

SULZER METCO (US) INC -- METCO 82VF-NS, DIAMALLOY 3005 -- 3439-01-478-2745

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

Product ID:METCO 82VF-NS, DIAMALLOY 3005

MSDS Date:05/10/1996

FSC:3439

NIIN:01-478-2745

Status Code:A

MSDS Number: CLPHK

=== Responsible Party ===

Company Name:SULZER METCO (US) INC

Address:1101 PROSPECT AVE

Box:1006

City:WESTBURY

State:NY

ZIP:11590-0201

Country:US

Info Phone Num:516-334-1

300

Emergency Phone Num:800-424-9300

Resp. Party Other MSDS Num.:50-510

Chemtrec Ind/Phone:(800)424-9300

CAGE:01FK3

=== Contractor Identification ===

Company Name:SULZER METCO (US) INC

Address:1101 PROSPECT AVE

Box:City:WESTBURY

State:NY

ZIP:11590-2724

Country:US

Phone:516-334-1300

CAGE:01FK3

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

Ingred Name:CHROMIUM

CAS:7440-47-3

RTECS #:GB4200000

= Wt:82.

OSHA PEL:1 MG/M3

ACGIH TLV:0.5 MG/M3

EPA Rpt Qty:1 LB

DOT Rpt Qty:1 LB

ingred Name:NICKEL  
CAS:7440-02-0  
RTECS #:QR5950000  
= Wt:5.5  
OSHA PEL:1 MG/M3  
ACGIH TLV:1 MG/M3  
EPA Rpt Qty:100 LBS  
DOT Rpt Qty:100 LBS

Ingred Name:CARBON  
CAS:7440-44-0  
RTECS #:FF5250000  
= Wt:12.5  
OSHA PEL:10 MG/M3  
ACGIH TLV:2 MG/M3

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

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Reports of Carcinogenicity:NTP:YES IARC:YES  
Health Hazards Acute and Chronic:EYE CONTACT: POSSIBLE CONJUNCTIVAL  
IRRITATION, LACRIMATION.  
SKIN CONTACT: POSSIBLE DERMATITIS,  
SENSITIZATION OR CHROME LESIONS, DISCOLORATION. INHALATION: POSSIBLE  
IRRITATION TO THE RESPIRATORY SYSTEM, MUCOUS MEMBRANE IRRITATION  
OR ULCERATION. INGESTION: POSSIBLE IRRITATION TO GASTROINTESTINAL  
TRACT AND RESPIRATORY SYSTEM, LOSS OF MUSCULAR COORDINATION,  
CONFUSION AND CONVULSIONS.  
Explanation of Carcinogenicity:ACGIH CLASSIFIED A1 CONFIRMED HUMAN  
CARCINOGEN. IARC CLASSIFICATION GROUP 1 CARCINOGENIC TO HUMANS. NTP  
CLASSIFIES  
NICKEL AS REASONABLY ANTICIPATED TO BE CARCINOGENS.  
HEXAVALENT CHROMIUM FORMED DURING THE THERMAL SPRAY PROCESS IS A  
CARCINOGEN THAT MAY CAUSE BRONCHOGENIC, LUNG AND STOMACH CANCER.  
SEE CHROMIUM IN "OTHER INFO" FIELD FOR ADDITIONAL INFORMATION.  
Effects of Overexposure:EYE CONTACT: CONJUNCTIVAL IRRITATION,  
LACRIMATION. SKIN CONTACT: DERMATITIS, SENSITIZATION, CHROME  
LESIONS, DISCOLORATION. INHALATION: IRRITATION OF RESPIRATORY  
SYSTEM, MUCOUS MEMBRANE IRRITATION, ULCERATION.  
INGESTION:  
IRRITATION OF GASTROINTESTINAL TRACT AND RESPIRATORY SYSTEM, LOSS OF  
MUSCULAR COORDINATION, CONFUSION, CONVULSIONS.  
Medical Cond Aggravated by Exposure:CONSULT A PHYSICIAN.

