



SINCE 1916

STULZ-SICKLES STEEL COMPANY

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12% - 14% MANGANESE STEEL BARS, PLATE, SHAPES, FABRICATIONS; HARDSURFACING WELDING ELECTRODES

SAFETY DATA SHEET

Approved by U.S. Department of Labor "Essentially Similar" to Form LSB-005-4

SECTION I

FLUX COATED, FLUX CORED and SOLID WIRE WELDING ELECTRODES

SECTION II

HAZARDOUS INGREDIENTS

PERCENT CONTENT OF COATING OR FLUX

PRODUCT	NICKEL	FLUORIDES	GRAPHITE	IRON	MANGANESE	MOLYB-DENUM	SILICON	TITANIUM	ZIRCON	CHROMIUM	CARBON-ATES
MANGANESE XL	5-10				38-52		9-15	6-12		12-18	15-26
BUILD-UP	2-3	2-6		24-34	9-12	0.5-1	12-15	18-26		3-6	14.20
UNIVERSAL HARDFACE			8-12	15-25	2-5	1-3	9-15		14-20	28-40	
ULTRA-HARD 60			8-12	8-12	2-5	2-5	28-34		6-10	28-40	
SPECIAL ALLOY	1-3	5-6		11-24	0-4	0-1	0.5-2	0-4		0-1.5	6-11
MANGANAL BARE-AWSEFEMN	2-5			BAL.	12-15	0.5-1					
Ni-Rod AWS-ENI-CI		12	8	21							
S/A MANGANESE XL	1-6	1-6			12-17			1-6		2-7	1-6
S/A #12			1-6		1-6	1-6	1-6			24-29	
S/A #1616	0.5	1-6			15-20			1-6		15-20	
S/A MULTI-PASS 50			1-6	10-15	1-6	1-6			1-6	15-20	1-6
CAS.NO.	7440-02-0	14542-23-5	7782-42-5	7439-89-6	7439-96-5	7439-98-7	7440-21-3	546-93-	1314-23-4	7440-47-3	
AGGIHTLV Mg/m3	1	0.1	15 MPPCF	10	1	10	5	10	5	0.5	10

SECTION III

PHYSICAL DATA

NOT APPLICABLE.

SECTION IV

FIRE AND EXPLOSION HAZARD DATA

NON FLAMMABLE: SEE SECTION IX.

SECTION V

HEALTH HAZARD DATA

ROUTE OF ENTRY: INHALATION.

EFFECTS OF OVEREXPOSURE: METALLIC TASTE, HEADACHE.

EMERGENCY AND FIRST AID PROCEDURE: REMOVE TO FRESH AIR AND CALL PHYSICIAN

EYE HAZARD: SEE SECTION VIII.

CARCINOGENICITY: NICKEL AND CHROMIUM WITH THEIR COMPOUNDS ARE KNOWN PROBABLE CARCINOGENS. SEE

NOTE 2.

SECTION VI REACTIVITY DATA

STABILITY STABLE
 UNSTABLE

CONDITIONS TO AVOID _____

INCOMPATIBILITY (MATERIALS TO AVOID): NONE.

HAZARDOUS DECOMPOSITION PRODUCTS: UNDER CERTAIN CONDITIONS, OXIDES OF THE METALS LISTED IN SECTION II MAY BE PRESENT IN THE WELDING FUMES.

HAZARDOUS POLYMERIZATION: NOT APPLICABLE.

*CARBONATES CAN DECOMPOSE INTO CO₂ AND CO, TLV FOR CO IS 50 PPM.

SECTION VII SPILL OR LEAK PROCEDURES

NOT APPLICABLE.

SECTION VIII SPECIAL PROTECTION INFORMATION (SEE NOTE 1)

RESPIRATORY PROTECTION: WELD FUME RESPIRATOR OR AIR-LINE RESPIRATOR FOR CONFINED SPACE OR WHERE EXPOSURES ARE ABOVE TLV.

VENTILATION: LOCAL EXHAUST: FREELY MOVABLE EXHAUST DUCTS WITH AIR FLOW OF 100 LINEAR FT./MIN.

MECHANICAL (GENERAL): NOT APPLICABLE IF LOCAL EXHAUST IS ADEQUATE.

EYE PROTECTION: UP TO 5/32" DIAM., USE #10 LENS; FOR ¼" DIAM., AND LARGER USE #12 LENS.

VIEWING ELECTRIC ARC WITHOUT PROTECTION CAN RESULT IN SEVERE EYE DAMAGE.

PROTECTIVE GLOVES: WELDER'S PROTECTIVE GLOVES. UNPROTECTED SKIN CAN BE SEVERELY BURNED BY THE ELECTRIC ARC.

OTHER PROTETIVE EQUIPMENT: EQUIPMENT AS REQUIRED BY WELDING CONDITIONS. DARK CLOTHING SHOULD BE WORN TO PROTECT SKIN FROM FROM ELECTRIC ARC BURNING.

SECTION IX SPECIAL PRECATIONS (SEE NOTE 1)

OTHER PRECATIONS: ARC AND SPARKS COULD BE SOURCE OF IGNITION OF COMBUSTIBLE PRODUCTS:

NEARBY PERSONNEL SHOULD BE-WARNED AGAINST DIRECT VIEWING OF WELDING ARC WITHOUT THE PROPER EYE PROTECTION.

NOTE 1: FOR ADDITIONAL INFORMATION, SEE AMERICAN NATIONAL STANDARD SAFETY IN WELDING & CUTTING Z49-1-1967 (AMERICAN WELDING SOCIETY PUBLICATION Z49-1-1967)

NOTE 2: STATE OF CALIFORNIA KNOWS THAT WELDING PRODUCES COMPOUNDS THAT CAN CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.