

LITTON SYSTEMS INC/ELECTRONIC DEVICES DIV -- LITTON PN L5838 SAMARIUM COBALT  
MAGNET -- 5960-01-096-3457

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

Product ID:LITTON PN L5838 SAMARIUM COBALT MAGNET  
MSDS Date:04/15/1989  
FSC:5960  
NIIN:01-096-3457  
MSDS Number: BNKMF  
=== Responsible Party ===  
Company Name:LITTON SYSTEMS INC/ELECTRONIC DEVICES DIV  
Address:960 INDUSTRIAL RD  
City:SAN CARLOS  
State:CA  
ZIP:94070-4  
116  
Country:US  
Info Phone Num:(415) 591-8411  
Emergency Phone Num:(415) 591-8411  
CAGE:80080  
=== Contractor Identification ===  
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:COBALT  
CAS:7440-48-4  
RTECS #:GF8750000  
Other REC Limits:0.05 PPM  
OSHA PEL:0.1 MG/M3;AS CO  
ACGIH TLV:0.05 MG/M3;DUST 9293

Ingred Name:SAMARIUM  
CAS:

7440-19-9

Ingred Name:PRASEODYMIUM  
CAS:7440-10-0

Ingred Name:RARE EARTH

Ingred Name:RED IRON OXIDE/IRON (III) OXIDE/FERRIC OXIDE/YELLOW FERRIC  
OXIDE/METAL OXIDE/YELLOW IRON OXIDE/IRON OXIDE PIGMENT/IRON  
CAS:1309-37-1  
RTECS #:NO7400000  
OSHA PEL:10 MG/M3 (FE)  
ACGIH TLV:5 MG/M3(FE),B2; 9293

Ingred Name:COPPER (DUST & MIST), BRONZE POWDER  
CAS:7440-50-8  
RTECS #:GL5325000  
Other REC Limits:1 MG(CU)/M3 (DUST)  
OSHA PEL:0.1 MG(CU)/M3 (FUME)  
ACGIH TLV:0.2 MG/M3 (FUME)  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:ZIRCONIUM  
CAS:7440-67-7  
RTECS #:ZH7070000  
OSHA PEL:5 MG/CUM  
ACGIH TLV:5 MG/CUM

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

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:INHALATION: UPPER RESPIRATORY TRACT  
IRRITATION. SKIN: ALLERGIC REACTION  
Explanation of Carcinogenicity:NONE  
Effects of Overexposure:INHALATION: UPPER RESPIRATORY TRACT IRRITATION.

SKIN: ALLERGIC REACTION.

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

First Aid:OBTAIN MEDICAL ATTENTION IN ALL CASES.

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

Extinguishing Media:DRY NITROGEN OR ARGON OR SMOTHER W/DRY CHEMICAL  
Fire Fighting Procedures:DON'T USE WATER OR HALON AGENTS ON FIRE.  
POWDER MAY REIGNITE AFTER FIRES ARE EXTINGUISHED. BURNS RAPIDLY &  
INTENSELY.  
Unusual Fire/Explosion Hazard:FINE METAL POWDERS PRODUCED BY

DRY  
GRINDING/MACHINING MAY CAUSE EXPLOSION. DRY POWDER OR GRINDING  
SLUDGE MAY IGNITE SPONTANEOUSLY IN AIR OR OXYGEN.

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

Other Precautions:DON'T GRIND, CUT, FILE, SAW OR OTHERWISE CREATE DUST  
FROM MAGNETIC MATERIAL USED AS A PART OF MICROWAVE TUBES.

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

Work Hygienic Practices:USE GOOD PERSONAL HYGIENE  
Supplemental Safety and Health

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

Melt/Freeze Pt:M.P/F.P Text:2417F  
Spec Gravity:7.0-8.5  
Solubility in Water:INSOLUBLE  
Appearance and Odor:METALLIC SILVER/LIGHT GREY METAL, ODORLESS.

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

Stability Indicator/Materials to Avoid:YES  
STRONG OXIDIZING AGENTS, ACIDS, OXYGEN & HALOGENATED HYDROCARBONS.  
Hazardous Decomposition Products:RARE EARTH (SAMARIUM COLBALT) MAGNET  
POWDER WILL LIBERATE HYDROGEN WHEN EXPOSED T  
O WATER.

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

Waste Disposal Methods:RECYCLING OF MAGNETS USED IN MICROWAVE TUBES IS  
RECOMMENDED. RETURN TO MANUFACTURER FOR RECYCLING, OTHERWISE  
DISPOSE IN ACCORDANCE W/FEDERAL, STATE & LOCAL REGULATIONS.

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