




Self-Powered Radioactive EXIT Sign


EXIT signs that do not require electricity may contain radioactive material and require special handling and attention from the Building Manager. These are examples of the EXIT Signs:

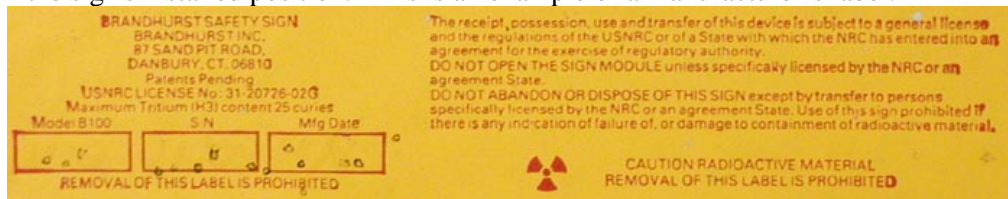
What the Building Manager Needs to Do



- ✓ Survey your building for radioactive (tritium-containing) EXIT signs, using the identification criteria described below; Note that installation or replacement of Tritium Exit signs requires prior approval from the [Radiation Protection Office](#).
- ✓ Create an inventory of these signs, including location, and make sure it is available to building operations personnel;
- ✓ Notify the [Radiation Protection Office](#) (RPO) at (617-49)6-3797 if you have radioactive EXIT signs, or if you need help with identification. Radiation Protection must register the signs with appropriate authorities;
- ✓ Ensure that the sign is securely installed, and that the radioactive trefoil label  is not defaced or obscured; the label should be readily visible to service personnel.
- ✓ Do not dispose of tritium-containing EXIT signs: **these signs must be reclaimed through a licensed vendor**. Contact the RPO at (617-49)6-3797 for instructions;
- ✓ Immediately report lost or damaged signs to the Radiation Protection Office;
- ✓ If the building is sold, transfer the inventory and a copy of regulatory requirements to the new owners. Notify the RPO of the transfer. Regulations require notification of the MA Radiation Control Program.

How to Identify Self-Powered EXIT Signs

1. Look for the words "Caution Radioactive Materials" and/or the radiation trefoil symbol . All Radioactive EXIT signs have these markings, such as the one below, when manufactured and sold. The markings are most often found on the bottom, but may be on the side, back or, rarely, on the inside. They may not be visible in the sign's installed position. This is an example of a manufacturer's label:



2. Note that electrically powered EXIT signs have wires or electrical connectors attached, and a fixture for a fluorescent or incandescent bulb; they do **not** contain radioactive materials.
3. "Photoluminescent" signs are another type of self-powered sign (typically flat plastic signs about 1/8" thick) and do **not** contain radioactive materials.
4. If in doubt, contact the Radiation Protection Office at (617-49)6-3797.

Regulatory Requirements

Radioactive EXIT signs are manufactured and distributed under a General License issued by the Nuclear Regulatory Commission. Details about applicable regulations are found on the [NRC Website](#). The practical requirements are summarized in the 'Needs to Do' section, above. Note that Material Safety Data Sheets (MSDS) are not used for radioactive materials.

University Policy

All radioactive materials, including EXIT signs and smoke detectors, must be registered with the [Radiation Protection Office](#) at (617-49)6-3797. Radioactive EXIT signs may only be used when approved by the RPO. More information may be found in the [Radiation Safety Manual](#).

Hazard Analysis

Intact radioactive EXIT signs are **not** a radiological hazard. EXIT signs contain Tritium (^3H) gas sealed in borosilicate glass tubes. The radioactive gas is not released unless the internal glass tubes are broken or cracked. Tritium emits low energy radiation (beta) particles that cause a phosphor lining inside the tube to emit light. The radiation particles can only travel a quarter inch in air and cannot penetrate the glass tubes.

If you break an EXIT sign, evacuate and ventilate the area. Immediately notify the RPO.

If you find a sign that was previously broken there is no need to ventilate, but the immediate area should be evacuated as a precaution until it can be inspected by the RPO.

Handling the Signs

No special precautions are required to handle intact signs, other than to handle carefully to avoid breakage. When signs are removed, place signs in a cardboard carton, label the carton "DO NOT DISPOSE – Contains Radioactive Material", lock the carton in a secure area and call the Radiation Protection Office. The RPO will collect the carton for reclamation of the tritium gas.

Signs may only be shipped off campus by the Radiation Protection Office to ensure compliance with Department of Transportation and Nuclear Regulatory Commission regulations and the device registration requirements.

Replacement/Reclamation Information

The RPO charges a fee to collect and recycle the signs, based on actual costs. If you are purchasing a replacement self-powered EXIT sign consider using this vendor:

SRB Technologies, Inc. - USA
P.O. Box 25267
Winston-Salem, NC
27114-5267
Phone: (800) 552-0098
Fax: (336) 768-7720
<http://www.srbtechnologies.com/>

SRBT will recycle a radioactive self-luminous EXIT sign free of charge, if replaced by a SRBT sign. If it is not replaced there is a service charge.

For more information call the Radiation Protection Office at (617-49)6-3797 or email to radiation_protection@harvard.edu.