

R & D METALS & CHEMICALS, INC -- 5356, WELDING ELECTRODE -- 3439-01-218-5212

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Product Identification
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Product ID:5356, WELDING ELECTRODE

MSDS Date:07/01/1998

FSC:3439

NIIN:01-218-5212

Status Code:A

MSDS Number: CLMNX

=== Responsible Party ===

Company Name:R & D METALS & CHEMICALS, INC

Address:201C PERIMETER PARK

Box:22533

City:KNOXVILLE

State:TN

ZIP:37922-2233

Country:US

Info Phone Num:

865-531-6065 / FAX: 865-531-2044

Emergency Phone Num:865-531-6065

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:SP0490-96-D-41080

CAGE:56406

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Composition/Information on Ingredients
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Ingred Name:ALUMINUM

CAS:7429-90-5

RTECS #:BD0330000

OSHA PEL:15 MG/M3

ACGIH TLV:10 MG/M3 DUST

Ingred Na

me:COPPER
CAS:7440-50-8
RTECS #:GL5325000
OSHA PEL:1 MG/M3 FUME
ACGIH TLV:0.2 MG/M3 FUME
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:IRON
CAS:1309-37-1
RTECS #:NO7400000
OSHA PEL:10 MG/M3 FUME
ACGIH TLV:5 MG/M3 FUME

Ingred Name:MAGNESIUM
CAS:1309-48-4
RTECS #:OM3850000
OSHA PEL:15 MG/M3 FUME
ACGIH TLV:10 MG/M3 FUME

Ingred Name:MANGANESE
CAS:7439-96-5
RTECS #:OO9275000
OSHA PEL:C 5 MG/M3
ACGIH TLV:1 MG/M3 FUME

Ingred Name:SILICON
CAS:7440-21-3
RTECS #:VW0400000
OSHA PEL:15 MG/M3
ACGIH TLV:10 MG/M3 T DUST

Ingred Name:TIN
CAS:7440-31-5
RTECS #:XP7320000
OSHA PEL:2.0 INORGANIC
ACGIH TLV:2 MG/M3

Ingred Name:ZINC
CAS:1314-13-2
RTECS #:ZH4810000
OSHA PEL:5 MG/M3 FUME
ACGIH TLV:5 MG/M3 FUME

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

Reports of Carcinogenicity:NTP:UNKNOWN IARC:UNKNOWN OSHA:YES
Health Hazards Acute and Chronic:ELECTRIC ARC-WELDING MAY CREATE ONE OR
MORE OF THE FOLLOWING HEALTH HAZARDS: FUMES AND GASES CAN BE
DANGEROUS

TO YOUR HEALTH. ARC RAYS CAN INJURE EYES AND BURN SKIN.

ELECTRIC SHOCK CAN KILL. SHORT TERM OVEREXPOSURE TO WELDING FUMES MAY RESULT IN DISCOMFORT SUCH AS: DIZZINESS, NAUSEA, DRYNESS OR IRRITATION OF NOSE, THROAT, EYES, TIGHTNESS IN CHEST, FEVER AND ALLERGIC REACTIONS. LONG TERM (CHRONIC) OVEREXPOSURES TO WELDING FUMES MAY LEAD TO SIDEROSIS (IRON DEPOSIT IN LUNGS) AND IS BELIEVED BY SOME INVESTIGATORS TO AFFECT PULMONARY FUNCTION. CHROMIUM COMPOUNDS ARE REQUIRED TO

BE CONSIDERED CARCINOGENIC BY OSHA.

Explanation of Carcinogenicity:CHROMIUM COMPOUNDS ARE CONSIDERED CARCINOGENIC BY OSHA.

Effects of Overexposure:SHORT TERM OVEREXPOSURE TO WELDING FUMES MAY RESULT IN DISCOMFORT SUCH AS: DIZZINESS, NAUSEA, DRYNESS OR IRRITATION OF NOSE, THROAT, EYES, TIGHTNESS IN CHEST, FEVER AND ALLERGIC REACTIONS. LONG TERM (CHRONIC) OVEREXPOSURES TO WELDING FUMES MAY LEAD TO SIDEROSIS (IRON DEPOSIT IN LUNGS) AND IS BELIEVED BY SOME INVESTIGATORS TO AFFECT PULMONARY FUNCTION.

