

R & D METALS AND CHEMICALS INC -- ER NI CR FE-5, WELDING ROD -- 3439-00-273-8825
===== Product Identification =====

Product ID:ER NI CR FE-5, WELDING ROD
MSDS Date:03/01/1999
FSC:3439
NIIN:00-273-8825
MSDS Number: CKNLG
=== Responsible Party ===
Company Name:R & D METALS AND CHEMICALS INC
Address:201C PERIMETER PARK
Box:22533
City:KNOXVILLE
State:TN
ZIP:37922
Country:US
Info Phone Num:423-531-6
065/800-645-7476
Emergency Phone Num:1-800-424-9300
Chemtrec Ind/Phone:(800)424-9300
CAGE:56406

=== Contractor Identification ===
Company Name:R & D METALS & CHEMICALS, INC
Address:201C PERIMETER PARK
Box:22533
City:KNOXVILLE
State:TN
ZIP:37922-2233
Country:US
Phone:423-531-6065 / FAX: 423-531-2044
Contract Num:SP0400-00-V-1043
CAGE:56406

===== Composition/Information on Ingredients =====

Ingred Name:CARBON
CAS:7440-44-0
RTECS #:FF5250000
= Wt:.08

Ingred Name:MANGANESE
CAS:7

439-96-5
RTECS #:OO9275000
= Wt:1.
OSHA PEL:C5 MG/M3
ACGIH TLV:5 MG/M3

Ingred Name:IRON
CAS:7439-89-6
RTECS #:NO4565500
Minumum % Wt:6.
Maxumum % Wt:10.

Ingred Name:PHOSPHORUS
CAS:7723-14-0
RTECS #:TH3495000
= Wt:.03
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.1 MG/M3;0.02 PPM
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:SULFUR
CAS:7704-34-9
RTECS #:WS4250000
Fraction by Wt: 0.015% %

Ingred Name:SILICA
CAS:7631-86-9
= Wt:.35

Ingred Name:COPPER
CAS:7440-50-8
RTECS #:GL5325000
= Wt:.5
OSHA PEL:1 MG/M3
AC
GIH TLV:1 MG/M3
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:NICKEL
CAS:7440-02-0
RTECS #:QR5950000
Fraction by Wt: 70.0% (MIN)
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3

Ingred Name:CHROMIUM
CAS:7440-47-3
RTECS #:GB4200000
Minumum % Wt:14.
Maxumum % Wt:17.
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:NIOBIUM
CAS:7440-03-1

t:3.
OSHA PEL:5 MG/M3
ACGIH TLV:5 MG/M3

Ingred Name:LEAD
CAS:7439-92-1
RTECS #:OF7525000
< Wt:.5
ACGIH TLV:0.15 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:TIN
CAS:7440-31-5
RTECS #:XP7320000
< Wt:.5
ACGIH TLV:2 MG/M3

Ingred Name:ZINC
CAS:7440-66-6
RTECS #:ZG8600000
< Wt:.5
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

===== Hazards Identification =====

LD50 LC50 Mixture:ORAL (RAT) IS UNKNOWN.
Health Hazards Acute and Chronic:WELDING RODS ARE N
ON-HAZARDOUS SOLID

AT AMBIENT TEMPERATURES. WELDING GENERATES FUMES, GASES AND ELECTROMAGNETIC RADITION WITH KNOWN ADVERSE HEALTH EFFECTS. THE COMPOSITION OF WELDING EMISSIONS VARIES SUBSTANTIALLY WITH THE WELDING PROCESS. SHORT TERM EXPOSURE TO WELDING FUMES MAY RESULT IN DISCOMFORT, DIZZINESS, NAUSEA, AND DRYNESS OR IRRITATION OF THE THROAT. LONG TERM EXPSOURE TO WELDING FUME, GASES, OR DUST MAY CONTRIBUTE TO PULMONARY IRRITATION OR PNEUMOCONIOSIS. LONG TERM

EXPOSURE TO IRON FUME MAY PRODUCT SIDEROSIS, WHICH IS GENERALLY REGARDED AS BENIGN.

Explanation of Carcinogenicity:NICKEL AND CADMIUM SHOULD BE CONSIDERED POSSIBLE CARCINOGENS PER OSHA 29CFR 1910.1200. THE SPECIFIC COMPOUNDS, HOWEVER HAVE NOT BEEN DETERMINED AND A DIRECT ASSOCIATION BETWEEN NICKEL IN WELDING FUME AND CANCER HAS NOT BEEN DEMONSTRATED. CADMIUM OXIDE FUME(S) ASSOCIATED WITH INDUSTRIAL WELDING PROCESSES ARE SUSPECTED OF INDUCING CANCER.

Effects of Overexposu

re:EXPOSURE TO WELDING FUMES: DISCOMFORT,
DIZZINESS, NAUSEA, DRYNESS, IRRITATION, PNEUMOCONIOSIS, SIDEROSIS.
Medical Cond Aggravated by Exposure:INDIVIDUALS WITH IMPARED PULMONARY
FUNCTION OR ILLNESS MAY HAVE SYMPTOMS EXACERBATED BY IRRITANTS
CONTAINED IN WELDING FUME.

