LINCOLN ELECTRIC

Battle Creek
Union Pump & M.W.S.C.

Date:	6/20/2008	MSDS No.:	US-M291
Trade Name:	Excalibur 7018 MR		
Sizes:	All		
Supersedes:	6/1/07		

MATERIAL SAFETY DATA SHEET

For Welding Consumables and Related Products

Conforms to Hazard Communication Standard 29CFR 1910.1200 Rev. October 1988

SECTION I - IDENTIFICATION

Manufacturer/ Supplier: The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, OH 44117-1199
(216) 481-8100

Product Type: Covered Electrode

Classification: AWS E7018 H4R

SECTION II - HAZARDOUS MATERIAL (1)

IMPORTANT!

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section V; see it for industrial hygiene information.
CAS Number shown is representative for the ingredients listed. All ingredients listed may not be present in all sizes.
(1) The term "hazardous" in "Hazardous Materials" should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard. All materials are listed on the TSCA inventory.

Ingredients:	CAS No.	Wt.%	TLV mg/m^3	PEL mg/m^3
Iron	7439-89-6	15	10*	10*
Limestone and/or calcium carbonate	1317-65-3	10	10	15
Titanium dioxides	13463-67-7	< 5	10	15
Fluorides (as F)	7789-75-5	< 5	2.5	2.5
Silicates and other binders	1344-09-8	< 5	10*	10*
Manganese and/or manganese alloys and compounds (as Mn)*****	7439-96-5	< 5	0.2	5 (c)
Mineral silicates	1332-58-7	< 5	5**	5**
Silicon and/or silicon alloys and compounds (as Si)	7440-21-3	1	10*	10*
Zirconium alloys and compounds (as Zr)	12004-83-0	0.5	5	5
Lithium compounds (as Li)	554-13-2	< 0.5	10*	10*
Carbon steel core wire	7439-89-6	55	10*	10*

Supplemental Information:

(*) Not listed. Nuisance value maximum is 10 milligrams per cubic meter. PEL value for iron oxide is 10 milligrams per cubic meter. TLV value for iron oxide is 5 milligrams per cubic meter.

(**) As respirable dust.

(*****) Subject to the reporting requirements of Sections 311, 312, and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40CFR 370 and 372.

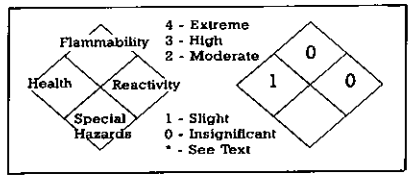
(c) Value is for manganese fume. Present PEL is 5 milligrams per cubic meter (ceiling value). Values proposed by OSHA in 1989 were 1.0 milligrams per cubic meter TWA and 3.0 milligrams per cubic meter STEL (Short Term Exposure Limit).

SECTION III - HAZARD DATA

Non Flammable; Welding arc and sparks can ignite combustibles and flammable products. See Z49.1 referenced in Section VI. Product is inert, no special handling or spill procedures required. Not regulated by DOT.

(CONTINUED ON SIDE TWO)

Product:	**Excalibur 7018 MR**
Date:	**6/20/2008**



SECTION IV - HEALTH HAZARD DATA

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOS - (Not Otherwise Specified) is 5 mg/m^3. ACGIH-1999 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See Section V for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists. Units are milligrams per cubic meter of air.

Effects of Overexposure: Electric arc welding may create one or more of the following health hazards:
Fumes and Gases can be dangerous to your health. Common entry is by inhalation. Other possible routes are skin contact and ingestion.

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have been reported. Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. May cause skin rash. WARNING: This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code Section 25249.5 et seq.)

Arc Rays can injure eyes and burn skin. *Skin cancer has been reported.*
Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross.
IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques.
IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

SECTION V - REACTIVITY DATA

Hazardous Decomposition Products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes 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 worker area, the quality and amount of ventilation, the position of the welder'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 electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide and fluorides; secondarily complex oxides of manganese, potassium, silicon and sodium.

Maximum fume exposure guideline for this product (based on manganese content) is 4.0 milligrams per cubic meter.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.2, F1.3 and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

SECTION VI AND VII
CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instruction and the precautionary label on the product. Request Lincoln Safety Publication E205. See American National Standard Z49.1, "Safety In Welding, Cutting and Allied Processes" published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL, 33126 (both available for free download at http://www.lincolnelectric.com/community/safety/) and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more details on many of the following:

Ventilation: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. *Keep exposure as low as possible.*

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection: Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

Protective Clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin . . . or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information: Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to Federal, State and Local Regulations unless otherwise noted. No applicable ecological information available.

