

PRAXAIR SURFACE TECHNOLOGIES INC -- NI-362-3 (PRODUCT CODE 036138-15) --
3439-01-426-5235

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

Product ID:NI-362-3 (PRODUCT CODE 036138-15)

MSDS Date:08/23/1993

FSC:3439

NIIN:01-426-5235

Status Code:A

MSDS Number: CJSHF

=== Responsible Party ===

Company Name:PRAXAIR SURFACE TECHNOLOGIES INC

Address:1555 MAIN STREET

City:INDIANAPOLIS

State:IN

ZIP:46224-3283

Country:US

Info Phone Num:317-240-2650

Emergency Phone Num:317-240-2209

Preparer's Name:MICHELLE ALEXANDER

Chemtrec Ind/Phone:(800)424-9300

CAGE:0FGH2

=== Contractor Identification ===

Company Name:PRAXAIR SURFACE TECHNOLOGIES INC

Address:1555 MAIN STREET

Box:City:INDIANAPOLIS

State:IN

ZIP:46224-3283

Country:US

Phone:317-240-2650

CAGE:0FGH2

Company Name:STARGHILL TECHNOLOGIES CORP

Address:3850 OAKMAN BLVD

Box:City:DETROIT

State:MI

ZIP:48204-1119

Country:US

Phone:313-933-4141

Contract Num:SP0490-95-D-4037

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AGE:0VYG8

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Composition/Information on Ingredients
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Ingred Name:NICKEL
CAS:7440-02-0
RTECS #:QR5950000
Minumum % Wt:50.
Maxumum % Wt:75.
OSHA PEL:1 MG/M3
ACGIH TLV:1 MG/M3

Ingred Name:CHROMIUM
CAS:7440-47-3
RTECS #:GB4200000
Minumum % Wt:5.
Maxumum % Wt:20.
OSHA PEL:1 MG/M3
ACGIH TLV:0.5 MG/M3
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:NICKEL BORON
CAS:11099-25-5
Minumum % Wt:5.
Maxumum % Wt:20.

Ingred Name:SILICON
CAS:7440-21-3
RTECS #:VW0400000
Minumum % Wt:1
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Maxumum % Wt:5.
OSHA PEL:15 MG/M3
ACGIH TLV:10 MG/M3

Ingred Name:IRON
CAS:7439-89-6
RTECS #:NO4565500
Minumum % Wt:1.
Maxumum % Wt:5.

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Hazards Identification
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Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES
Health Hazards Acute and Chronic:ACUTE- SKIN: MAY CAUSE ALLERGIC
DERMATITIS. MAY CAUSE ULCERS. EYES: MAY CAUSE IRRITATION.
INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITA

TION. MAY ALSO CAUSE

INTERSTITIAL PNEUMONITIS & SENSITIZATION OF THE RESPIRATORY TRACT IN SUSCEPTIBLE INDIVIDUALS. CHRONIC- MAY CAUSE SENSITIZATION IN SUSCEPTIBLE INDIVIDUALS. EYES: CAN CAUSE CORNEAL DAMAGE, POLYCYTHEMIA, HYPERPLASIA OF THE THYROID GLAND, & DAMAGE TO THE ALPHA CELLS OF THE PANCREAS. INHALATION: MAY CAUSE EMPHYSEMA OR PULMONARY FIBROTIC DISEASE. SKIN: CONTACT MAY SPREAD TO THE WHOLE BODY. ECZEMA/NEURODERMATITIS FROM NICKEL DOESN'T REQUIRED CONT

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NUOUS METAL CONTACT.

Explanation of Carcinogenicity:NICKEL & CHROMIUM HAVE BEEN DETERMINED TO CAUSE CANCER IN EXPERMENTAL ANIMALS (IARC, NTP). NICKEL IS LISTED AS A PROBABLE HUMAN CARCINOGEN. CHROMIUM IS LISTED AS A HUMAN CARCINOGEN.

Effects of Overexposure:ACUTE- SKIN: REDNESS & PAPULAR FORMATION IN SUSCEPTIBLE INDIVIDUALS. MAY CAUSE DRY & SCALY SKIN, FEVER. EYES: MAY CAUSE REDNESS & EXCESS REDNESS OF THE CONJUNCTIVA. INGESTION: MAY CAUSE NAUSEA, ABDOMI NAL PAIN, VOMITIN

G, DIARRHEA, CENTRAL NERVOUS SYSTEM DEPRESSION, & BURNING SENSATION. INHALATION: MAY CAUSE CHEST PAIN, VOMITING, DIARRHEA, BURNING SENSATION, & CNS DEPRESSION. CHRONIC- SKIN: LESIONS, ITCHING, SORENESS, BURNING SENSATION & REDNESS MAY SPREAD TO THE WHOLE BODY.

Medical Cond Aggravated by Exposure:BREATHING OF DUST MAY AGGRAVATE ASTHMA AND INFLAMMATORY OR FIBROTIC PULMONARY DISEASE. MAY ALSO AGGRAVATE AN EXISTING DERMATITIS.

