

NATIONAL STANDARD CO SPECIALTY PRODUCTS DIV -- NS-347;SOLID STAINLESS STEEL
ELECTRODE -- 3439-00-004-4547

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Product Identification
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Product ID:NS-347;SOLID STAINLESS STEEL ELECTRODE

MSDS Date:09/03/1985

FSC:3439

NIIN:00-004-4547

MSDS Number: BJPBJ

=== Responsible Party ===

Company Name:NATIONAL STANDARD CO SPECIALTY PRODUCTS DIV

Address:601 N 8TH ST

City:NILES

State:MI

ZIP:49120

Country:

US

Info Phone Num:616-683-8100

Emergency Phone Num:616-683-8100

CAGE:48979

=== Contractor Identification ===

Company Name:NATIONAL STANDARD CO SPECIALTY PRODUCTS DIV

Address:1618 TERMINAL ROAD

Box:City:NILES

State:MI

ZIP:49120

Country:US

Phone:616-683-8100

CAGE:48979

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Composition/Information on Ingredients
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Ingred Name:GRAPHITE, SYNTHETIC

CAS:7440-44-0

RTECS #:FF5250100

Fraction by Wt: 0.038%

Other REC Limits:NONE SPECIFIED

OSHA PEL:15 MG/M3 TDUST

ACGIH TLV:2 MG/M3

TDUST; 9293

Ingred Name:MANGANESE (SARA III)

CAS:7439-96-5

RTECS #:OO9275000

Fraction by Wt: 1.72%

Other REC Limits:NONE SPECIFIED

OSHA PEL:(C) 5 MG/M3 DUST

ACGIH TLV:5 MG/M3 DUST 9293

Ingred Name:SILICA, CRYSTALLINE - FUSED

CAS:60676-86-0

RTECS #:VV7328000

Fraction by Wt: 0.52%

Other REC Limits:NONE SPECIFIED

OSHA PEL:SEE TABLE Z3

ACGIH TLV:0.1 MG/M3 RDUST;9293

Ingred Name:PHOSPHOROUS (YELLOW) (SARA III)

CAS:7723-14-0

RTECS #:TH3500000

Fraction by Wt: 0.016%

Other REC Limits:NONE SPECIFIED

OSHA PEL:0.1 MG/M3

ACGIH TLV:0.1 MG/M3; 9192

EPA Rpt Qty:1 LB

DOT Rpt Qty:1 LB

Ingred Name:SULFUR

CAS:7704-34-9

RTECS #:WS4250000

Fraction by Wt: 0.010%

Other REC Limits:NONE SPECIFIED

Ingred Name:COPPER (SARA III)

CAS:7440-50-8

RTECS #:GL5325000

Fraction by Wt: 0.12%

Other REC Limits:NONE SPECIFIED

OSHA PEL:0.1MG/M3 FUME/1 DUST

ACGIH TLV:0.2MG/M3 FUME; 9192

EPA Rpt Qty:5000 LBS

DOT Rpt Qty:5000 LBS

Ingred Name:IRON

CAS:7439-89-6

RTECS #:NO4565500

Fraction by Wt: BALANCE

Other REC Limits:NO

NE SPECIFIED

Ingred Name:CHROMIUM (SARA III)
CAS:7440-47-3
RTECS #:GB4200000
Fraction by Wt: 19.3%
Other REC Limits:NONE SPECIFIED
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3; 9192
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:NICKEL (SARA III)
CAS:7440-02-0
RTECS #:QR5950000
Fraction by Wt: 9.53%
Other REC Limits:NONE SPECIFIED
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3; 9192

Ingred Name:MOLYBDENUM
CAS:7439-98-7
RTECS #:QA4680000
Fraction by Wt: 0.135%
Other REC Limits:NONE SPECIFIED
OSHA PEL:15 MG/M3 TD
UST
ACGIH TLV:10 MG/M3; 9293

Ingred Name:NIOBIUM (COLUMBIUM)CB
CAS:7440-03-1
Fraction by Wt: 0.56%
Other REC Limits:NONE SPECIFIED

Ingred Name:COBALT (SARA III)
CAS:7440-48-4
RTECS #:GF8750000
Fraction by Wt: 0.07%
Other REC Limits:NONE SPECIFIED
OSHA PEL:0.1 MG/M3;AS CO
ACGIH TLV:0.05 MG/M3;DUST 9293

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

LD50 LC50 Mixture:UNCLASSIFIED WELDING FUMES=5MG/M3 PEL
Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO
Reports of

Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:SHORT TERM EXPOSURE TO WELDING FUMES, GASES OR DUST MAY RESULT IN DISCOMFORT SUCH AS DIZZINESS, NAUSEA, FEVER, DRYNESS AND/OR IRRITATION OF NOSE, THROAT AND EYES. SKIN SENSITIVITY MAY ALSO BE NOTED. A CUTE EXPOSURE FROM SOME TOXIC GASES MAYCAUSE PULMONARY EDEMA, ASPHYXIATION AND EXCESSIVE EXPOSURE CAN BE FATAL.

Explanation of Carcinogenicity:NICKEL AND CHROMIUM ARE CONSIDERED POSSIBLE CARCINOGENS UNDER OSHA. RESPIRATORY CANCER FROM WELDING IS UNCONFIRMED.

Effects of Overexposure:EXPOSURE TO WELDING FUMES MAY RESULT IN DISCOMFORT SUCH AS DIZZINESS, NAUSEA, FEVER, DRYNESS AND/OR IRRITATION OF NOSE, THROAT AND EYES. SKIN SENSITIVITY MAY ALSO BE NOTED. WATERY EYES, HEADACHE, BREATHING DIFFICULTY, FREQUENT COUGHING AND/OR CHEST PAINS MAY OCCURE FROM ACUTE EXPOSURE. TOXIC GASES CAN BE FATAL.

Medical Cond Aggravated by Exposure:SOME WORKERS MAY BE AFFECTED BY A PRE-EXISTING CONDITION OR OTHER OCCUPATIONAL ILLNESS BECAUSE OF THE WIDE VARIATION IN INDIVIDUAL SUSCEPTIBILITIES.

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

First Aid:IN CASE OF ELECTRICAL SHOCK, TURN OFF POWER PRIOR TO REMOVAL FROM EXPOSURE AREA AND ADMINISTRATION OF FIRST AID. REMOVE FROM EXPOSURE AREA AND CALL FOR MEDICAL AID. ADMINISTER OXYGEN IF BREATHING IS DIFFICULT. IF NOT BREATHING, BEGIN ARTIFICIAL RESPIRATION. IF NO DETECTABLE PULSE, BEGIN EXTERNAL HEART MASSAGE.

EMPLOY FIRST AID TECHNIQUES RECOMMENDED BY THE AMERICAN RED CROSS.

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

Flash Point:NONE

Extinguishing Media:USE WATER FOG, CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.

Fire Fighting Procedures:FIRE FIGHTERS SHOULD USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT WHEN FIGHTING CHEMICAL FIRE. USE WATER SPRAY TO COOL NEARBY CONTAINERS EXPOSED TO FIRE.

Unusual Fire/Explosion Hazard:FIRE OR EXCESSIVE

VE HEAT MAY CAUSE
PRODUCTION OF HAZARDOUS DECOMPOSITION PRODUCTS.

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

Spill Release Procedures:CLEAN UP ANY GRINDING DUST OR WASTE RESIDUES
AND PLACE IN SUITABLE DOT APPROVED CONTAINERS AND DISPOSE OF IN
FULL COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. AVOID
INHALATION AND SKIN EXPOSURE.

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

Handling and Storage Precautions:WEAR GLOVES AND
FLAME RETARDANT

CLOTHING WHEN CUTTING, GRINDING OR WELDING. DO NOT EXPOSE SKIN TO
RADIATION WHEN HOT CUTTING OR WELDING.

Other Precautions:PROVIDE PROTECTIVE SCREENS TO SHIELD OTHERS. WHEN
ELECTRODES AND FLUXES ARE CONSUMED, THE FUME AND GAS DECOMPOSITION
PRODUCTS GENERATED ARE DIFFERENT IN FORM FROM THE INGREDIENTS
LISTED. NEW COMPOUNDS NOT IN THE ELECTRODES MAY FORM.

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

Respiratory Protection:USE WELD FUME
RESPIRATOR OR AIR SUPPLIED

RESPIRATOR WHEN CUTTING, GRINDING OR WELDING IN A CONFINED SPACE OR
WHERE LOCAL EXHAUST OR GENERAL VENTILATION DOES NOT KEEP EXPOSURE
BELOW RECOMMENDED LIMITS. USE ONLY NIOSH APPROVED RESPIRATORS.

Ventilation:USE ENOUGH VENTILATION WHEN CUTTING, GRINDING OR WELDING TO
KEEP THE DUST, FUMES & GASES FROM THE WORKERS BREATHING ZONE

Protective Gloves:WELDERS LEATHER GLOVES

Eye Protection:OSHA APPROVED GOGGLES/FACE SHIELD W/LENS

Other Protective Equipment:F

FLAME RETARDANT CLOTHING WHEN CUTTING,

GRINDING OR WELDING. DO NOT EXPOSE SKIN TO RADIATION WHEN HOT
CUTTING OR WELDING.

Work Hygienic Practices:WASH THOROUGHLY BEFORE EATING OR SMOKING.
LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health

WELDING AND HOT CUTTING FUMES & GASES CANNOT BE CLASSIFIED SIMPLY.
THEIR COMPOSITION AND QUANTITY ARE DEPENDENT ON THE METAL BEING
WELDED, THE PROCEDURES, PROCESSES AND THE TYPE OF WIRE OR
ELECTRODES USED. OTHER IN

FLUENCING FACTORS ARE THE PRESENCE OF
CONTAMINANTS. CHLORINATED SOLVENTS MAY DECOMPOSE TO TOXIC GASES.

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

HCC:N1

Spec Gravity:7.86

Solubility in Water:NIL

Appearance and Odor:STEEL GRAY -NO ODOR

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

Stability Indicator/Materials to Avoid:YES

STRONG OXIDIZING AGENTS OR ACIDS.

Stability Condition to Avoid:HIGH TEMPERATURES

Hazardous Decomposition Products:WELDING

AND CUTTING OPERATION MAY

INCLUDE OXIDES OF THE METALS, CHROMATES, FLUORIDES, COMPLEX
METALLICS, AND OZONE.

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

Waste Disposal Methods:DISPOSE I/A/W FEDERAL, STATE & LOCAL REGULATIONS

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