLASHPOINT (F/C) AND METHOD: N.App. FLAMMABLE LIMIT: N. App.
LEL: N.App. UEL: N. App. UNUSUAL FIRE AND EXPLOSION HAZARDS: None

N.App.: NON APPLICABLE; N.Av.: NOT AVAILABLE; N.Est.: NOT ESTABLISHED
N.F.P.A. RATING SYSTEM: 0 - INSIGNIFICANT; 1 - SLIGHT; 2 - MODERATE;
3 - HIGH; 4 - EXTREME

Health = 1 Flammability = 0 Reactivity = 0 Special = none
WHMIS CLASSIFICATION: CLASS "D" DIVISION 2 SUB-DIVISION "G"
DOT HAZARD CLASS: NOT REQUIRED

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY: Yes No IF NO, CONDITIONS TO AVOID: N.App.
INCOMPATIBILITY WITH OTHER SUBSTANCES: Yes No IF YES, WHICH ONES?
None known HAZARDOUS POLYMERIZATION: Will Occur Will Not Occur
CONDITIONS TO AVOID: N.App. HAZARDOUS DECOMPOSITION PRODUCTS: Carbon
monoxide, carbon dioxide, traces of copper fume (ozone, nitrogen oxide from
the electric arc and U.V. rays)

SECTION 6 - HEALTH HAZARD DATA

ROUTE OF ENTRY: SKIN CONTACT SKIN ABSORPTION EYE CONTACT
INHALATION INGESTION U.V. EXPOSURE

EFFECTS OF ACUTE/CHRONIC EXPOSURE TO PRODUCT: FUME: Bronchitis, lung
deposits and tissue damage which may be irreversible. Exposure to
ultra-violet arc rays can result in keratoconjunctivitis, causing
inflammation, blurred vision, headache - "sunburn."
TOXICITY: CARBON: Intravenous mouse; LD50: 440 Mg/Kg, COPPER(fume): Human,
Oral LDLo: 120ug/Kg
REPRODUCTION: CARBON - Subcutaneous rat; TDLo: 167Mg/Kg (8D preg); COPPER -
Oral , Rat; TDLo: 1520ug/Kg (22w pre) TDLo: 1210ug/Kg (35w pre)*
CARCINOGENICITY; Not Currently Listed SIGNS AND SYMPTOMS OF EXPOSURE:
Breathing difficulty, headache, nausea, dryness or irritation of nose,
throat, eyes. Burning sensation of skin or eyes. Unconsciousness.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Respiratory problems,
erythmas. EMERGENCY AND FIRST AID PROCEDURES: Remove to fresh air.
If breathing impaired, assisted respiration may be required. Treat U.V.
exposure similar to severe sunburn, seek medical attention!

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

LEAK AND SPILL PROCEDURE: Sweep or pick up. Be alert to "hot ends."
WASTE DISPOSAL METHOD: Solid landfill if local regulations allow.
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in dry area.
Electrodes exposed to moisture may explode violently if used. Dry moist rods
by baking at 300 degrees Fahrenheit for ten hours.
OTHER PRECAUTIONS: Read and understand "American National Standard Z49.1";
subpart Q of OSHA 29 CFR 1910.252; "Safety in Welding and Cutting" by the
American Welding Society. CAUTION: Use in confined areas can result in
carbon monoxide poisoning/death. Air supplied respirator is recommended
when used indoors.

SECTION 8 - CONTROL MEASURES

RESPIRATORY PROTECTION: Air supplied or fume respirator should be used if
ventilation is insufficient
GLOVES: Welders RESPIRATOR: See above EYE: Face shield or welders
helmet with #12 or darker lens FOOTWEAR: Suitable for metal working
CLOTHING: Dark, substantial, aprons, etc. OTHER: See Z49.1
VENTILATION: Local exhaust as required to reduce fumes generated by each
specific application below ACGIH TLV. MECHANICAL: See Ventilation
OTHER: Air sampling to determine corrective measures
WORK/HYGIENIC PRACTICES: Operator trained to avoid electrical shock and U.V.
ray exposure.

REFERENCES:

"Chemical Guide To OSHA Hazard Communication Standard" First Edition
"Handbook Of Toxic And Hazardous Chemicals and Carcinogens" Second Edition
"Registry Of Toxic Effects Of Chemical Substances"
"NIOSH Pocket Guide to Chemical Hazards" June 1994

THIS DATA IS OFFERED IN GOOD FAITH AS TYPICAL VALUES. THIS IS NEITHER AN EXPRESSED NOR IMPLIED PRODUCT SPECIFICATION. RECOMMENDED HANDLING PROCEDURES AND HYGIENE ARE BELIEVED TO BE ACCURATE, HOWEVER, THESE RECOMMENDATIONS SHOULD BE REVIEWED IN THE SPECIFIC CONTEXT OF INTENDED USE AND DETERMINED APPROPRIATE BY THE USER.