

NATIONAL WELDING ALLOYS, INC. -- ALUMINUM & MAGNESIUM BARE WELDING WIRE 5356 --
3439-00-803-9491

===== Product Identification =====

Product ID:ALUMINUM & MAGNESIUM BARE WELDING WIRE 5356

MSDS Date:08/01/1990

FSC:3439

NIIN:00-803-9491

MSDS Number: BWDYF

=== Responsible Party ===

Company Name:NATIONAL WELDING ALLOYS, INC.

Address:1600 SOUTH CANAL STREET

City:PITTSBURGH

State:PA

ZIP:15215

Country:US

Info Phone Num:412-781-4255

Emergency Phone Num:412-781-4255, CHEMTREC 800-424-9300

CAGE:0ACE2

=== Contractor Identification ===

Company Name:NATIONAL WELDING ALLOYS INC

Address:1600 SOUTH CANAL STREET

Box:City:PITTSBURGH

State:PA

ZIP:15215-2624

Country:US

Phone:412-781-4255

CAGE:0ACE2

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

Ingred Name:SILICON (SIO2 AMPHOROUS RESPIRABLE)

CAS:60676-86-0

RTECS #:VV7328000

Fraction by Wt: 0.25%

Other REC Limits:NONE RECOMMENDED

OSHA

PEL:10 MG/M3 RDUST; Z-3
ACGIH TLV:0.1 MG/M3 RDUST;9394

Ingred Name:IRON OXIDE
CAS:1309-37-1
RTECS #:NO7400000
Fraction by Wt: 0.40%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:10 MG/M3 (FE)
ACGIH TLV:5MG(FE)/M3FUME,B2;94

Ingred Name:COPPER (SARA III)
CAS:7440-50-8
RTECS #:GL5325000
Fraction by Wt: 0.10%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:0.1MG/M3 FUME/1 DUST
ACGIH TLV:0.2 MG/M3 FUME; 9394
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:MANGANESE (SARA III)
CAS:7439-96-5
RTECS
#:OO9275000
Fraction by Wt: .05-.20%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:C 5 MG/M3
ACGIH TLV:5 MG/M3, DUST; 9394

Ingred Name:MAGNESIUM
CAS:7439-95-4
RTECS #:OM2100000
Fraction by Wt: 4.5-5.5%
Other REC Limits:NONE RECOMMENDED

Ingred Name:ZINC (SARA III)
CAS:7440-66-6
RTECS #:ZG8600000
Fraction by Wt: 0.10%
Other REC Limits:NONE RECOMMENDED
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:TITANIUM ALLOY
Fraction by Wt: .06-.20%
Other REC Limits:NONE RECOMMENDED

Ingred Name:ALUMIN

UM (SARA III)
CAS:7429-90-5
RTECS #:BD0330000
Fraction by Wt: BALANCE
Other REC Limits:NONE RECOMMENDED
OSHA PEL:15MG/M3 DUST/5 FUME
ACGIH TLV:10MG/M3 DUST; 9394

Ingred Name:ZIRCONIUM
CAS:7440-67-7
RTECS #:ZH7070000
Other REC Limits:NONE RECOMMENDED
OSHA PEL:5 MG/M3
ACGIH TLV:5 MG/M3/10 STEL;9394

Ingred Name:NICKEL
CAS:7440-02-0
RTECS #:QR5950000
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3

Ingred Name:CHROMIUM (SARA III)
CAS:7440-47-3
RTECS #:GB4200000
Fraction by W
t: .05-.20%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3; 9394
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

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===== Hazards Identification =====
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Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES
Health Hazards Acute and Chronic:WELDING ELECTRODES NON-HAZ SOLID @AMB
TEMP.WELDING GENERATES FUME/GAS/ELECTROMAGNETIC RADIATION W/KNONW
ADVERSE HEALTH EFFECTS.DISCOMFORT,DIZZ,NAU,THRO

AT

DRYNESS/IRRIT.PULM IRRIT,PNEUMOCONIOSIS.SIDERO SIS.BURNS FROM ELECTROMAGNETIC RADIATION.

