Product ID:XUPERBOND THERMAL SPRAY POWDER MSDS Date:06/23/1997 FSC:3439 NIIN:01-074-3199 Status Code:A MSDS Number: CHVNR === Responsible Party === Company Name:EUTECTIC CORP Address:40-40 172ND STREET City:FLUSHING State:NY Country:US Info Phone Num:718-358-4000 Emergency Phone Num:718-358-4000

CAGE:72271 === Contractor Identification === Company Name:EUTECTIC CORP Address:9625-J SOUTHERN PINE BLVD Box:City:CHARLOTTE State:NC ZIP:28273 Country:US Phone:704-527-9800/ 800-221-1433 CAGE:72271

Ingred Name:NICKEL (SARA 313) (CERCLA) CAS:7440-02-0 RTECS #:QR5950000 Fraction by Wt: >50% OSHA PEL:1 MG/M3 ACGIH TLV:1 MG/M3

Ingred Name:ALUMINUM (SARA 313) CAS:7429-90-5 RTECS #:BD0330000 Fraction by Wt: 1-5% OSHA PEL:15 MG/M 3 DUST ACGIH TLV:10 MG/M3 DUST

Ingred Name:CHROMIC ACID, LEAD(2+) SALT(1:1); (LEAD CHROMATE) CAS:7758-97-6 RTECS #:GB2975000 Fraction by Wt: 1-5% OSHA PEL:15 MG/M3 DUST ACGIH TLV:10 MG/M3 DUST

Ingred Name:SUPDAT:NAVAL CAVITIES. LEAD CHROMATE:IARC MONO ON EVAL OF CARCIN RISK OF CHEMS TO MAN, VOL 49, PG 49, 1990: (ING 5) RTECS #:9999999ZZ

Ingred Name:ING 4:GROUP 1. NTP 7TH ANNUAL RPT ON CARCINS. 1994:ANTICIPATED TO BE CARCINOGEN. RTECS #:99999992Z

Ingred Name:EFTS OF OVEREXP:GENERAL WE LDING FUMES:ELEC ARC WELDING, BRAZING, SOLDERING/OTHER SPRAYING MAY CREATE ONE/MORE (ING 7) RTECS #:9999999ZZ

Ingred Name:ING 6:OF FOLLOWING HLTH HAZS ASSOC W/KEY INGREDS. FUMES, GASES & DUSTS CAN BE DANGEROUS TO HLTH. RTECS #:99999992Z

Ingred Name:ING 7:STUDIES HAVE SUGGESTED LUNG DAMAGE CAN RSLT FROM OVEREXPOSURE TO THESE FUMES. SHORT TERM OVEREXPOSURE MAY (ING 9) RTECS #:9999999ZZ

Ingred Name:ING 8:RESULT IN DIZZINESS, NAUSEA OR DRYNESS OR IRRIT OF NOSE, THROAT/EYES. EXCESS OVEREXP MAY CAUSE BRONCHIAL (ING 10) RTECS #:9999999ZZ

Ingred Name:ING 9:ASTHMA, LUNG FIBROSIS, PNEUMOCONIOSIS (IRON DEPOSITS IN LUNG). METAL FUME FEVER:CAN BE CUASED BY INHAL OF (ING 11) RTECS #:9999999ZZ

Ingred Name:ING 10:CERTAIN METALLIC CMPDS DURING WELDING, HEATING, BRAZING, SOLDERING/CUTTING OPERATIONS, SYMPS ARE SIMILAR (ING 12) RTECS #:9999999ZZ

Ingred Name:ING 11:TO INFLUENZA TYPE SICKNESS INCL CHILLS, FEVER, HEAD & MUSCLE ACHE, TIGHTNESS OF CHEST, DRYNESS OF NOSE & (IN

Ingred Name:ING 12:MOUTH, MUSCLE PAIN, NAUSEA & VOMITING. SYMPS USUALLY OCCUR W/IN SEVERAL HRS. AFTER OVEREXP & LAST 6-24 (ING 14) RTECS #:9999999ZZ

