

PRAXAIR SURFACE TECHNOLOGIES INC -- NI 202-1 (PRODUCT CODE 036101-05) --
3439-01-426-3778

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

Product ID:NI 202-1 (PRODUCT CODE 036101-05)
MSDS Date:03/13/1992
FSC:3439
NIIN:01-426-3778
Status Code:A
MSDS Number: CJSJR
=== 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-403

7
CAGE:0VYG8

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

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:IRON
CAS:7439-89-6
RTECS #:NO4565500
Minumum % Wt:5.
Maxumum % Wt:20.

Ingred Name:COLUMBIUM/NIOBIUM
CAS:7440-03-1
RTECS #:QT
9900000
Minumum % Wt:5.
Maxumum % Wt:20.

Ingred Name:MOLYBDENUM
CAS:7439-98-7
RTECS #:QA4680000
Minumum % Wt:1.
Maxumum % Wt:5.
ACGIH TLV:10 MG/M3

Ingred Name:TITANIUM
CAS:7440-32-6
RTECS #:XR1700000
Minumum % Wt:1.
Maxumum % Wt:5.

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

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

WITH PAPULAR FORMATION IN SUSCEPTABLE INDIVIDUALS, WHICH USUALLY OCCURS IN THE FOLD OF SKIN. MAY CAUSE ULCERS. EYES: MAY CAUSE IRRITATION. INGESTION: MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION AND CENTRAL NERVOUS SYSTEM DEPRESSION. CHRONIC- MAY CAUSE SENSITIZATION IN SUSCEPTABLE INDIVIDUALS EYES: CAN CAUSE CORNEAL DAMAGE, POLYCYTHEMIA, HYPERPLASIA OF THE THYROID GLAND, AND DAMAGE TO THE ALPHA CELLS OF THE PANCREAS

. INHALATION: MAY CAUSE EMPHYSEMA

OR PULMONARY FIBROTIC DISEASE. SKIN: MAY SPREAD TO THE WHOLE BODY.

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

Effects of Overexposure: SKIN- MAY CAUSE ALLERGIC DERMATITIS, WITH REDNESS & PAPULAR FORMATION IN SUSCEPTIBLE INDIVIDUALS, WHICH USUALLY OCCURS IN THE FOLDS OF THE

SKIN. MAY CAUSE ULCERS

PROGRESSING TO DRY & SCALY SKIN, FEVER. EYE- MAY CAUSE IRRITATION, EXPERIENCED AS REDNESS & EXCESS REDNESS OF THE CONJUNCTIVA.

SWALLOWING- MAY CAUSE NAUSEA, ABDOMINAL PAIN, VOMITING, DIARRHEA, CNS DEPRESSION, & BURNING SENSATION. INHALATION- MAY CAUSE RESPIRATORY TRACT IRRITATION, WITH CHEST PAIN, VOMITING, DIARRHEA, BURNING SENSATION, & CNS DEPRESSION.

Medical Cond Aggravated by Exposure: BREATHING OF DUST MAY AGGRAVATE ASTHMA AND INFLAMMATORY

OR FIBROTIC PULMONARY DISEASE. MAY ALSO AGGRAVATE AN EXISTING DERMATITIS.

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

First Aid: SWALLOWING- GIVE AT LEAST 2 GLASSES OF MILK OR WATER. INDUCE VOMITING, UNLESS PATIENT IS UNCONSCIOUS. CALL A PHYSICIAN. SKIN- WASH THOROUGHLY WITH SOAP AND 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.

===== 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 THAT MAY BE IGNITED BY THERMAL FLAME.

Fire Fighting Procedures: CONSULT AND COMPLY WITH ANSI Z49.1 SAFETY

Y 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 1910.133.

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 RECOMMENDED EYE AND BODY PROTECTION. FUMES, GAS, AND DUST CAN HARM YOUR HEALTH. PROVIDE ENOUGH VENTILATION

N AND WEAR
RESPIRATORS.(OTHER INFO)

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

HCC:N1
Boiling Pt:B.P. Text:NONE
Vapor Density:N/VOLATILE
Appearance and Odor:DUSTY DARK 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. DEC
OMPOSITION
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 NOI ITEM
136500 SUB 1.

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

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itle III Information:7440-02-0, NICKEL,