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

First Aid:EYE CONTACT: FLUSH WITH WATER FOR 15-20 MINUTES, WHILE  
HOLDING EYELIDS OPEN. IF IRRITATION PERSISTS, CONSULT PHYSICIAN.  
SKIN CONTACT: WASH WITH SOAP AND WATER. IF IRRITATION PERSISTS,  
CONSULT PHYSICIAN. INHALATION

ION: MOVE TO FRESH AIR. CONSULT PHYSICIAN  
IF IRRITATION OR RESPIRATORY DISTRESS PERSISTS. INGESTION: CONSULT  
PHYSICIAN.

===== Fire Fighting Measures =====

Extinguishing Media:USE CLASS D FIRE EXTINGUISHER OR SAND.

Fire Fighting Procedures:TREAT AS METALLIC FIRE. USE NIOSH / MSHA  
APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE  
CLOTHING IF INVOLVED IN FIRE. (CONTD. FROM "EXPLOSION HAZARD") MAY  
BE EXPLOSIVE WHEN EXPOSED TO HE

AT, FLAME OR OXIDES, PEROXIDES,  
OXOSALTS, HALOGENS, INTERHALOGENS, OXYGEN, BROMATES, CHLORATES, AND  
IODATES.

Unusual Fire/Explosion Hazard:FINE METAL DUSTS ARE FLAMMABLE AND MAY  
EXPLODE WHEN EXPOSED TO HEAT/FLAME/OXIDIZERS. CHROMIUM MAY IGNITE  
IF AIRBORNE IN THE PRESENCE OF AN IGNITION SOURCE. CARBON REACTS  
VIOLENTLY WITH CHLORINE TRIFLUORIDE, POTASSIUM, FLUORINE AND  
POTASSIUM SUPEROXIDE. DUSTS OF CARBON (CONTD. SEE "FIRE FIGHTING  
PROCEDURE")

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

Spill Release Procedures:EMPTY PRODUCT CONTAINERS, PRODUCT WASTE, AND  
CLEANING MEDIA SHOULD BE STORED AND DISPOSED OF ACCORDING TO THE  
APPROPRIATE LOCAL, STATE AND FEDERAL REGULATORY GUIDELINES.

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

Handling and Storage Precautions:STORAGE / HANDLING: STORE AWAY FROM  
INCOMPATIBLES. STORE PRODUCT CONTAINERS IN A WELL-VENTILATED CLEAN,  
COOL, AND DRY AREA. STORE IN A MANNER TO MINIMIZE PUNCTURES AND  
BREAKAGE OF CONTAINERS.

Other Precautions:AVOID INGESTION, INHALATION, AND EXCESSIVE SKIN  
CONTACT.

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

Respiratory Protection:A RESPIRATOR APPROVED BY NIOSH WITH FILTER  
CARTRIDGES APPROVED FOR DUST/FLAMES/MISTS SHOULD BE WORN AT ALL  
TIMES DURING THE THERMAL SPRAY PROCESS TO PROTECT THE OPERATOR FROM  
EXPOSURE TO DUST AND FLAMES. RESPIRATORS MAY ALSO BE WORN WHEN  
PRODUCT HANDLING

GENERATES DUST.

Ventilation:PRODUCT SHOULD BE USED WITH THE APPROPRIATE LOCAL EXHAUST VENTILATION .

Protective Gloves:ALUMINIZED GLOVES TO BE WORN DURING PLASMA SPRAY PROCESS.

Eye Protection:GOGGLES WITH APPROPRIATE LENS SHADE

Other Protective Equipment:EAR PROTECTION MUST BE WORN WHEN THE OPERATOR IS SUBJECTED TO EXCESSIVE NOISE LEVELS. WEAR AN ALUMINIZED APRON DURING PLASMA SPRAY PROCESS. OTHER APPROPRIATE PROTECTIVE CLOTHING MAY(CONTD. SEE "SUPPL")

Work Hygienic Practices:

EYE WASH STATIONS AND WASH FACILITIES ARE RECOMMENDED. RUBBER OR OTHER APPROPRIATE GLOVES MAY BE WORN AS NECESSARY DURING OTHER THAN PLASMA SPRAY PHASE OF PRODUCT HANDLING TO AVOID EXCESS SKIN CONTACT.