Ingred Name:ING 13:HRS. CONSULT PHYS IMMED IF ANY OF THESE SYMPS DEVELOP AFTER WELDING OPERATION. ALUMINUM DIOXIDE:SKIN CONT(ING 15) RTECS #:9999999ZZ

Ingred Name:ING 14HAS SHOWN NO PROBLEMS OTHER THAN P[OSSIBLE DRYING & MECHANICAL IRRITATION. EYE CONT CAN PRDCE PARTICULATE (ING 16) RTECS #:9999999ZZ

Ingred Na

me:ING 15:IRRIT. EXCESSIVE INHALATION CAN PRDCE MILD PULM IRRIT & POSS NONDISABLING SLIGHT FIBROSIS OF LUNGS. FOR (ING 17) RTECS #:9999999ZZ

Ingred Name:ING 16:MORE SPECIFIC INFORMATION CONTACT NEHC . RTECS #:99999992Z

Ingred Name:EYE PROT:APPROP FILTER LENS. PROVIDE PROT SCREENS & FLASH GOGGLES IF NECESSARY, TO SHIELD OTHERS AS A RULE, (ING 19) RTECS #:9999999ZZ

Ingred Name:ING 18:START WITH A SHADE THAT IS TOO DARK TO SEE THE WELD ZONE, THEN GO TO NEXT LIGHTER SHADE WHICH GIVES (ING 20) RTECS #:9999999ZZ

Ingred Name:ING 19:SUFFICIENT VIEW OF THE WELD ZONE. RTECS #:99999992Z

Ingred Name:OTHER PROT EQUIP:SPARKS & ELECTRICAL SHOCK. ARMS PROTECTORS, APRONS, HATS AS WELL AS DARK, PROTECTIVE CLOTHING. (ING 22) RTECS #:9999999ZZ

Ingred Name:ING 21:TRAIN WORKEERS NOT TO TOUCH LIVE ELECTRICAL PARTS AND TO INSULATE THEMSELVES FROM WORK AND ELECTRICAL GROUND. RTECS #:9999992Z

LD50 LC50 Mixture:

NONE SPECIFIED BY MANUFACTURER.

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:NO

Health Hazards Acute and Chronic:LEAD APPEARS ON THE NAVY LISTING OF OCCUP CHEM REPROD HAZARDS. SEEK CONSULTATION FROM APPROP HLTH PROFESSIONALS CONCERNING LATEST HAZARD LIST INFO & SAFE HNDLG & EXPOS INFO . ACUTE:INHAL:FUMES A SSOC W/HEATING, WELDING, BRAZING, SOLDERING/CUTTING METALS CAN BE DANGEROUS TO HLTH & OVEREXP CAN (EFTS OF

OVEREXP)

Explanation of Carcinogenicity:NICKEL:IARC MONO ON EVAL OF CARCIN RISK OF CHEMS TO MAN, VOL 49, PG 257, 1990:GROUP 2B. NTP 7TH ANNUAL RPT ON (SUPDAT)

Effects of Overexposure:HLTH HAZ:CAUSE LUNG DMG &/OR OTHER ORGAN DMG. KEEP FUMES & GASES FROM BRTHG ZONE-KEEP WELDER'S HEAD OUT OF FUMES. EYES/SKIN:ARC RAYS & ULTRAVIOLET LIGHT CAN INJURE EYES & BURN SKIN. LIQS USED IN FLUXE S & CHEM AIDS MAY CAUSE IRRIT/POSS CHEMBURNS. HNDL W/CARE. INGEST:DANGER! MAY BE HARMFUL/FA

TAL IF SWALLOWED. (ING

6)

Medical Cond Aggravated by Exposure:PREEXISTING RESPIRATORY OR ALLERGIC CONDITIONS MAY OCCUR IN SOME WORKERS.

