

COMMUNICATION & PWR INDUSTRIES(FRMLY VARIAN ASSOC) -- VDU1067 ELECTRON TUBE --  
5960-01-074-6110

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

Product ID:VDU1067 ELECTRON TUBE

MSDS Date:01/04/1996

FSC:5960

NIIN:01-074-6110

MSDS Number: BYHJT

=== Responsible Party ===

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

Address:BEVERLY MICROWAVE DIV, 150 SOHIER RD

City:BEVERLY

State:MA

ZIP:01915-559

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Country: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-

922-6000 EXT.285

CAGE:88236

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

Ingred Name:NO INGREDIENT FOR THIS FORMULATION\_INGREDIENT

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

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

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:THE TUBE IS CONSIDERED TO BE A SEALED  
SOURCE & NORMAL HANDLING WILL PRESENT NO RADIATION PROBLEMS.  
ACUTE/CHRONIC OVEREX

POSURE:SIGNIFICANT EXPOSURE TO A RADIONUCLIDE  
MAY CAUSE CANCER. BROKEN OR DISASSEMBLED RECEIVER PROTECTOR TUBES  
MAY EMIT IONIZING RADIATION.

Explanation of Carcinogenicity:PER MSDS:CANCER CAUSING AGENT:NOT LISTED  
IN NTP/IARC/OSHA.

Effects of Overexposure:TRITIUM IS A BETA EMITTER. IF EXPOSURE IS  
SUSPECTED SEEK MED ATTN, URINE ASSAY FOR TRITIUM IS THE ONLY MEANS  
OF MEASURING THE DEGREE OF EXPOSURE.

Medical Cond Aggravated by Exposure:HEALING OF DAMAGED TISSUES MAY BE  
PROLONGED.

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

First Aid:SKIN CONTACT:FLUSH W/WATER FOR 15MINS. EYE CONTACT:FLUSH  
W/WATER FOR 15MINS. INHAL:REMOVE TO FRESH AIR. INGEST:A HIGH ORAL  
FLUID INTAKE SHOULD BE ADMINISTERED FOLLOWING TRITIUM EXPOSURE.

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

Lower Limits:N/APPLICABLE  
Upper Limits:N/APPLICABLE

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

Spill Release Procedures  
:WHEN HANDLING BROKEN TUBES WEAR PROTECTIVE  
RUBBER GLOVES/CLOTHING.AVOID POSSIBILITY OF RUBBING RADIOACTIVE MATL  
ONTO SKIN.WASH EXPOSED SKIN AFT HDNLG BROKEN TUBES CONTAINING  
RADIOACTIVE MATL.AVOID INHALE GASES FRM BROKEN TUBES CONTAINING  
TRITIUM.

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

Handling and Storage Precautions:PROPER USE/SAFE OPERATING PRACT  
W/RESPECT TO MICROWAVE TUBES/EQPMT ARE RESPONSIBILITY OF EQPMT MFG &  
USERS OF SUCH TUBES/EQPMT.  
TAKE APPROPRIATE ACTION.

Other Precautions:ALL PERSONS WHO WORK W/OR ARE EXPO TO MICROWAVE  
TUBE/EQPMT WHICH UTILIZES SUCH TUBES MUST TAKE PRECAUT TO PROT  
THEMSELVES AGAINST POSSIBLE SER BODILY INJURY.DON'T BE CARELESS  
AROUND SUCH PRODUCTS.PROD SPEC CONTAINS OPERATING INFO/PRECAUTION

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

Respiratory Protection:IF SPILLED, WEAR RADIONUCLIDE CARTRIDGE  
RESPIRATOR.  
Ventilation:PLACE AFFECTED COMPONENT IN LOCAL EXHAUST.

Protective Gloves:DISPOSABLE GLOVES.

Eye Protection:GOGGLES.

Work Hygienic Practices:WASH HANDS.CARELESS OPERATION OF THIS DEVICE  
CAN RESULT IN INJURY OR DEATH.

Supplemental Safety and Health

THIS DEVICE IS A RECEIVER PROTECTOR TUBE WHICH CONTAINS SMALL AMT OF  
TRITIUM.TUBE IS CONSIDERED TO BE SEALED SOURCE & NORMAL HNDLG WILL  
PRESENT NO RADIATION PROBLEMS.DEVICE IS A MFG ARTICLE IAW 49CFR1  
73.422.DEVICE IS AN ARTICLE IAW 29CFR1910.1200.DEVICE IS AN  
ELECTRON TUBE MFG IN COMPL  
IANCE W/10CFR30.15(A)(8).

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

HCC:A1

NRC/State Lic Num:20-02237-04

Boiling Pt:B.P. Text:-248C @1ATM

Melt/Freeze Pt:M.P/F.P Text:-420F,-251C

Decomp Temp:Decomp Text:N/APPLICABL

Vapor Pres:18.317 ATM

Vapor Density:N/APPLICAB

Spec Gravity:6.0

pH:N/APPL

Solubility in Water:100%, COMPLETE

Appearance and Odor:RECEIVER PROTECTOR TUBE W/SM AMT OF  
TRITIUM;SEALED;ARTICLE;GAS, NO ODOR.(SUPPLE

Corrosion Rate:N/APPLIC

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

Stability Indicator/Materials to Avoid:YES

OXIDIZERS.

Stability Condition to Avoid:TEMPERATURES IN EXCESS OF 400C WILL CAUSE  
DECOMPOSITION OF TIT2 W/RELEASE OF TRITIUM GAS.

Hazardous Decomposition Products:UNBOUND TRITIUM.

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

Waste Disposal Methods:DISPOSE OF BROKEN OR SPENT TUBES AS SPECIFIED IN  
10 CFR PART 20 & 10 CFR PART 30. HAZ INGRED:TRITIUM (H3 OR T) AS  
TIT2, NO

RMAL-SOLID FORM, RADIOACTIVITY:50.0MICROCURI, %:LESS THAN  
1%. ANOTHER NCR LI C #:20-02237-03E.

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