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===== First Aid Measures =====
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First Aid:INGESTION: GIVE AT LEAST 2 GLASSES OF MILK OR WATER. INDUCE VOMITING, UNLESS PATIENT IS UNCONSCIOUS. CALL A PHYSICIAN. SKIN: WASH THOROUGHLY WITH SOAP & WATER. INHALATION: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. OXYGEN MAY BE GIVEN IF NECESSARY. CALL A PHYSICIAN. EYES: FLUSH THOROUGHLY WITH PLENTY OF WATER. IF DISCOMFORT PERSISTS, SEEK MEDICAL ATTENTION, PREFERABLY AN OPHTHALMOLOGIST. NOTES TO PHYSICIAN: THE H

AZARDS OF HTIS MATERIAL ARE MAINLY DUE TO ITS SENSITIZING & MILD IRRITATING PROPERTIES. THERE IS NO SPECIFIC ANTIDOTE. TREATMENT OF OVEREXPOSURE SHOULD BE DI RECTED AT CONTROL OF SYMPTOMS.

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===== Fire Fighting Measures =====
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Flash Point:NONE
Lower Limits:NONE
Upper Limits:NONE

Extinguishing Media:USE SPECIAL DRY POWDER METAL EXTINGUISHING MATERIAL TO EXTINGUISH METAL FIRES. USE APPROPRIATE EXTINGUISHER TO EXTINGUISH COMBUSTABLE MATERIALS THA

T MAY BE IGNITED BY THERMAL FLAME.

Fire Fighting Procedures:CONSULT AND COMPLY WITH ANSI Z49.1 SAFETY IN WELDING AND CUTTING, NFPA51B STANDARD FOR FIRE PREVENTION IN USE OF CUTTING AND WELDING PROCESSES. NFPA51B OXYGEN-FUEL GAS SYSTEMS FOR WELDING AND CUTTING, AND NFPA58 STANDARD FOR THE STORAGE AND HANDLING OF LIQUIFIED PETROLEUM GASES.

Unusual Fire/Explosion Hazard:AIRBORNE DUST PARTICLES, ESPECIALLY METAL DUST, AND ACCUMULATION OF SUCH SHOULD BE TREATED AS EXPLOSIVES.

TO

MINIMIZE DANGER FROM DUST EXPLOSIONS, ADEQUATE VENTILATION SHOULD BE PROVIDED TO SPRAY BOOT H IN ACCORDANCE WITH AMERICAN WELDING SOCIETY PUBLICATION AWS C2.1-73, AND ACGIH PUBLICATION "INDUSTRIAL VENTILATION".

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

Spill Release Procedures:WEAR PROTECTIVE EQUIPMENT TO PROTECT AGAINST HAZARDS AND DISPOSE OF PER WASTE DISPOSAL METHOD.

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

Other

Precautions:CAUTION: WHEN THERMAL SPRAYING - ELECTRICITY CAN CAUSE FATAL SHOCK! DO NOT TOUCH LIVE ELECTRICAL PARTS! ARC RAYS CAN BURN EYES AND SKIN! WEAR RECOMMENDED EYE AND BODY PROTECTION. FUMES, GAS, & DUST CAN HARM YOUR HEALTH. PROVIDE ENOUGH VENTILATION AND WEAR RESPIRATORS.

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

Respiratory Protection:DEPENDS UPON SPECIFIC USE, CONDITION, AND LOCATION. IF THERE IS DUSTINESS, WEAR RESPIRATOR SELECTED PER OSHA

1910.134, AND OSHA 29 CFR 1910.252 AND ANSI Z49.1

Ventilation:LOCAL DUST PICK UP AND VENTILATION RECOMMENDED.

Protective Gloves:NOT REQUIRED.

Eye Protection:WHEN DUSTY USE GOGGLES PER OSHA 1910.13.

Other Protective Equipment:SEE ANSI Z49.1, ANSI Z87.1, ANSI Z88.2 FOR HELMETS, FACE SHIELDS AND GOGGLES.

Supplemental Safety and Health

CAUTION: WHEN THERMAL SPRAYING-ELECTRICITY CAN CAUSE FATAL SHOCK! DO NOT TOUCH LIVE ELECTRICAL PARTS! ARC RAYS CAN BURN EYES AND SKIN! WEAR RECOM

MENDED EYE ANDBODY PROTECTION. FUMES, GAS, AND DUST CAN HARM YOUR HEALTH. PROVIDE ENOUGH VENTILATION AND WEAR RESPIRATORS.(OTHER INFO)

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

HCC:N1
Boiling Pt:B.P. Text:NONE
Vapor Density:>AIR
Appearance and Odor:GRAY POWDER

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

Stability Indicator/Materials to Avoid:YES
NONE KNOWN
Stability Condition to Avoid:NONE KNOWN
Hazardous Decomposition Products:WHEN
THERMAL SPRAYING, DECOMPOSITION
PRODUCTS WILL VARY WITH OPERATING CONDITIONS. REASONABLY EXPECTED.
DECOMPOSITION PRODUCTS OF NORMAL OPERATION FROM THIS THERMAL SPRAY
POWDER- OXIDES, SUB-OXIDES, ETC

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

Waste Disposal Methods:DISPOSE OF WASTE PER LOCAL, STATE, AND FEDERAL REGULATIONS.

===== MSDS Transport Information =====

Transport Information:PROPER SHIPPING NAME: METAL ALLOY POWDER
R NOI ITEM
136500 SUB 1.

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

SARA Title III Information:7440-02-0, NICKEL,