Supplemental Safety and Health

(CONTD. FROM "OTHER PROTECT EQUIP.") BE WORN AS NECESSARY DURING PRODUCT HANDLING TO AVOID EXCESSIVE CONTACT WITH THE SKIN.

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

HCC:T7

Melt/Freeze Pt:=1204.4C, #####F

M.P/F.P Text:22

00F-2700F

Spec Gravity:2.8 (H2O=1)

Solubility in Water:INSOLUBLE

Appearance and Odor:POWDER; NO ODOR

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

Stability Indicator/Materials to Avoid:YES

CHROMIUM IS INCOMPATIBLE WITH STRONG OXIDIZERS, NICKEL IS INCOMPATIBLE WITH ACIDS, SULFUR, SELENIUM, WOOD OTHER COMBUSTIBLES AND NICKEL NITRATE. CARBON IS INCOMPATIBLE WITH AIR, METALS, OXIDANTS, AND UNSATURATED OILS.

Hazardous Decomposition Products:OZONE AND NITRIC ACID ARE FORMED BY

PLASMA FLAME (SIMILAR TO WELDING FLAMES).THIS ACTION IS INDEPENDENT OF METAL POWDER.HAZARDOUS DECOMPOSITION PRODUCTS OF CARBON ARE CARBON MONOXIDE AND CARBON DIOXIDE.

Conditions to Avoid Polymerization:WILL NOT OCCUR.

#### ===== Toxicological Information =====

Toxicological Information:NICKEL: HAZARD BY INHALATION, INGESTION, SKIN AND EYE CONTACT. INHALATION MAY CAUSE IRRITATION OF RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM DEPRESSION, C

ANCERS OF LUNG AND

NASAL SINUSES. INGESTION MAY CAUSE IRRITATION OF GASTROINTESTINAL TRACT, LOSS OF MUSCULAR COORDINATION, CONFUSION,, CONVULSIONS. SKIN CONTACT MAY CAUSE DERMATITIS. EYE CONTACT MAY CAUSE IRRITATION. ACGIH CLASSIFIED A1 CONFIRMED HUMAN CARCINOGEN. IARC CLASSIFICATION GROUP 1 CARCINOGENIC TO HUMANS. NTP CLASSIFIES NICKEL AS REASONABLY ANTICIPATED TO BE CARCINOGENS. TARGET ORGANS: RESPIRATORY SYSTEM CENTRAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT, SKIN, EYES.

===== Ecological Information =====

Ecological:TOXICOLOGICAL CONTD: CARBON: HAZARD BY INHALATION, INGESTION, SKIN, AND EYE CONTACT. INHALATION MAY CAUSE IRRITATION TO THE RESPIRATORY SYSTEM. INGESTION MAY CAUSE IRRITATION TO THE RESPIRATORY SYSTEM AND GASTROINTESTINAL TRACT. SKIN AND EYE CONTACT MAY CAUSE IRRITATION. TARGET ORGANS: RESPIRATORY SYSTEM, GASTROINTESTINAL TRACT, SKIN, EYES.

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

Waste Disposal Methods:EMPTY PRODUCT CONTAINERS, PRODUCT WASTE AND CLEANING MEDIA SHOULD BE STORED AND DISPOSED OF ACCORDING TO THE APPROPRIATE LOCAL, STATE AND FEDERAL REGULATORY GUIDELINES.

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

Transport Information:UNIT OF ISSUE IS 5 POUND CONTAINER. RQ FOR NICKEL: 100 POUNDS; RQ FOR CHROMIUM: 5000 POUNDS. PARTICLE SIZE