

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

5

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 INHAL 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:50.0MICROCURIES, %:LESS THAN
1%. ANOTHER NCR LI C #:20-02237-03E.

Disclaimer (provided with this information by the compiling agencies):
This information is formulated for use by elements of the Department
of Defense. The United States of America in no manner whatsoever,
expressly or implied, warrants this information to be accurate and
disclaims all liability for its use. Any person utilizing this
document should seek competent professional advice to
verify and
assume responsibility for the suitability of this information to their
particular situation.