

INWELD MFG -- NICKEL AND NICKEL ALLOY BARE WELDING WIRE, NA-69  
MATERIAL SAFETY DATA SHEET  
INWELD MFGNSN: 343900N061814  
Manufacturer's CAGE: 66376  
Part No. Indicator: A  
Part Number/Trade Name: NICKEL AND NICKEL ALLOY BARE WELDING WIRE, NA-69

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General Information  
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Company's Name: INWELD MFG CORP  
Company's Street: 2301 DUSS AVE  
Company's City: AMBRIDGE  
Company's State: PA  
Company's Country: US  
Company's Zip Code: 15003-0460  
Company's Emerg Ph #: 412-251-9100  
Company's Info Ph #: 412-251-9100  
Record No. For Safety Entry: 001  
Tot Safety Entries This Stk#: 001  
Status: SMJ  
Date MSDS Prepared: 01DEC89  
Safety Data Review Date: 16APR97  
MSDS Serial Number: CDNCC

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Ingredients/Identity Information  
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Proprietary: NO  
Ingredient: NICKEL (SARA 313) (CERCLA)  
Ingredient Sequence Number: 01  
Percent: REM  
NIOSH (RTECS) Number: QR5950000  
CAS Number: 7440-02-0  
OSHA PEL: 1 MG/M3  
ACGIH TLV: 1 MG/M3; 9495

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Proprietary: NO  
Ingredient: CHROMIUM (SARA 313) (CERCLA)  
Ingredient Sequence Number: 02  
Percent: 15.5  
NIOSH (RTECS) Number: GB4200000  
CAS Number: 7440-47-3  
OSHA PEL: 1 MG/M3  
ACGIH TLV: 0.5 MG/M3; 9495

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Proprietary: NO  
Ingredient: ALUMINUM (SARA 313)  
Ingredient Sequence Number: 03  
Percent: 0.7  
NIOSH (RTECS) Number: BD0330000  
CAS Number: 7429-90-5  
OSHA PEL: 15 MG/M3 DUST  
ACGIH TLV: 10 MG/M3 DUST; 9495

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Proprietary: NO  
Ingredient: TITANIUM  
Ingredient Sequence Number: 04  
Percent: 2.4

NIOSH (RTECS) Number: XR1700000  
CAS Number: 7440-32-6  
OSHA PEL: N/K (FP N)  
ACGIH TLV: N/K (FP N)

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Proprietary: NO  
Ingredient: TANTALUM; (CB/TA)  
Ingredient Sequence Number: 05  
Percent: 1.0  
NIOSH (RTECS) Number: WW5505000  
CAS Number: 7440-25-7  
OSHA PEL: 5 MG/M3  
ACGIH TLV: 5 MG/M3; DUST; 9495

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Proprietary: NO  
Ingredient: SUPDAT:PROTECTORS, APRONS, HATS, SHOULDER PROTECTION, AS WELL AS DARK SUBSTANTIAL CLOTHING.  
Ingredient Sequence Number: 06  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: EFTS OF OVEREXP:BEEN DETERMD & A DIRECT ASSOCN BETWEEN NICKEL IN WELDING FUME & CANCER HAS NOT BEEN DEMONSTRATED.(ING 8)  
Ingredient Sequence Number: 07  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 7:OTHER HLTH CONSIDERATIONS:ARC RAYS FROM ELECTRIC ARC WELDING OPERATIONS CAN INJURE EYES & BURN SKIN. (ING 9)  
Ingredient Sequence Number: 08  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 8:ELECTRIC SHOCK-FROM ARC WELDING EQUIPMENT CAN KILL.  
Ingredient Sequence Number: 09  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: VENT:BRTHG ZONE & THE GENERAL AREA. TRAIN THE EMPLOYEE TO KEEP HIS HEAD OUT OF THE FUMES.  
Ingredient Sequence Number: 10  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: EYE PROT:SHIELD W/FILTER LENS OF APPROP SHADE NUMBER (SEE ANSI/ASC Z49.1-SECTION 4.2). PROVIDE PROT SCREENS(ING 12)  
Ingredient Sequence Number: 11

NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 11:AND FLASH GOGGLES, IF NECESSARY, TO SHIELD OTHERS.  
Ingredient Sequence Number: 12  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: HAZ DECOMP PROD:THE METAL BEING BRAZED/WELDED, THE PROCESS,  
PROC, & FILLER METALS USED. OTHER CNDTNS WHICH ALSO (ING 14)  
Ingredient Sequence Number: 13  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 13:INFLUENCE THE COMPOSITION & QTY OF THE FUMES & GASES TO  
WHICH WORKERS MAY BE EXPOSED INCLUDE COATINGS ON (ING 15)  
Ingredient Sequence Number: 14  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 14:THE METAL BEING WELDED (SUCH AS PAINT, PLATING/  
GALVANIZING), THE NUMBER OF WELDERS & THE VOLUME OF THE (ING 16)  
Ingredient Sequence Number: 15  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 15:WORK AREA, THE QTY & AMT OF VENT, THE POSITION OF THE  
OPERATOR'S HEAD W/RESPECT TO THE FUME PLUME AS WELL(ING 17)  
Ingredient Sequence Number: 16  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 16:AS THE PRESENCE OF CONTAMINANTS IN THE ATM (SUCH AS  
CHLORINATED HYDROCARBON VAP FROM CLEANING & (ING 18)  
Ingredient Sequence Number: 17  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO  
Ingredient: ING 17:DEGREASING ACTIVITIES). WHEN THE FILLER METAL IS  
CONSUMED THE FUME & GAS DECOMP PRODS GENERATED ARE DIFF (ING 19)  
Ingredient Sequence Number: 18  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE

ACGIH TLV: NOT APPLICABLE

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Proprietary: NO

Ingredient: ING 18:IN PERCENT & FORM FROM THE SOLID WIRE/ROD INGRED LISTED  
IN SECTION 1. FUME & GAS DECOMP PRODS, & NOT THE (ING 20)

Ingredient Sequence Number: 19  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO

Ingredient: ING 19:INGREDS IN THE ELECTRODE/WIRE ARE IMPORTANT. THE CONC  
OF A GLV FUME/GAS COMPONENT MAY DECREASE/INCREASE (ING 21)

Ingredient Sequence Number: 20  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO

Ingredient: ING 20:BY MANY TIMES THE ORIGINAL CONC IN THE ELECTRODE. ALSO  
, NEW COMPOUNDS NOT IN THE ELECTRODE OR WIRE MAY (ING 22)

Ingredient Sequence Number: 21  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Proprietary: NO

Ingredient: ING 21:FORM. DECOMP PRODS OF NORM OPERATION INCL THOSE  
ORIGINATING FROM THE BASE METAL & COATING, ETC., AS NOTED ABOVE.

Ingredient Sequence Number: 22  
NIOSH (RTECS) Number: 9999999ZZ  
OSHA PEL: NOT APPLICABLE  
ACGIH TLV: NOT APPLICABLE

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Physical/Chemical Characteristics  
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Appearance And Odor: SOLID WIRE/ROD. RODS MAY BE COATED WITH A CHEM FLUX.  
FLUX COATING MAY (SUPDAT)

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Fire and Explosion Hazard Data  
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Flash Point: NONFLAMMABLE  
Extinguishing Media: MEDIA SUITABLE FOR SURROUNDING FIRE (FP N).  
Special Fire Fighting Proc: USE NIOSH APPROVED SCBA & FULL PROTECTIVE  
EQUIPMENT (FP N).  
Unusual Fire And Expl Hazrds: WELDING ARC, OPEN FLAME AND SPARKS CAN  
IGNITE COMBUSTIBLE. SEE ANSI/ASC Z49.1-1983 SECTION 6.

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Reactivity Data  
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Stability: NO  
Cond To Avoid (Stability): NONE SPECIFIED BY MANUFACTURER.  
Materials To Avoid: GASEOUS RXN PROD SUCH AS CARBON MONOXIDE & CARBON  
DIOXIDE, OZONE & NITROGEN OXIDES MAY BE FORMED BY THE ARC (SUPDAT)  
Hazardous Decomp Products: WELDING & BRAZING FUMES & GASES CANNOT BE  
CLASSIFIED SIMPLY. THE COMPOSITION & QTY OF BOTH ARE DEPENDENT UPON (ING  
13)

Hazardous Poly Occur: NO  
Conditions To Avoid (Poly): NOT RELEVANT.