First Aid:INHAL:MOVE VICTIM TO FRESH AIR SOURCE. CONT PHYS & ADVISE ON INGREDS. SKIN:THOROUGHLY WASH HANDS/EFFECTED AREAS W/SOAP & WATER TO REMOVE ALL RESIDUE. IF RASH/BURNS DEVELOP, CONSULT PHYS. EYE:THOROUGHL Y FLUSH W/WATER FOR @ LST 15 MINS TO REMOVE ALL RESIDUE. O

BTAIN PROMPT MED ADVISE FOR FLUXES & CHEM AIDS. ADVISE PHYS OF INGREDS. INGEST:CALL PHYS AND/OR LOCAL POIS CTL CTR. ADVISE OF INGREDIENTS.

Extinguishing Media:CO\*2 DRY CHEMICAL FOAM TYPE. Fire Fighting Procedures:WEAR NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT . TOXIC FUMES MAY BE PRODUCED. Unusual Fire/Explosion Hazard:SOME FLUXES & CHEM AIDS MAY GIVE OFF HYDROGEN CHLORIDE, PHOSGENE & CHLORINE GASES. CAN

## S UNDER PRESS & FLAMM MAY EXPLODE. METAL POOWDER DUST MAY PRESENT (SUPDAT)

Spill Release Procedures: USE APPROPRIATE MEASURE TO KEEP AIRBORNE DUST LEVELS CONTAINED IN ACCORDANCE WITH EXPOSURE LEVELS OF INGREDIENTS. Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Handling and Storage Precautions: READ AND UNDERSTAND PRODUCT LABLE INFORMATION FOR

PROPER PROCEDURES AND USE.

Other Precautions:SEE ANSI Z49.1 "SAFETY IN WELDING AND CUTTING", AND CHAPTER 11 OF "THERMAL SPRAYING", PUBLISHED BY AMERICAN WELDING SOCIETY AND OSHA PUBLICATION 2206 (29 CFR 1910) FOR MORE DETAIL.

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

Respiratory Protection: IF WORK STATION IS NOT PROPERLY VENTILATED TO EXHAUST ALL FUMES, VAPORS AND DUSTS BELOW THE RECOMMENDED EXPOSURE LIMITS, USE A NIOSH APPROVED RESPIRATOR.

Ventilation

:USE ADEQUATE VENTILATION TO KEEP BELOW EXPOSURE LIMITS.

Protective Gloves:WELDER'S GLOVES.

Eye Protection:WEAR HELMET/USE FACE SHIELD WITH(ING 18)

Other Protective Equipment: ANSI APPRVD EYE WASH & DELUGE SHOWER . WEAR HAND, HEAD & BODY PROT WHICH HELP TO PVNT INJURY FROM RADIA, (ING 21)

Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER. Supplemental Safety and Health

EXPLO HAZ:FIRE/EXPLO HAZ UNDER FAVORABLECNDTNS OF PARTICLE SIZE DISPERSION & STRONG IGNIT SOURCE. THIS IS MOST P

REVALENT W/REACTIVE

METAL POWDERS SUCH AS ALUMINUM. HAZ DECOMP PROD:SILICA, OZONE, CO, C O\*2, NITROGEN OXIDES & CERTAIN INERT GASES. EXPLAN OF CARCIN:CARCINS, 1994:ANTIC TO BE CARCIN HUMAN:LUNGS, (ING 4)

Evaporation Rate & amp; Reference:NOT KNOWN Solubility in Water:NOT KNOWN Appearance and Odor:NONE SPECIFIED BY MANUFACTURER.

Stability Indicato

r/Materials to Avoid:YES
NONE SPECIFIED BY MANUFACTURER.
Stability Condition to Avoid:WELDING ARC SPARKS AND FLAMES CAN IGNITE
COMBUSTIBLES AND FLAMMABLES.
Hazardous Decomposition Products:DUSTS GIVEN OFF CANNOT BE CLASSIFIED
SIMPLY. COMPLEX OXIDES OF METALS, FLUORIDES CMPDS METAL OXIDES
CARBON AND (SUPDAT)

Waste Disposal Methods:DISPOSE OF WASTE MATL, POWDERS, GRINDING OR FILTER RESIDUES IN AN ENVIR SENSITIVE MANNER IN ACCORDANCE WITH EXPOSURE LEVELS OF INGREDIENTS.

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