

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

CAGE: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.
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 IRRIT

ATION. 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

INUOUS 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, VOMITI

NG, 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 =

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

HAZARDS 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 =====

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 TH

AT 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 CA N 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
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WEAR RECO

RECOMMENDED EYE AND BODY 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:WHE
N 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
ER NOI ITEM
136500 SUB 1.

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

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