

LITTON -- AMPLIFIER TRAVELING WAVE,11448369, (SUP DA) -- 1420-01-211-5630

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

Product ID:AMPLIFIER TRAVELING WAVE,11448369, (SUP DA)

MSDS Date:04/15/1989

FSC:1420

NIIN:01-211-5630

MSDS Number: BJJPW

=== Responsible Party ===

Company Name:LITTON

Address:960 INDUSTRIAL ROAD

City:SAN CARLOS

State:CA

ZIP:94070

Country:US

Info Phone Num:415-591-8411

Emergency Phone Num:41

5-591-8411

CAGE:NO218

=== Contractor Identification ===

Company Name:LITTON

Address:960 INDUSTRIAL ROAD

Box:City:SAN CARLOS

State:CA

ZIP:94070

Country:US

Phone:415-591-8411

CAGE:NO218

Company Name:LITTON ELECTRON DEVICES .

Address:960 INDUSTRIAL RD

Box:City:SAN CARLOS

State:CA

ZIP:94070

Country:US

Phone:650-591-8411

CAGE:80080

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

Ingred Name:NICKEL (SARA III)

CAS:7440-02-0

RTECS #:QR5950000

Other REC Limits:N/K

OSHA PEL:1 MG/M

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ACGIH TLV:1 MG/M3; 9192

Ingred Name:COBALT (SARA III)  
CAS:7440-48-4  
RTECS #:GF8750000  
Other REC Limits:N/K  
OSHA PEL:0.1 MG/M3;AS CO  
ACGIH TLV:0.05 MG/M3;DUST 9293

Ingred Name:COPPER (SARA III)  
CAS:7440-50-8  
RTECS #:GL5325000  
Other REC Limits:N/K  
OSHA PEL:0.1MG/M3 FUME/1 DUST  
ACGIH TLV:0.2MG/M3 FUME; 9192  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:ZIRCONIUM  
CAS:7440-67-7  
RTECS #:ZH7070000  
Other REC Limits:N/K  
OSHA PEL:5 MG/M3/10 STEL  
ACGIH TLV:5 MG/M3/10 STEL;9192

Ingred Name:IRON OXIDE  
CAS:1309-37-1  
RTECS #:NO7400000  
Other REC Limits:N/K  
OSHA PEL:10 MG/M3 (FE)  
ACGIH TLV:5 MG/M3(FE),B2; 9293

Ingred Name:ALUMINUM (SARA III)  
CAS:7429-90-5  
RTECS #:BD0330000  
Other REC Limits:N/K  
OSHA PEL:15MG/M3 DUST/5 FUME  
ACGIH TLV:10MG/M3 DUST; 9192

Ingred Name:TITANIUM DIOXIDE  
CAS:13463-67-7  
RTECS #:XR2275000  
Other REC Limits:N/K  
OSHA PEL:15 MG/M3 TDUST  
ACGIH TLV:10 MG/M3 TDUST; 9293

Ingred Name:SAMARIUM  
CAS:7440-19-9  
Other REC Limits:N/K  
OSHA PEL:N/K  
ACGIH TLV:N/K

Ingre

d Name:PRASEODYMIUM  
CAS:7440-10-0  
Other REC Limits:N/K  
OSHA PEL:N/K  
ACGIH TLV:N/K

Ingred Name:OTHER RARE EARTHS  
Other REC Limits:N/K  
OSHA PEL:N/K  
ACGIH TLV:N/K

Ingred Name:EXPLAN OF CARCIN:CARCINOGEN (NTP,1989).WASTE DISP METH:MFR  
FOR RECYCLING.  
RTECS #:9999999ZZ  
Other REC Limits:N/K  
OSHA PEL:N/K  
ACGIH TLV:N/K

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

LD50 LC50 Mixture:N/K  
Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO  
Reports of Carcinogenici  
ty:NTP:NO IARC:YES OSHA:NO  
Health Hazards Acute and Chronic:NO KNOWN HAZARDS FOR MAGNETS AS  
SUPPLIED AS A PART OF MICROWAVE TUBES.PROLONGED SKIN CONTACT WITH  
NICKEL MAY CAUSE ALLERGIC REACTION IN SENSITIVE INDIVIDUALS.  
Explanation of Carcinogenicity:NICKEL:SUFF EVID FOR CARCIN IN HUM/ANIM  
(IARC,1987).ACGIH A1=CONFIRMED HUM CARCIN (1990).KNOWN TO CAUSE  
CANCER (SUP DA)  
Effects of Overexposure:EYES:N/K .SKIN:PROLONGED SKIN CONTACT WITH  
NICKEL CAN CAUSE ALLERGIC REACTION IN S  
ENSITIVE  
INDIVIDUALS.INGESTION:N/K .INHALATION:ANY LONGTERM EXPOSURE TO  
DUSTS EXCEEDING TLV LEVE LS MAY RESULT IN IRRITATION TO THE UPPER  
RESPIRATORY TRACT.  
Medical Cond Aggravated by Exposure:PROLONGED SKIN CONTACT WITH NICKEL  
MAY CAUSE ALLERGIC REACTION IN SENSITIVE INDIVIDUALS.

