

**REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE
(AMENDS IN ITS ENTIRETY)**

NO.: NC-585-S-102-S

DATE: February 19, 2007

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DEVICE TYPE: Self-illuminated Hydrogen 3 (Tritium) Lamps

MODEL No.: See below

MANUFACTURER: SRB Technologies (Canada), Inc.
320-140 Boundary Road
Pembroke, Ontario
K8A 6W5

DISTRIBUTOR: SRB Technologies, Inc.
2580 Landmark Drive
Winston Salem NC 27103

ISOTOPE Hydrogen 3 (Tritium)

TYPE OR MODEL #	CONFIGURATION	MINIMUM ACTIVITY PER CAPSULE	MAXIMUM ACTIVITY PER CAPSULE
Type A	Arc Cylinder	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type B-H	Square	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type C	Cylinder, Single Pip	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type D	Disc, Radial Pip	0.005 Curie (.185 GBq)	10 Curies (37 GBq)
Type F	Disc, Axial Pip	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type MH	Miniature Cylinder, Laser Cut, No Pip	0.005 Curie (.185 GBq)	0.7 Curies (2.59 GBq)
Type R	Rectangular, Single Pip	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type RH	Miniature Rectangular, Laser Cut, No Pip	0.005 Curie (.185 GBq)	0.7 Curies (2.59 GBq)
Type S	Sphere, Single Pip	0.005 Curie (.185 GBq)	10 Curies (37 GBq)
Type SW	Sphere Painted (Window)	0.005 Curie (.185 GBq)	10 Curies (37 GBq)
Type CD	Curved Dome	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type AR	Arc Rectangular, Single Pip	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type RF	Rectangular, Single Pip	0.005 Curie (.185 GBq)	5 Curies (18.5 GBq)
Type Q	Special Shape Crescent Tube Within Tube	0.005 Curie (.185 GBq)	10 Curies (37 GBq)

LEAK TEST FREQUENCY: None Required

PRINCIPAL USE: (W) Self Luminous Light Sources

Distribution of sources to manufacturers that possess appropriate NRC or Agreement State Specific Licenses, for use in approved products.

CUSTOM DEVICE: _____ YES _____ **X** NO

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DESCRIPTION:

Self-powered Hydrogen 3 sealed glass capsules. All sealed glass capsules meet ANSI – N540 standards. All light sources are manufactured by SRB Technologies (Canada) Inc., Pembroke Ontario, Canada, and are imported into the United States through the Winston Salem, North Carolina Facility. **Glass capsules manufactured by SRB Technologies (Canada), Inc. may be filled with tritium by Shield Source Canada, or mb-microtec ag. The capsules are then sent to SRB Technologies, Inc. for final quality assurance and incorporation into various devices.**

LABELING:

The lamps or glass capsules are not labeled. The shipping containers are labeled with the standard radiation symbol and the words “Caution – Radioactive Material.”

DIAGRAM:

See Attachment 1 for drawings of the shapes for the first 13 sources
See Attachment 2 for the drawing of the shape of the Type Q source.

CONDITIONS OF NORMAL USE:

The lamp source(s) should be used in its/their approved and respective housing(s) to protect the lamp from breakage.

PROTOTYPE TESTING:

Source prototype testing conforms to the British M Ministry of Defense Standard DEF 62-4 Issue 3 and meets ANSI – N540 standards.

EXTERNAL RADIATION LEVELS:

There should not be any radiation exposure from these sources since the radiation does not penetrate the glass capsule.

QUALITY ASSURANCE AND CONTROL:

A statistical sample based on MIL-STD-105D is taken from each batch of capsules and is checked for:

1. Internal Volume +/- 5%
2. Glass integrity, phosphor thickness and uniformity, brightness, surface contamination, absence of tritium leakage.
3. Light is stored for 24 hours, heated between 450 - 480 degrees Centigrade for five (5) minutes, and then is allowed to cool and is tested for tritium leakage.

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QUALITY ASSURANCE AND CONTROL (continued):

4. All lights are checked for correct dimensions and brightness to a calibrated standard.

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

Distribution: This device will be distributed as a specifically licensed device in accordance with the requirements of section .0300 of 15A NCAC 11 and/or applicable regulations of the NRC or an Agreement State. This shall not preclude the exportation of this device to a foreign entity following the applicable regulations.

Leak Testing: None Required

Servicing: None Required.

Dosimetry: None Required.

Operating and Safety Instructions: The devices shall be installed in their approved source holders, in accordance with the recipient's assembly procedures. The end user should not attempt to remove the sources from the luminous devices.

Reviewer Note: This registration sheet and the information contained within the references shall not be changed without the written consent of the **North Carolina Radiation Protection Section, Radioactive Materials Branch.**

SAFETY ANALYSIS SUMMARY:

The various lamps listed in this registry have been safely manufactured and distributed for decades. The lamps conform to the required prototype tests, and undergo rigorous quality assurance and control testing.

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REFERENCES:

The following supporting documents are hereby incorporated by reference into this SS&D registry document:

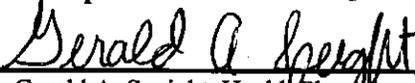
1. SRB Technologies, Inc. documents, drawings, tests and test results, quality control documents, licensing documents, inspection results, etc., held by the North Carolina Department of Environment and Natural Resources, Radiation Protection Section.
2. Sealed Source and Device Registry NC-585-S-102-S dated October 1991.
3. Completed questionnaires dated March 30, 2004, and April 19, 2004, both signed by Jim Roberts, President, SRB Technologies, Inc.
4. Letter dated August 29, 2005, signed by Brian G. Pullen, President and RSO.
5. **Letter with attachment dated February 13, 2007, signed by Brian Pullen, President, SRB Technologies, Inc.**

ISSUING AGENCY:

North Carolina Radiation Protection Section, Radioactive Materials Branch.

This Sealed Source & Device registry certificate is hereby amended February 19, 2007.

Principal Reviewer



Gerald A. Speight, Health Physicist

Date: February 19, 2007

Concurrence Reviewer:



J. Marion Eaddy, Health Physicist

Date: February 19, 2007

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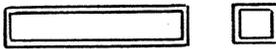
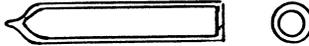
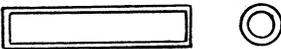
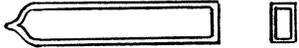
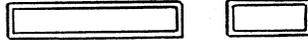
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ATTACHMENT: 1 of 2

DEVICE TYPE: Self-illuminated Hydrogen 3 (Tritium) Lamps

Drawings for Types A, BH, C, D, F, MH, R, RH, S, SW, CD, AR & RF type Tubes

TYPE	SHAPE
A	
BH	
C	
D	
F	
MH	
R	
RH	
S	
SW	
CD	
AR	
RF	

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Drawing for Type Q

