

PRAXAIR SURFACE TECHNOLOGIES INC -- CO-210-1 (PRODUCT CODE 032070-15) --  
3439-01-425-9654

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

Product ID:CO-210-1 (PRODUCT CODE 032070-15)

MSDS Date:01/22/1992

FSC:3439

NIIN:01-425-9654

Status Code:A

MSDS Number: CJSHP

=== 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:20.  
Maxumum % Wt:50.  
OSHA PEL:1 MG/M3  
ACGIH TLV:1 MG/M3

Ingred Name:CHROMIUM  
CAS:7440-47-3  
RTECS #:GB4200000  
Minumum % Wt:20.  
Maxumum % Wt:50.  
OSHA PEL:1 MG/M3  
ACGIH TLV:0.5 MG/M3  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:ALUMINIUM  
CAS:7429-90-5  
RTECS #:BD0330000  
Minumum % Wt:5.  
Maxumum % Wt:20.  
OSHA PEL:15 MG/M3  
ACGIH TLV:10 MG/M3

Ingred Name:YT  
TRIUM  
CAS:7440-65-5  
RTECS #:ZG2980000  
Minumum % Wt:1.  
Maxumum % Wt:5.  
OSHA PEL:1 MG/M3  
ACGIH TLV:1 MG/M3

Ingred Name:COBALT  
CAS:7440-48-4  
RTECS #:GF8750000  
Minumum % Wt:20.  
Maxumum % Wt:50.  
OSHA PEL:0.1 MG/M3  
ACGIH TLV:0.02 MG/M3

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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. MA

Y CAUSE ULCERS. EYES: MAY CAUSE IRRITATION.

INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION. 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 MA

Y SPREAD TO THE WHOLE BODY.

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

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, ABDOMIAL PAIN, VOMITING, DIARRHEA, CNS DEPRESSION, & BURNING SENSATION. INHALATION- MAY CAUSE RESPIRATORY TRACT IRRITATION, WITH CHEST PAIN, VOMITING, DIARRHEA, BURNING SENSATION, & CNS DEPRESSION. MAY ALSO CAUSE INTERSTITIAL PNEUMONITIS & SENSITIZATION OF THE RESPIRATORY TRACT IN SU SCEPTIBLE INDIVIDUALS.

Medical Cond Aggravated by Exposure:BREATHING OF DUS T 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 AR TIFICIAL 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 OPT HALMOLOGIST.

===== 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 Proced

ures:CONSULT AND COMPLY WITH ANSI Z49.1 SAFETY IN WELDING AND CUTTING, NFPA51B STANDARD FOR FIRE PREVENTION IN USE OF CUTTING AND WELDING PROCESSES. NFPA51 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 VENTI

LATION SHOULD BE PROVIDED TO SPRAY BOOT H IN ACCORDANCE WITH AMERICAN WELDING SOCIETY PUBLICATION AWS2.1-73, 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

Ve ntilation: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 RECOMMENDED EYE AND BODY PROTECTION. FUMES, GAS, AND DUST CA N

HARM YOUR HEALTH. PROVIDE ENOUGH VENTILATION AND WEAR  
RESPIRATORS.(OTHER INFO)

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

HCC:N1  
Boiling Pt:B.P. Text:NONE  
Vapor Density:N/VOLATILE  
Appearance and Odor:DUSTY LIGHT 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  
PRODU  
CTS WILL VARY WITH OPERATING CONDITIONS. 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 NOI ITEM  
136500 SUB 1.

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

SARA Title III Information:7440-48-4, COBALT,