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

First Aid:REMOVE TO FRESH AIR, OBTAIN MEDICAL ATTENTION. EMPLOY FIRST AID TECHNIQUES RECOMMENDED BY THE AMERICAN RED CROSS.

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

Extinguishing Media:SEE BELOW.

Fire Fighting Procedures:WELDING ARC AND SPARKS CAN IGNITE COMBUSTIBLES AND FLAMMABLES. REFER TO AMERICAN NATIONAL STANDARD Z49.1 FOR FIRE PREVENTION DURING THE USE OF WELDING AND ALLIED PROCEDURES.

Unusual Fire/Explosion Hazard:WELDING ARC AND SPARKS CAN IGNITE COMBUSTIBLES AND FLAMMABLES.

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

Handling and Storage Precautions:READ AND UNDERSTAND MANUFACTURER'S INSTRUCTIONS AND THE PRECAUTIONARY LABEL ON PRODUCT. USE ENOUGH VENTILATION, LOCAL EXHAUST AT ARC, OR BOTH, TO KEEP FUMES AND GASES FROM WORKER'S BREATHING ZONE AND GENERAL AREA. USE EXHAUST SYSTEM TO CLEAR WEL

DING FUMES.

Other Precautions:FOR ADDITIONAL SAFETY INFORMATION ON WELDING AND CUTTING, SEE AMERICAN STD. Z49-1-1983, SAFETY IN WELDING AND CUTTING, AND THE WELDING HANDBOOK, VOL. 1 CHAPTER 9, SAFE PRACTICES IN WELDING/CUTTING. AV AILABLE FROM AMERICAN WELDING SOCIETY, INC. 550 N.W. LE JEUNE RD, P.O. BOX 351040, MIAMI, FL.33135. TEL 305-443-9353.

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

Respiratory Protection:USE RESPIRABLE FUMES RESPIRATORY OR A IR SUPPLIED

RESPIRATOR WHEN WELDING IN A CONFINED SPACE OR WHERE LOCAL EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW THE RECOMMENDED EXPOSURE LIMIT.

Ventilation:USE ENOUGH VENTILATION, LOCAL EXHAUST AT THE ARC, OR BOTH, TO KEEP FUMES AND GASES FROM THE WORKER'S BREATHING ZONE AND GENERAL AREA.

Protective Gloves:AT A MINIMUM WELDER'S GLOVES

Eye Protection:HELMET OR USE FACE SHIELD WITH FILTER LENS.

Other Protective Equipment:WEAR HAND, HEAD, BODY PROTECTION TO PREVENT

INJURY FROM RADIATION, SPARKS AND ELECTRICAL SHOCK. SEE ANZI A49-1.THIS INCLUDES PROTECTIVE FACE SHIELD, WELDER'S GLOVES, AND MAY INCLUDE (CONTD. SEE BELOW)

Work Hygienic Practices:(CONTD FROM ABOVE) ARM PROTECTORS, APRONS, HATS, SHOULDER PROTECTION, AS WELL AS DARK SUBSTANTIAL CLOTHING. TRAIN WELDER NOT TO TOUCH LIVE ELECTRICAL PARTS AND TO INSULATE HIMSELF FROM WORK AND GROUND.

Supplemental Safety and Health

TRAIN WELDER TO KEEP HIS HEAD OUT OF THE FUMES. PROVIDE PROTECTI VE

SCREENS AND FLASH GOGGLES, IF NECESSARY TO SHIELD OTHERS. FILTER LENS SELECTION; AS A RULE OF THUMB, START WITH A SHADE THAT IS TOO DARK TO SEE THE WELD ZONE. THEN GO THE NEXT LIGHTER SHADE WHICH GIVES SUFFICIENT VIEW OF THE WELD ZONE.

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

HCC:N1

Appearance and Odor:ELECTRODE: METAL 0.062 IN. DIAMETER; COIL.

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

Stability Indicator/Materials to

Avoid: YES

NONE.