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Health Hazard Data  
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LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.  
Route Of Entry - Inhalation: YES  
Route Of Entry - Skin: NO  
Route Of Entry - Ingestion: NO  
Health Haz Acute And Chronic: WELDING ROD/WIRE IS A NONHAZARDOUS SOLID AT AMBIENT TEMP. HAZS (AS DEFINED BY OSHA 29CFR 1910.1200) MAY RSLT FROM FUME GENERATED DURING WELDING/BRAZING. ACUTE: COPPER & ZINC FUME MAY CAUSE METAL FUME FEVER. SHORT TERM SYMPS MAY INCL A METALLIC TASTE IN THE MOUTH, DRYNESS/IRRIT OF THE THROAT FOLLOWED (EFTS OF OVEREXP)  
Carcinogenicity - NTP: YES  
Carcinogenicity - IARC: YES  
Carcinogenicity - OSHA: NO  
Explanation Carcinogenicity: NICKEL/NICKEL COMPOUNDS:IARC MONOGRAPHS ON (SUPDAT)  
Signs/Symptoms Of Overexp: HLTH HAZ:BY COUGHING, SHORTNESS OF BREATH NAUS, FEVER, BODY ACHE, & CHILLS. CHRONIC: LONG TERM EXPOS TO WELDING FUME, GASES/DUST MAY CONTRIBUTE TO PULM IRRIT/PNEUMOCONIOSIS. CERTAIN NICKEL CMPDS HAVE BEEN IMPLICATED BASED ON EXPERIENCE IN SOME NICKEL REFINING OPERATIONS. THE SPECIAL CMPDS, HOWEVER, HAVE NOT (ING 7)  
Med Cond Aggravated By Exp: INDIVIDUALS WITH IMPAIRED PULMONARY FUNCTIONS OR ILLNESS MAY HAVE SYMPTOMS EXACERBATED BY FUME IRRITANTS.  
Emergency/First Aid Proc: INHAL: REMOVE FROM DUST OR FUME EXPOSURE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. SUMMON MEDICAL AID IMMEDIATELY. INGEST: CALL MD IMMEDIATELY (FP N). EYES: IMMEDIATELY FLUSH W/ POTABLE WATER FOR A MINIMUM OF 15 MINUTES, SEEK ASSISTANCE FROM MD (FP N). SKIN: FLUSH W/COPIOUS AMOUNTS OF WATER. CALL MD (FP N).

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Precautions for Safe Handling and Use  
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Steps If Matl Released/Spill: NOT APPLICABLE.  
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.  
Waste Disposal Method: DISPOSAL MUST BE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS (FP N).  
Precautions-Handling/Storing: TRAIN THE EMPLOYEE NOT TO TOUCH LIVE ELECTRICAL PARTS AND TO ISULATE HIMSELF FROM WORK AND GROUND.  
Other Precautions: NONE SPECIFIED BY MANUFACTURER.

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Control Measures  
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Respiratory Protection: USE NIOSH APPROVED RESPIRABLE FUME RESPIRATOR OR AIR SUPPLIED RESPIRATOR WHEN WELDING, BRAZING, OR SOLDERING IN CONFINED SPACE OR WHERE LOCAL EXHAUST OR VENTILATION DOES NOT KEEP EXPOSURE BELOW TLV.  
Ventilation: USE ENOUGH VENT, LOC EXHST AT THE ARC (OR FLAME)/BOTH, TO KEEP THE FUMES & GASES BELOW TLV'S IN THE WORKER'S (ING 10)  
Protective Gloves: WELDER'S GLOVES.  
Eye Protection: WEAR ANSI APPRVD HELMET/USE FACE(ING 11)  
Other Protective Equipment: ANSI APPRVD EMER EYE WASH & DELUGE SHOWER (FP N). WEAR HEAD & BODY PROT WHICH HELP TO PVNT INJURY FROM RADIA, (SUPDAT)  
Work Hygienic Practices: NONE SPECIFIED BY MANUFACTURER.  
Suppl. Safety & Health Data: APPEAR/ODOR: BE WHITE/OTHER COLORS. MATLS TO AVOID: DURING ELECTRIC ARC WELDING. EXPLAN OF CARCIN: GROUP 2B. NTP 7TH

ANNUAL RPT ON CARCIN, 1994: ANTIC TO BE CARCIN. HUMAN: LUNGS, NASAL  
CAVITIES. OTHER PROT EQUIP: SPARKS, FLAME, & ELEC SHOCK. SEE ANSI Z49.1.  
THIS MAY INCL ARM (ING 6)

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Transportation Data  
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Disposal Data  
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Label Data  
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Label Required: YES  
Technical Review Date: 16APR97  
Label Date: 01APR97  
Label Status: G  
Common Name: NICKEL AND NICKEL ALLOY BARE WELDING WIRE, NA-69  
Chronic Hazard: YES  
Signal Word: WARNING!  
Acute Health Hazard-Moderate: X  
Contact Hazard-Slight: X  
Fire Hazard-None: X  
Reactivity Hazard-None: X  
Special Hazard Precautions: ACUTE: COPPER AND ZINC FUME MAY CAUSE METAL  
FUME FEVER. METALLIC TASTE IN MOUTH, DRYNESS OR IRRITATION OF THE THROAT  
FOLLOWED BY COUGHING, SHORTNESS OF BREATH, NAUSEA, FEVER, BODY ACHE, AND  
CHILLS. CHRONIC: CANCER HAZARD. CONTAINS NICKEL, WHICH IS LISTED AS A HUMAN  
LUNG CARCINOGEN (FP N). GASES OR DUST MAY CONTRIBUTE TO PULMONARY  
IRRITATION OR PNEUMOCONIOSIS.  
Protect Eye: Y  
Protect Skin: Y  
Protect Respiratory: Y  
Label Name: INWELD MFG CORP  
Label Street: 2301 DUSS AVE  
Label City: AMBRIDGE  
Label State: PA  
Label Zip Code: 15003-0460  
Label Country: US  
Label Emergency Number: 412-251-9100