

50096



MATERIAL SAFETY DATA SHEET

NICKEL AND NICKEL ALLOY COATED ELECTRODES

SECTION 1 - MATERIAL IDENTIFICATION

Manufacturers Name J. W. Harris Co., Inc. Distributor Name (If Applicable) _____

Address 10930 Deerfield Road

Address Cincinnati, Ohio 45242

Emergency Telephone (513) 891-2000

MSDS Date November 1985

The following table lists the trade name and composition of products covered by this Material Safety Data Sheet. **See section 2 and especially section 6 for important health hazard data.**

Trade Name	Nominal Chemical Composition													
	C	Mn	Fe	S	Si	Cu	Cr	Cb	Mo	Ni	Al	Ti	Co	W
Harris "A" electrode	0.10	2.25	9.00	0.02	0.75	0.50	15.0	2.0	1.50	Rem				
1320 Electrode	0.08	1.5	11.0	0.015	0.75	0.50	15.0	2.75		68.0				
1350 Electrode	0.08	1.88	Rem	0.03	0.75	1.75	28.5		3.65	37.5				
1410 Electrode	0.10	0.75	0.02	1.25	0.25						1.0	2.5		
1820 Electrode	0.10	7.75	8.0	0.015	1.0	0.50	15.0	1.75				1.0	0.12	
1870 Electrode	0.05	1.75	0.58	0.025	0.50	Rem				31.0	1.0	0.50		
1900 Electrode	0.15	4.0	2.5	0.015	1.0	Rem				65.0	0.75	1.0	0.02	
C-276 Electrode	0.02	1.0	5		0.08		15.5		16	57.0			2.5	4
Alloy G Electrode	0.05	1.5	19.5		1.0		22		6.5	43			2.5	1.0
Alloy B, B2 Electrode	0.02	1.0	2.0		0.10		1.0		28	69			1.0	
Alloy X Electrode	0.10	1.0	18.5		1.0		22		9	47			1.5	0.60
Alloy W Electrode	0.12	1.0	6		1.0		5		24	63			2.5	
Nickel 55 Electrode	1.5	0.3	44.5	0.005	0.5	0.1				53.0				
Nickel 99 Electrode	1.00	0.3	3.00	0.005	0.5	0.1				95.0				

SECTION 2 - HAZARDOUS MATERIALS

Welding electrodes are a nonhazardous solid at ambient temperature. Hazards (as defined by OSHA 29CFR 1910.1200) may result from fume generated during welding. Section 1 lists product designations and composition as manufactured. **IMPORTANT** - See Section 6 for information on potential fume hazard resulting from use of the product.

SECTION 3 - PHYSICAL DATA

Solid wire or rod.

SECTION 4 - FIRE AND EXPLOSION DATA

Nonflammable. Welding arc, open flame and sparks can ignite combustibles, See ANSI/ASC Z49.1-1983 Section 6.

SECTION 5 - HEALTH HAZARD DATA

Exposure - Section 1 lists nominal composition of Nickel Coated Electrodes. Section 6 lists exposure limits for hazardous decomposition products which might be present in fume generated during welding or brazing. Actual exposure should be determined by monitoring the fume in the operator's breathing zone.

Primary Route of Exposure - Inhalation of fume.

Pre-Existing Medical Conditions - Individuals with impaired pulmonary functions or illness may have symptoms exacerbated by fume irritants.

Possible Effects of Exposure - Short term exposure to welding fume may result in discomfort, dizziness, nausea, or dryness or irritation of the throat. Long term exposure to welding fume, gases or dust may contribute to pulmonary irritation or pneumoconiosis. Copper fume may cause metal fume fever. Short term symptoms may include a metallic taste in the mouth, dryness or irritation of the throat followed by coughing, shortness of breath, nausea fever, body ache, and chills. Nickel and chromium should be considered possible carcinogens per OSHA 29CFR 1910.1200. Certain nickel compounds have been implicated based on experience in some nickel refining operations. The specific compounds, however, have not been determined and a direct association between nickel in welding fume and cancer has not been demonstrated. Some compounds of hexavalent chromium have been reported to be carcinogenic. No clear association, however, has been established between chromium in welding fume and the development of cancer. Exposure limits should be maintained below the levels listed in Section 6.

Emergency First Aid - Remove from dust or fume exposure. If breathing has stopped perform artificial respiration. Summon medical aid immediately.

Other Health Considerations

Arc Rays - From electric arc welding operations can injure eyes and burn skin.

Electric Shock - From arc welding equipment can kill.

Heat Rays - Infrared radiation from flame or hot metal can injure eyes.

SECTION 6 - REACTIVITY DATA

Hazardous Decomposition Products

Welding and brazing fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being brazed or welded, the process, procedures, and filler metals used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the work area, the quality and amount of ventilation, the position of the operator's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities). When the filler metal is consumed, the fume and gas decomposition products generated are different in percent and form from the solid wire or rod ingredients listed in Section 1. Fume and gas decomposition products, and not the ingredients in the electrode or wire are important. The concentration of a given fume or gas component may decrease or increase by many times the original concentration in the electrode. Also, new compounds not in the electrode or wire may form. Decomposition products of normal operation include those originating from the base metal and coating, etc., as noted above.