

COMMUNICATIONS AND POWER INDUSTRIES INC -- VDS1190 -- 5960-00-005-2080

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

Product ID:VDS1190
MSDS Date:06/30/1998
FSC:5960
NIIN:00-005-2080
Status Code:A
MSDS Number: CJLHF
=== Responsible Party ===
Company Name:COMMUNICATIONS AND POWER INDUSTRIES INC
Address:150 SOHIER RD
City:BEVERLY
State:MA
ZIP:01915-5595
Country:US
Info Phone Num:978-922-6000 EXT.285
Emergenc
y Phone Num:508-922-6000 EXT.285 / FAX 2736
Preparer's Name:FRANK E. TROJAN
CAGE:88236
=== Contractor Identification ===
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
Contract Num:SP0960-98-Q-A320
CAGE:88236

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

Ingred Name:TRITIUM AS SOLID TITANIUM TRITIDE
< Wt:1.
Other REC Limits:NONE RECOMMENDED

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Hazards Identification =====

LD50 LC50 Mixture:5000 MILLIREMS/YR PER 10CFR PART 20.

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

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

Health Hazards Acute and Chronic:SIGNIFIGANT EXPOSURE TO A RADIONUCLIDE
MAY CAUSE CANCER.

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

Effects of Overexposure:SIGNIFICANT EXPOSURE TO A RADIONUCLIDE MAY
CAUSE CANCER.TIRITUM IS A BETA EMITTER.IF EXPOSURE IS
SUSPECTED.

SEEK MEDICAL ATTENTION,. URINE ASSAY FOR TRITIUM IS ONLY MEANS OF
MEASURING THE DEGREE OF EX POSURE.

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

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

First Aid:SKIN: FLUSH WITH WATER FOR 15 MINUTES. EYES: FLUSH WITH
WATER FOR 15 MINUTES. INHALATION: REMOVE TO FRESH AIR. INGESTED: A
HIGH ORAL FLUID INTAKE SHOULD BE ADMINISTERED FOLLOWING TRITIUM
EPOSURE.

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

Autoignition Temp:Autoignition Temp Text:NA

Lower Limits:N/APPLICABLE

Upper Limits:N/APPLICABLE

Extinguishing Media:NOT APPLICABLE.

Fire Fighting Procedures:NOT APPLICABLE.

Unusual Fire/Explosion Hazard:NOT APPLICABLE.

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

Spill Release Procedures:WHEN HANDLING BROKEN TUBES, WEAR PROTECTIVE
RUBBER GLOVES & CLOTHING. NO OTHER DATA SPECIFIED BY MANUFACTURER.
DL

A-HMIS STAFF: SWEEP UP, BEING CAREFUL TO NOT CREATE DUST. PLACE
IN A WASTE CONTAINER AN D DISPOSE OF IAW NUCLEAR REGULATORY
COMMISSION (NRC) REGULATIONS CONCERNING THE DISPOSAL OF TRITIUM.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Precautions:TUBES ARE SEALED SOURCES AND NORMAL
HANDLING DOES NOT PRESENT A RADIATION PROBLEM. AVOID THE
POSSIBILITY OF RUBBING RADIOACTIVE MATERIAL ONTO

THE SKIN.

Other Precautions:BROKEN OR DISASSEMBLED RECEIVER PROTECTOR TUBES MAY
EMIT IONIZING RADIATION.

===== 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.

Other Protective Equipment:NOT APPLICABLE.

Work Hygienic Practices:WASH HANDS.

Supplemental Safety and Health

DEVICE IS A RECE

IVER PROTECTOR TUBE WHICH CONTAINS A SMALL AMOUNT OF
TRITIUM. THE TUBE IS CONSIDERED TO BE A SEALED SOURCE. NORMAL
HANDLING WILL PRESENT NO RADIATION PROBLEMS. THIS DEVICE IS A
ARTICLE IAW 49 CFR 173.422; AN ARTICLE IAW 29 CFR 1910.1200 & AN
ELECTRON TUBE IN COMPLIANCE WITH 10 CFR 30.15(A).

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

HCC:A2

NRC/State Lic Num:20-02234-04

Boiling Pt:=-248.C, -414.4F

Melt/Freeze Pt:=-254.C, -425.2F

Vapor Pres:18.317 ATM

Spec Gravity:6.0

Solubility in Water:100% COMPLETE (TRITIUM)

Appearance and Odor:GAS, NO ODOR (CONTAINED IN A SEALED ELECTRON TUBE)

===== 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 WITH RELEASE OF TRITIUM GAS.

Hazardous Decomposition Products:UNBOUND TRITIUM.

===== Toxicological Information =====

Toxicological Information:NONE SPECIFIED BY MANUFACTURER.

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Ecological Information
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Ecological:NONE SPECIFIED BY MANUFACTURER.

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Disposal Considerations
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Waste Disposal Methods:DISPOSE OF BROKEN OR SPENT TUBES AS SPECIFIED IN 10 CFR PART 20. EPA HAZARDOUS WASTE NUMBER/CODE: NOT APPLICABLE. HAZARDOUS WASTE CHARACTERISTICS: NOT APPLICABLE. DISPOSAL METHODS: NOT APPLICABLE.

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SDS Transport Information
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Transport Information:APPLICABLE REGULATIONS: 49 CFR. SHIPPING NAME: RADIOACTIVE MATERIAL, EXEMPTED PACKAGE, ARTICLES. IDENTIFICATION NUMBER: UN2910. REPORTABLE QUANTITY: NO. HAZARD CLASS: RADIOACTIVE MATERIAL. LABELS: NON E. UNIT CONTAINER: SEALED ALUMINUM BAG INSIDE CARDBOARD BOX. DOT SPECIFICATION CONTAINER: NO. DOT EXEMPTION NUMBER/DOD CERTIFICATION CONTROL NUMBER (CCN): 49 CFR 173.421-1 ADDITIONAL REQUIREMENTS FOR EXCEPTED PACKAGES CONTAINING CLASS 7 (RADIOACTIVE) MATERIALS & 49 CFR 173.422 EXCEPTIONS FOR INSTRUMENTS & ARTICLES. NET EXPLOSIVE WEIGHT: NO. LIMITED QUANTITY: YES. US POSTAL REGULATIONS: MAY BE MAILED.

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Regulatory Information
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SARA Title III Information:NONE SPECIFIED BY MANUFACTURER.
Federal Regulatory Information:NONE SPECIFIED BY MANUFACTURER.
State Regulatory Information:NONE SPECIFIED BY MANUFACTURER.

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Other Information
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