

COMMUNICATION & PWR INDUSTRIES(FRMLY VARIAN ASSOC) -- 1BRR ELECTRON TUBE --  
5960-00-193-5093

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

Product ID:1BRR ELECTRON TUBE

MSDS Date:08/22/1996

FSC:5960

NIIN:00-193-5093

MSDS Number: BDHYM

=== Responsible Party ===

Company Name:COMMUNICATION & PWR INDUSTRIES(FRMLY VARIAN ASSOC)

Address:BEVERLY MICROWAVE DIV, 150 SOHIER RD

City:BEVERLY

State:MA

ZIP:01915-5595

Cou

ntry:US

Info Phone Num:508-922-6000 EXT.285

Emergency Phone Num:508-922-6000 EXT.285

Preparer's Name:FRANK E. TROJAN

CAGE:KO568

=== Contractor Identification ===

Company Name:COMMUNICATION & PWR INDUSTRIES(FRMLY VARIAN ASSOC)

Address:BEVERLY MICROWAVE DIV, 150 SOHIER RD

City:BEVERLY

State:MA

ZIP:01915-5595

Country:US

Phone:508-922-6000 EXT.285

CAGE:KO568

Company Name:COMMUNICATIONS AND POWER INDUSTRIES INC

Address:150 SOHIER RD

City:BEVERLY

State:MA

ZIP:01915-5595

Country:US

Phone:978-922-6

000 EXT.285

CAGE:88236

Company Name:M/A-COM INC

Address:1011 PAWTUCKET BLVD

Box:3295

City:LOWELL

State:MA

ZIP:01853-3295

Country:US

Phone:617-272-3000 (DAYTIME ONLY)

CAGE:96341

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

Ingred Name:COBALT (SARA 313)

CAS:7440-48-4

RTECS #:GF8750000

Other REC Limits:NONE RECOMMENDED

OSHA PEL:0.1 MG/M3

ACGIH TLV:0.02 MG/M3; A3; 9596

dentification =====

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES

Health Hazards Acute and Chronic:COBALT 60 RADIOACTIVE:SIGNIFICANT SKIN CONTACT MAY RESULT IN BURNS.RAPID ESTIMATION OF AMT OF INTERNAL CONTAMIN DIFFICULT/IMPOSSIBLE WHEN ALHPA/PURE BETA EMITTERS INVOLVED.COBALT 60 METAL:CONTACT DERM ,BREATH DIFFICULTIES.ALLERGIC ASTHMA,RESTRICTED

PULM FUNCTIONS,INTERNAL FIBROSIS FROM LONG-TERM OCCUP EXPO TO CO/CMPDS.

Explanation of Carcinogenicity:PER MSDS:COBALT 60 AS RADIACIVE-CANCER CAUSING AGENT:BETA/GAMMA RAYS.

Effects of Overexposure:COBALT 60 RADIOACTIVE:NAU,VOMIT,DIARR FOR HIGH ACUTE DOSES.COBALT 60 METAL:COBALT DUST INHAL CAUSE PULM SYMPT(WHEEZ,IRRIT OF UPPER RESP TRACT,HYPERSENSITIVITY RXS(ASTHMA)).SKIN CONTACT MAY CAUSE ADENI TIDES,ESPECIALLY IN CREASES OB ELBOWS/KNEES/ANKLES/NECK.CONTACT W/EYE CASUE C ONJ.INGEST

PROD HOT SENS,VOMIT,DIARR,NAU.

Medical Cond Aggravated by Exposure:HEALING OF DMG TISSUES MAY BE PROLONGED.SKIN/UPPER RESP TRACT DISORDERS MAY BE WORSENERD BY EPXO TO COBALT.TARGORG:RESP SYS,SKIN,BLADDER,KINDEYS,EYES.

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

First Aid:DECONTAMIN EXPO INDIVIDUAL.TRANSPORT TO HOSPITAL IF NAU/VOMIT OCCUR IN 1ST 24 HRS.EYE:IMMED FLUSH GENTLY BUT THOROUGHLY W/PLENTY OF RUNING WATER @LEAST 15MINS,OPN EYELIDS.

SKIN:IMMED WASH

W/SOAP/WAER.I NHAL:REMOVE TO FRESH AIR.RESTORE &/OR SUPPORT BREATHING AS NEEDED.INGEST:NEVER GIVE ANYTHING BY MOUTH TO SOMEONE WHO IS UNCONS/CONVULSING.IF COBALT SALTS INGEST GIVE 1-2 GLASSES OF WATER.INDUCE VOMIT.

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

Autoignition Temp:Autoignition Temp Text:NA

Lower Limits:NA

Upper Limits:NA

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

Spill Release Procedures:BROKEN/DISA

SSEM RECEIVER PROTECTOR TUBE MAY  
EMIT IONIZING RADIATION.WHEN HNDLG BROKEN TUBES WEAR PROT RUBB  
GLOVES/CLOTH.AVOID POSSIBILITY OF RUBBING RADIOACTIVE MATL ONTO  
SKIN.WASH EXPO SKIN AFT HNDLG BROKEN TUBES W/RADIOACTIVE  
MATL.AVOID INHAL GASES.

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

Handling and Storage Precautions:ADMIN PREPLACE/PERIODIC MED EXAMS  
EMPHASIZING SKIN/UPPER RESP TRACT FUNCTIONS.ALL PERSONS WHO WORK  
W/EXPO TO MICROWAVE TUBE/EPQMT WH  
ICH UTILIZES(SUPP)

Other Precautions:NRC LIC#:20-0223703E. DEVICE IS RECEIVER PROTECTOR  
TUBE WHICH CONTAINS SMALL AMTS OF COBALT 60.TUBE CONSIDERED TO BE  
SEALED SOURCE & NORMAL HNDLG WILL PRESENT NO RADIATION  
PROBLEMS.DEVICE MFG ARTICLE IAW  
49CFR173.422/29CFR1910.1200.(SUPPLE)

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

Work Hygienic Practices:WASH HANDS.  
Supplemental Safety and Health  
STORE/HNDLG:SUCH TUBES MUST TAKE PRECAUT TO PROTECT THEMSELVES AGAIN  
ST  
POSSIBLE SER BODILY INJURY.DON'T BE CARELESS AROUND SUCH PRODUCTS.  
OTHER PRECAUT:DEVICE AN ELECTRON TUBE MFG IN COMPLIANCE W/10CF  
R30.15(A)(8).

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

HCC:A2  
NRC/State Lic Num:20-02237-04  
Boiling Pt:B.P. Text:5252F,2900C  
Melt/Freeze Pt:M.P/F.P Text:2723F,1495C  
Decomp Temp:Decomp Text:NA  
Vapor Pres: