

PRAXAIR SURFACE TECHNOLOGIES INC -- CO-110 (PRODUCT CODE 032010-05) --
3439-01-425-8430

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

Product ID:CO-110 (PRODUCT CODE 032010-05)

MSDS Date:01/22/1992

FSC:3439

NIIN:01-425-8430

Status Code:A

MSDS Number: CJSHS

=== Responsible Party ===

Company Name:PRAXAIR SURFACE TECHNOLOGIES INC

Address:1555 MAIN STREET

City:INDIANAPOLIS

State:IN

ZIP:46224-3283

Country:US

Inf

o Phone Num:317-240-2650

Emergency Phone Num:317-240-2209

Preparer's Name:DELMAR BEIGHT

Chemtec 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:0VYG

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Composition/Information on Ingredients
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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:COBALT
CAS:7440-48-4
RTECS #:GF8750000
Minumum % Wt:50.
Maxumum % Wt:75.
OSHA PEL:0.1 MG/M3
ACGIH TLV:0.02 MG/M3

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:YTTRI
UM
CAS:7440-65-5
RTECS #:ZG2980000
Minumum % Wt:1.
Maxumum % Wt:5.
OSHA PEL:1 MG/M3
ACGIH TLV:1 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, USUALLY IN FOLDS OF SKIN. 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.

Explanation of Carcinogenicity:CHROMIUM HAS BEEN SHOWN TO CAUSE CANCER IN EXPERIMENTAL ANIMALS AND IS LISTED AS A HUMAN CARCINOGEN.

Effects of Overexposure:ACUTE- SKIN: REDNESS & PAPULAR FORMATION IN

SUSCEPTIBLE INDIVIDUALS. EYES: REDNESS & EXCESS REDNESS OF THE CONJUNCTIVA. INGESTION: MAY CAUSE NAUSEA, ABDOMINAL PAIN, VOMITING, DIARRHEA, & BURNING SENSATION. INHALATION: MAY CAUSE VOMITING, DIARRHEA, & BURNING SENSATION.

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 & 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. NOTE TO PHYSICIAN: THE HAZARDS OF THIS MATERIAL ARE MAINLY DUE TO ITS SENSITIZING & MILD IRRITATING PROPERTIES. THERE IS NO SPECIFIC ANTIDOTE. TREATMENT OF SHOULD BE DIRECTED AT THE CONTROL OF SYMPTOMS & THE CLINICAL CONDITION.

===== 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 TH

ERMA
L
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 DANGE

R FROM DUST EXPLOSIONS, ADEQUATE VENTILATION 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: W
HEN 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
NOT TOUCH LIVE ELECTRICAL PARTS! ARC RAYS CAN BURN EYES AND SKIN!
WEAR RECOMMENDED EYE ANDBODY PRO

TECTION. 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: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 S
PRAYING, DECOMPOSITION
PRODUCTS 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:7440-47-3, CHROMIUM,