Search results

Item number	Description	In All POI	Family	Sub-Family	Min
4WB0001E	4WE1/8*SIL-BOND-35 SILVER SOLD	2		NONE	1
4WE0001E	4WE.045*T7000*DUAL SHIELD*(33#	3		NONE	2
4WE0002E	4WE.060*T7000*DUAL SHIELD*(60#	1		NONE	1
4WE0003E	4WE.060*SS*ER 410 NI MO T-1,3,	1		NONE	1
4WE0005E	4WE.060*308 L-O*FLUX CORE*(60#	6		NONE	2
4WE0006E	4WE.045*EN 60*ARZOS*(25# SPOOL	0		NONE	0
4WE0007E	4WE.045*AMPCO-TRODE 46*(30# SP	1		NONE	0
4WE0008E	4WE.060*AMPCO-TRODE 46*(30# SP	2		NONE	0
4WE0009E	4WE.045*316L MCKAY*(25# SPOOL)	0		NONE	1
4WE0010E	4WE.060*316L-O FLUX CORE*(60#	1		NONE	0
4WE0011E	4WE.045*HB-25 HOBART SOL CORE*	2		NONE	2
4WE0012E	4WE3/32*E7018*LIN ONLY*(50# CO	1		NONE	2
4WE0014E	4WE1/8*E7018*LIN ONLY*(50# CON	1		NONE	1
4WE0015E	4WE5/32*E7018*LIN ONLY*(50# CO	14		NONE	3
4WE0016E	4WE7/32*E7018*LIN ONLY*(50# CO	1		NONE	0
4WE0017E	4WE1/4*LH-78*LIN ONLY*(50# CON	2		NONE	0
4WE0018E	4WE3/32*E316ELC SMAW*ARCALOY*(	3		NONE	2
4WE0019E	4WE1/8*E316L AC-DC*ARCALOY*NO	2		NONE	1
4WE0020E	4WE3/16*E316ELC SMAW*ARCALOY*(	3		NONE	2
4WE0021E	4WE3/32*E308ELC SMAW*ARCALOY*(	2		NONE	2
4WE0022E	4WE1/8*E308ELC SMAW*ARCALOY*NO	2		NONE	2
4WE0023E	4WE5/32*E308ELC SMAW*ARCALOY*(	1		NONE	2
4WE0024E	4WE3/32*E309ELC OR L SMAW*ARCA	4		NONE	2
4WE0025E	4WE1/8*E309ELC OR L SMAW*ARCAL	1		NONE	0
4WE0026E	4WE5/32*E309ELC OR L SMAW*ARCA	4		NONE	2
4WE0027E	4WE3/16*E309ELC OR L SMAW*ARCA	2		NONE	2
4WE0029E	4WE1/8*E410NIMO-16 SMAW*MC KAY	3		NONE	2
4WE0030E	4WE5/32*E410NIMO-16 SMAW*MC KA	2		NONE	2
4WE0031E	4WE3/16*E410NIMO-16 SMAW*MC KA	2		NONE	2
4WE0032E	4WE3/32*E410*NIMO(10#) electro	4		NONE	2
4WE0033E	4WE1/8*E410-16 SMAW*MC KAY*(10	2		NONE	2
4WE0034E	4WE1/8*H930*SOFTWELD*LINCOLN*(	2		NONE	0
4WE0035E	4WE1/8*HASTELLOY"B"*EXT.CTD. R	8		NONE	3
4WE0036E	4WE1/8*HASTELLY"C"22*ROD*(5#)	1		NONE	0
4WE0037E	4WE1/8*9N10*ARCALOY*(10#)	2		NONE	2
4WE0038E	4WE3/32*MONEND 806-190*NO SUB*	12		NONE	2
4WE0039E	4WE1/8*MONEL 190*(10# CONTAINE	4		NONE	0
4WE0040E	4WE5/32*MONEL 190*(10#)	0		NONE	0
4WE0041E	4WE3/16*MONEL 190*(10#)D.N.O.	0		NONE	0
4WE0042E	4WE1/8*ALSTATE 8*(10#)	1		NONE	1
4WE0043E	4WE5/32*ALSTATE 8*(10#)	1		NONE	1
4WE0044E	4WE1/8*CB-20 LIME SMAW*ARCALOY	2		NONE	0
4WE0045E	4WE3/32*320LR LIME SMAW*ARCALO	3		NONE	2
4WE0046E	4WE1/8*320LR-16*ARCALOY*(10#)	2		NONE	2
4WE0048E	4WE1/8*630 (17-4) MC KAY*(10#)	3		NONE	2
4WE0049E	4WE1/16X7"*TT-T-G2-7*TUNGSTEN	2		NONE	2
4WE0050E	4WE1/8X7"*TT-T-G2-7*TUNGSTEN E	10		NONE	3