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

First Aid:EYES/SKIN/INGESTION/INHALATION:N/K .

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

Flash Point:N

/K  
Lower Limits:N/K  
Upper Limits:N/K  
Extinguishing Media:DRY NITROGEN,ARGON OR DRY CHEMICAL.  
Fire Fighting Procedures:BLANKET FIRES W/ DRY NITROGEN OR ARGON OR  
SMOTHER W/ DRY CHEMICAL.DO NOT USE WATER OR HALON AGENTS ON  
FIRE.PROD AS SUPPLIED IN MICROWAVE TUBES IS NOT COMBUST.  
Unusual Fire/Explosion Hazard:FINE METAL POWDERS PRODUCED BY DRY  
GRINDING/MACHINING-EXPLO HAZ.DRY POWDER/GRINDING SLUDGE MAY IGNITE  
SPONT IN AIR/OXYGEN.POWDER WILL BURN RAPIDLY & (SUP DA)

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=== Accidental Release Measures =====

Spill Release Procedures:N/K  
Neutralizing Agent:N/K

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

Handling and Storage Precautions:MICROWAVE TUBES W/ MAGNETIC MATL  
HAVING A MAGNETIC FIELD IN EXCESS OF 0.00525 GAUSS MEASURED AT 15  
FT FROM ANY SURFACE,MUST BE SHIPPED ON AIRCRAFT.  
Other Precautions:SHIP IN ACCORDANCE WITH 49 CFR 173.21 (F).DO NOT  
GRIND,CUT,FILE,SAW OR OTHERWISE CREATE DUST FROM MAGNETIC MATE  
RIAL  
USED AS A PART OF MICROWAVE TUBES.

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

Respiratory Protection:NO SPECIAL PROTECTION REQUIRED FOR MICROWAVE  
TUBES AS SHIPPED.  
Ventilation:CONSULT LOCAL SAFETY/HEALTH AUTHORITIES IF ADDITIONAL  
GUIDANCE IS NEEDED .  
Protective Gloves:NO SPEC PROT REQD FOR TUBES AS SHIPPED.  
Eye Protection:NO SPEC PROT REQD FOR TUBES AS SHIPPED.  
Other Protective Equipment:NO SPECIAL PROTECTION REQUIRED FOR MICROWAVE  
TUBES AS SHIPPED

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Work Hygienic Practices:USE GOOD PERSONAL HYGIENE.

Supplemental Safety and Health

PART NO:PN L5710-51.MP:>1325C,2417F.EXPLO HAZ:INTENSELY & MAY REIGNITE  
AFTER FIRE IS EXTING.RARE EARTH METAL POWDERS (SAMARIUM COBALT)  
BURN VIGOROUSLY IN HALOGEN/ORG ATMOS.MATLS TO AVOID:W/ STRONG OXI  
DIZING AGENTS,ACIDS,OXYGEN & HALOGENATED HYDROCARB.EXPLAN OF  
CARCIN:(CAL PROP 65,1989).SUSPECTED HUMAN (SEE ING 11)

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

Boiling Pt:B

.P. Text:N/K  
Melt/Freeze Pt:M.P/F.P Text:SEE SUPP  
Decomp Temp:Decomp Text:N/K  
Spec Gravity:7.0-8.5,WATER=1  
Solubility in Water:NOT SOLUBLE  
Appearance and Odor:METALLIC SILVER/LIGHT GRAY METAL WITH NO ODOR.

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

Stability Indicator/Materials to Avoid:YES  
POWDERS FROM MAGNETS ARE INCOMPATIBLE W/ STRONG OXIDIZING AGENTS.RARE  
EARTH MAGNET POWDERS ARE IMCOMPATIBLE (SEE SUPP)  
Stability Condition to Avoid:AVOID ANY GENERATION OF AIR  
BORNE DUST  
WHICH COULD CREATE FIRE & EXPLOSION HAZARD.  
Hazardous Decomposition Products:RARE EARTH (SAMARIUM COBALT) MAGNET  
POWDER WILL LIBERATE HYDROGEN WHEN EXPOSED TO WATER.  
Conditions to Avoid Polymerization:WILL NOT OCCUR.

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

Waste Disposal Methods:DISP MUST BE IAW FED,STATE & LOC  
REGS.COORDINATION W/ SUPPORTING INSTALLATION &/OR MACOM  
ENVIRONMENTAL COORDINATION PRIOR TO DISP IS REC TO DETERMINE APPROP  
DI  
SP METH .RECYCLING OF MAGNETS USED IN MICROWAVE TUBES IS  
REC.RETURN TO (SEE ING 11)

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