Stability Condition to Avoid: NONE: UNLESS OTHERWISE SPECIFIED.

Hazardous Decomposition Products: COMPOSITION AND QUALITY OF WELDING FUMES AND GASES ARE DEPENDENT ON THE METAL WELDED, THE PROCESS, PROCEDURE, AND ELECTRODES USED, COATINGS ON WELDED METAL (PAINT, PLATING, GALVANIZING), (CONTD. BELOW)

===== Toxicological Information =====

Toxicological Information: HAZARDOUS DECOMPOSITION PRODUCTS: THE COMPOSITION AND QUALITY OF WELDING FUMES AND GASES ARE DEPENDENT UPON THE METAL BEING WELDED, THE PROCESS, PROCEDURE, AND ELECTRODES USED. OTHER CONDITIONS WHICH ALSO INFLUENCE THE COMPOSITION AND QUALITY 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, THE VOLUME OF THE WORK AREA, THE QUALITY AND AMOUNT OF VENTILATION, POSITION OF WELDER'S HEAD WITH RESPECT TO THE FUME PLUME, AS WELL AS THE PRESENCE OF CONTAMINANTS IN THE ATMOSPHERE (CHLORINATED (CONTD. SEE ECOLOGICAL)

===== Ecological Information =====

Ecological: (CONTD. FROM "TOXICOLOGICAL") HYDROCARBON VAPORS FROM CLEANING AND DEGREASING ACTIVITIES). WHEN THE ELECTRODE IS CONSUMED, THE FUMES AND GAS DECOMPOSITION PRODUCTS, ARE NOT THE INGREDIENTS IN THE ELECTRODE, BUT ARE COMPOUNDS GENERATED FROM THE WELDING OPERATION FUME AND GAS DECOMPOSITION PRODUCTS. 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 MAY FORM. DECOMPOSITION PRODUCTS OF NORMAL OPERATION INCLUDE THOSE ORIGINATING FROM THE VOLITION, REACTION, OR OXIDATION OF THE ELECTRODE PLUS (CONTD SEE "SARA")

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

Waste Disposal Methods: PREVENT WASTE FROM CONTAMINATING SURROUNDING ENVIRONMENT

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

===== Regulatory Information =====

SARA Title III Information:(CONTD. FROM "ECOLOGICAL") THOSE FROM THE BASE METAL AND COATING, ETC. REASONABLE EXPECTED FUME CONSTITUENTS OF THESE PRODUCTS COULD INCLUDE PRIMARILY OXIDES OF IRON; SECONDARILY COMPLEX OXIDES OF MANGANESE, SILICON, NICKEL, CHROMIUM, MOLYBDENUM AND VANADIUM. THE PRESENT OSHA PERMISSIBLE EXPOSURE LIMITS FOR HEXAVALENT CHROMIUM IS 0.05 MG/M3 AND FOR NICKEL 1 MG/M3, WHICH WILL RESULT IN A SIGNIFICANT REDUCTION FROM THE 5 MG/M3 GENERAL FUME LEVEL. GASEOUS REACTION PRODUCTS MAY INCLUDE CARBON MONOXIDE AND CARBON DIOXIDE. OZONE AND NITROGEN OXIDES MAY BE FORMED BY THE RADIATION FROM THE ARC, IN ADDITION TO THE (CONTD. SEE BELOW)

Federal Regulatory Information:(CONTD. FROM ABOVE)SHIELDING GASES LIKE

ARGON AND HELIUM WHENEVER THEY ARE EMPLOYED. ONE RECOMMENDED WAY TO DETERMINE THE COMPOSITION AND QUANTITY OF FUMES AND GASES TO WHICH WORKERS ARE EXPOSED IS TO TAKE AN AIR SAMPLE FROM INSIDE THE WELDER'S HELMET IF WORN OR IN THE WORKER'S BREATHING ZONE. SEE AWS F1.1 AND AWS F1.2 - 1985, AVAILABLE FROM THE AMERICAN WELDING SOCIETY. SEE AWS PUBLICATION: "FUMES AND GASES IN THE WELDING ENVIRONMENT".

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