4WE0051E	4WE.045*NICKEL 61*INCO BRAND*3	5	NONE	2
4WE0052E	4WE.045*ER410 STAINLESS BARE*(	5	NONE	3
4WE0053E	4WE.045*308ELC MC KAY*(25# SPO	2	NONE	2
4WE0054E	4WE3/16*E7018*LIN ONLY*(50# CO	2	NONE	1
4WE0055E	4WE3/16*S6333-16 MC KAY*(10#)	3	NONE	2
4WE0056E	4WE3/32*ALSTATE 8*(10#)	0	NONE	0
4WE0057E	4WE1/4*AIR ARC ROD*A-C TYPE*(5	50	NONE	1
4WE0058E	4WE3/32X36"*316ELC ROD*ARC ALO	1	NONE	2
4WE0059E	4WE.045*309ELC*ARCALLOY*(25# S	2	NONE	2
4WE0060E	4WE.045*MONEL 60*ERNICU-7*30#	3	NONE	2
4WE0061E	4WE1/8X36"*4043 ALUM ROD*CROWN	2	NONE	2
4WE0062E	4WE3/32X7"*TT-T-G2-7*TUNGSTEN	2	NONE	2
4WE0063E	4WE5/32*316 ELC*ARCALOY*10#/CO	2	NONE	2
4WE0064E	4WE1/8*E308ELC PLUS*ARCALOY*(1	7	NONE	3
4WE0065E	4WE1/8*E316ELC PLUS*ARCALOY*(1	7	NONE	3
4WE0066E	4WE1/8X36"*308ELC*ROD*10LB	2	NONE	2
4WE0067E	4WE1/8X36"*STEEL*ROD*10LB	2	NONE	2
4WE0068E	4WE1/8*E309L-16*NO SUB*10# CAN	0	NONE	2
4WE0069E	4WE3/32*E308 PLUS *ARCALOY*(5#	2	NONE	1
4WE0070E	4WE.045*316L*FLUX CORE AVE *WF	0	NONE	2
4WE0071E	4WE.045*309L*AVESTA*25#SPL*FLU	5	NONE	2
4WE0073E	4WE1/8*E7015 CL2*CRYOWELD 3*CH	2	NONE	2
4WE0074E	4WE5/32*E410-16 SMAW*MC KAY*(1	3	NONE	2
4WE0075E	4WE3/16*E410-16 SMAW*MC KAY*(1	2	NONE	2
4WE0076E	4WE1/8*E-317L*ELECTRODES*FOR*C	3	NONE	2
4WE0077E	4WE5/32*E-317L*ELECTRODS*FOR*C	6	NONE	2
4WE0078E	4WE.045*KOBDW317L04528S*28#SPL	4	NONE	1
4WE0079E	4WE.045*K0BDW308L04528S*28#SPL	3	NONE	2
4WE0080E	4WE3/32X36"*AVER309L*S.S.*ROD*	2	NONE	1
4WE0081E	4WE.045*KOBDW2209045*28#SPL*FL	0	NONE	0
4WE0082E	4WE1/8*ESB255011850*ESBA*10#*L	1	NONE	0
4WE0083E	4WE.045*SOLID CORE*ER70S-3*SPO	2	NONE	2
4WE0084E	4WE3/32X36LG*ER70S-2*AWS/SFA*5	2	NONE	1
4WE0085E	4WE.062NIMOT*410*10LBS(TIG ROD	2	NONE	1
4WE0086E	4WE*METRODE SUPERMET 2506Cu 3.	2		1
4WE0087E	4WEEN1600;E25 9-4-N-L-B-4-2	0		0
4WE0088E	4WE3/32{.093}X36" MONEL 60 FIL	2		2
4WE0089E	4WE.045*INCONEL FILLER METAL 6	4	NONE	2
4WE0090E	4WEARC MC410NIMO 045X33LBS SPV	6		1
4WE0092E	4WEER2209*3/32X36"*AWS/SFA5.9*	10		10
4WE0093E	4WE1/16X36*ER2209 TIGWIRE*HEAT	2		1
4WE0094E	4WE.035"*ER70S-6*SOLID*MIG*WEL	1		1
4WE0095E	-4WE1/8X14X10#*ATOM*ARC*7018-1	2		1
4WE0096E	4WE.060*410NIMOT1*60LB	3		1
4WE0097E	4WEAC309L-16*3/32X9X6LB*HS*	5		2
4WE0098E	4WE3/32X36*INCONEL FILLER META	2		1