Explanation of Carcinogenicity:PER MSDS:NICKEL & CHROMIUM SHOULD BE CONSIDERED A POSSIBLE CARCINOGEN PER OSHA 29CFR1910.1200.HEXAVALENT CR REPORTED CAR

Effects of Overexposure:DISCOMFORT, DIZZINESS, NAUSAU, THROAT DYRNESS & IRRITATION, PULMONAYR IRRITATION, PNEUMOCONIOSIS, SIDEROSIS.

Medical Cond Aggravated by Exposure:INDIVIDUALS W/IMPAIRED PULMONARY FUNCTION OR ILLNESS MAY HAVE S YMPTOMS EXACERBATED BY IRRITANTS CONTAINED IN WELDING FUMES.

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

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

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

Flash Point:NONE

Lower Limits:NONE

Upper Limits:NONE

Extinguishing Media:THIS ALLOY IS NON-COMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUND ING FIRE.

Fire Fighting Procedures:IF MATL REDUCED TO POWDER FORM CAUTION MUST BE USED TO PREVENT FIRE/EXPLO.TO EXT METAL POWDER FIRE USE DRY SAND,DRY GRAPHITE OR OTHER CLASS D FIRE EXT POWDER.

Unusual Fire/Explosion Hazard:NO UNUSUAL FIRE/EXPLO HAZ ARE ASSOCIATED W/MATL.

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

Handling and Storage Precautions:READ/UNDERSTAND MFG'S INSTRUCTIONS/PRECAUT LABEL ON PROD.SEE AMER NAT STD Z49.1"SAFETY IN WELDING/CUTTIN G" FROM AMER WELD SOC,POB351040,MIA,FL351040.

Other Precautions:SE ALSO OSHA PUBLICATION 2205(29CFR1910) FROM US GOVT PRINT OFC,WASHINGTON,DC20402.COMPOSITION OF WELDING EMISSIONS VAR SUBSTANTIALLY W/WELDING PROCESS.ACTUAL EXPO SHOULD BE DETERMINED BY MONITORING F UME IN OPERATOR'S BREAHTING ZONE.

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

Respiratory Protection:USE RESPIRABLE FUME RESP OR AIR SUPPLIED RESP WHEN WELDING,BRAZING,SOLDERING IN CONFINED SPA

CE OR SHWERE LOCAL

EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW PEL, TLV OR STEL.

Ventilation:USE ENOUGH VENTI,LOC EXHA @ARC(FLAME)/BOTH TO KEEP FUME/GAS BELOW PEL/TLV/STEL IN WORKER BREATHZONE & GEN AREA.

Protective Gloves:WELDER'S GLOVE

Eye Protection:HELMET,FACE SHIELD W/FIL LENS W/APPROP #.

Other Protective Equipment:PROT SCREENS,FLASH GOGGLES TO SHIELD OTHERS.SEE ANSI/ASC Z49.1SEC4.2.HEAD/BODY FROM RADIAT/SPARKS/FLAM/ELECT SHOCK

Work Hygienic Practices:TRAIN EMPLOY EE TO KEEP HIS HEAD OUT OF FUMES &

NOT TO TOUCH LIVE ELECTRICAL PARTS/INSULATE.SEE ANSI/ASC Z49.1SEC5.

Supplemental Safety and Health

WELDERS SHOULD NOT WEAR SHORT SLEEVE SHIRTS, SHORT PANTS OR CUTOFFS.USE EXHAUST SYSTEM TO CLEAR WELDING FUMES. MAKE SURE THAT INHALED AIR DOES NOT CONTAIN FUME CONSTITUENTS ABOVE PERMISSABLE LEVELS.

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

HCC:N1

Appearance and Odor:SOLID WIRE OR ROD, GREY TO SILVER IN COLOR.

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

Stability Indicator/Materials to Avoid:YES

AVOID CONTACT W/MINERAL ACIDS & OXIDIZING AGENTS WHICH MAY GENERATE HYDROGEN GAS;EVOLUTION OF HYDROGEN MAY BE EXPLO HAZ.

Stability Condition to Avoid:NONE SPECIFIED BY MFG.

Hazardous Decomposition Products:VAR ELEMENTAL METALS & METAL OXIDES MAY BE GENERATED FROM MELTING/GROSS HANDLING OPERATIONS.

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

Waste Disposal Methods:

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

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