

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

NO.: NR294D102U

DATE: November 26, 1970

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DEVICE TYPE: Gas Chromatography Detector Cell

MODEL: CPO-659

MANUFACTURER/DISTRIBUTOR:

Fisher Scientific Co. - Dist.
711 Forbes Ave.
Pittsburgh, PA 15219

MANUFACTURER/DISTRIBUTOR:

Victoreen Instrument Co. - Mfr.
10101 Woodland Ave.
Cleveland, OH 44104

SEALED SOURCE MODEL DESIGNATION: Amersham/Searle Foil

ISOTOPE: Nickel-63

MAXIMUM ACTIVITY: 15 millicuries

LEAK TEST FREQUENCY:

PRINCIPAL USE: Ion Generators, Chromatography

CUSTOM DEVICE: ☐ YES ☒ NO

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DESCRIPTION:

The Victoreen Model No. CPO-659 is an electron-capture detector cell used in gas chromatography. The cell consists of 15 millicuries of nickel-63 plated on the inside surface of a cylindrical nickel or platinum foil. The foil is manufactured by Amersham-Searle Corporation and serves as the cathode in the detector cell. It is welded by Victoreen into a cylindrical glass lined ceramic insulator assembly through which the sample gas passes. The detector cell is contained in a metal housing which is known as an Electron-Capture Detector (Victoreen Model No. 4008-14 and Fisher Scientific Catalog No. 11-105-002). This housing, or Detector, serves as shielding for the source and contains the sample inlet and exhaust vents along with various electrical components. An Electron Capture Detector Kit (Victoreen Model No. 4400-001 and Fisher Scientific Catalog No. 11-100-001) consists of an Electron Capture Detector, Detector Oven Temperature controller and a power supply. The kits are used in Victoreen 4400 series gas chromatographs.

LABELING:

The detector assembly is labeled with a metal foil label indicating the type and quantity of radioactive material contained in the device. The label includes the words, "Caution Radioactive Material".

PROTOTYPE TESTING:

Prototype cells have been heated to temperatures of 800°C and subsequently leak tested. Wipe tests revealed a maximum of 0.002 microcuries of contamination.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

An instruction manual is provided with the device which contains precautionary information on licensing, radiation safety, leak testing, etc.

Customers are advised to return the detector to the factory for servicing unless properly licensed to perform their own servicing.

ISSUING AGENCY:

U.S. Atomic Energy Commission