

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES SAFETY  
EVALUATION OF DEVICE

NO.: NR-399-D-801-E

DATE: APR 15 1998

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DEVICE TYPE: Gas and Aerosol Detectors

MODEL: 27, 58, 62, 70, 75, 110/56A, and SF6B

DISTRIBUTOR: Ion Track Instruments, Inc.  
340 Fordham Road  
Wilmington, MA 01887

MANUFACTURER: Ai Cambridge LTD  
London Road  
Pampisford, Cambridge CB24EF

<u>ISOTOPE:</u>	<u>MAXIMUM ACTIVITY:</u>
Hydrogen-3	500 mCi (18.5 GBq)
Nickel-63	10 mCi (370 MBq)

LEAK TEST FREQUENCY: Not Required

PRINCIPAL USE: (N) Ion Generators, Chromatography

CUSTOM DEVICE: \_\_\_\_\_ YES  NO

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DESCRIPTION:

Models 27, 58, 62, 70, 75, and 110/56A are explosive detectors while model SF6B is a detector/chromatograph. These models may contain 10 millicuries (370 MBq) of Nickel-63 or 500 millicuries (18.5 GBq) of Tritium per detector cell. Model 70 incorporates two Model 58 detector cells in parallel to obtain increased sensitivity.

The Nickel-63 is deposited on a Nickel foil 10 mm x 24 mm (0.04 in x 0.09 in) coiled into a cylindrical shape with the active side inward and forced into the detector cell.

The Tritium is absorbed in Titanium which is electro-deposited onto a stainless steel foil. This foil is formed into a cylindrical shape and forced in the detector cell.

SAFETY ANALYSIS SUMMARY:

These devices were approved for distribution to persons who are exempt from licensing. The Model 75 was modified to incorporate the use of tamper-resistant screws and an outer protective cover to prevent easy access to the detector cell. We concluded that these devices were acceptable for licensing purposes as specified in this certificate.

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REFERENCES:

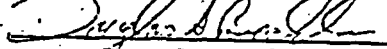
The following supporting documents for Model 27, 58, 62, 70, 75, 110/56A, and SF6B gas and aerosol detectors are hereby incorporated by reference and are made a part of this registry document:

- Ion Track Instruments, Inc. letters dated February 14, 1986, August 1, 1993, and March 20, 1997, information provided by mail on May 14, 1997, and facsimile dated November 14, 1997, with enclosures thereto.

ISSUING AGENCY:

U.S. Nuclear Regulatory Commission

Date: APR 15 1998

Reviewer:   
Douglas A. Broaddus

Date: APR 15 1998

Concurrence:   
Steven L. Baggett