===== First Aid Measures =====

First Aid:MOVE FROM DUST OR FUME EXPOSURE. IF BREATHING HAS STOPPED
PERFORM ARTIFICIAN RESPIRATION. SUMMON MEDICAL AID IMMEDIATELY.

===== Fire Fighting Measures =====

Flash Point:NONE
Autoignition Temp:Autoignition Temp Text:NONE
Lower Limits:NONE
Upper Limits:NONE
Extinguishing Media:THIS ALLOY IS NONCOMBUSTIBLE. USE EXTINGUISHING
MEDIA APPROPRIATE TO THE SURROUNDING FIRE.
Fire Fighting Procedures:IF THIS MATERIAL IS REDUCED TO POWDER FORM,
CAUTION MUST BE USED TO PREVENT FIRE OR EXPLOSION. TO EXTINGUISH A
METAL POWDER FIRE USE DRY SAND, DRY GRAPHITE OR OTHER CLASS "D"
FIRE EXTINGUI
SHING POWDER .
Unusual Fire/Explosion Hazard:NO UNUSUAL FIRE OR EXPLOSION HAZARDS ARE
ASSOCIATED WITH THIS MATERIAL.

===== Accidental Release Measures =====

Spill Release Procedures:NOT APPLICABLE.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

===== Handling and Storage =====

Handling and Storage Precautions:USE EXHAUST SYSTEM TO CLEAR WELDING
FUMES. MAKE SURE THAT INHALED AIR DOES NOT CONTAIN FUME CONSTUENTS
ABO
VE PERMISSABLE LEVELS.
Other Precautions:ADDITIONAL SAFETY INFORMATION ON WELDING AND CUTTING
SEE AMERICAN STANDARD Z49.1-1980, SAFETY IN WELDING AND CUTTING,
AND WELDING HANDBOOK, VOLUME 1, CHAPTER 9, SAFE PRACTICES IN
WELDING AND CUTTING, AVAILABLE FROM AMERICAN WELDING SOCIETY, INC
550 N.W. LEJEUNE RD, P.O. BOX 35040, MIAMI, FL. 33135, PHONE:
305-443-9353.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:USE RESPIRABLE FUME RES

PIRATOR OR AIR SUPPLIED

RESPIRATOR WHEN WELDING, BRAZING, OR SOLDERING IN CONFINED SPACE OR WHERE LOCAL EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW PEL, TLV OR STEL. MOST WELDING, EVEN WITH PRIMITIVE VENTILATION, DOES NOT PRODUCE EXPOSURES INSIDE THE WELDING HELMET ABOVE 5 MG/M³. THAT WHICH DOES, SHOULD BE CONTROLLED.

Ventilation:USE ENOUGH VENTILATION, LOCAL EXHAUST AT THE ARC (OR FLAME), OR BOTH, TO KEEP THE FUMES AND GASSES BELOW PEL'S, TLVS, OR STELS IN

THE WORKER'S BREATHING ZONE.

Protective Gloves:WELDER'S GLOVES

Eye Protection:WEAR HELMET OR FACESHEILD WITH FILTER LENS OF APPROPRIATE SHADE.

Other Protective Equipment:PROVIDE PROTECTIVE SCREENS AND FLASH GOGGLES, IF NECESSARY TO SHEILD OTHERS. WEAR HEAD AND BODY PROTECTION WHICH HELP TO PREVENT INJURY FROM RADIATION, SPARKS, FLAME AND ELECTRICAL SHOCK.

Work Hygienic Practices:TRAIN THE EMPLOYEE TO KEEP HIS HEAD OUT OF THE FUMES. TRAIN THE EMPLOYEE NOT TO TOUCH LIVE ELECTRICAL PARTS AND TO INSULATE HIMSELF FROM WORK AND GROUND.

Supplemental Safety and Health

BODY PROTECTION - ARM PROTECTORS, APRONS, HATS, SHOULDER PROTECTION, AS WELL AS DARK SUBSTANTIAL CLOTHING. WELDERS SHOULD NOT WEAR SHORT SLEEVE SHIRTS, SHORT PANTS, OR CUTOFFS.

===== Physical/Chemical Properties =====

HCC:N1

Evaporation Rate & Reference:NONE (METAL)

Solubility in Water:NO

Appearance and Odor:METAL WELDING RODS.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

AVOID CONTACT WITH MINERAL ACIDS AND OXIDIZING AGENTS WHICH MAY GENERATE HYDROGEN GAS, THE EVOLUTION OF HYDROGEN MAY BE AN EXPLOSION HAZARD.

Hazardous Decomposition Products:VARIOUS METALS AND METAL OXIDES MAY BE GENERATED FROM MELTING OR DROSS HANDLING OPERATIONS.

===== Disposal Considerations =====

Waste Disposal Methods:PREVENT WASTE FROM CONTAMINATING SURROUNDING ENVI

ENVIRONMENT. DISCARD ANY PRODUCT, RESIDUE, DISPOSABLE CONTAINER OR LINER IN AN ENVIRONMENTALLY ACCEPTABLE MANNER, IN FULL COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

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