

RADIOACTIVE SELF-LUMINOUS EXIT SIGNS FACT SHEET



What are radioactive self-luminous exit signs?

These exit signs contain a radioactive gas, called tritium, which is combined with chemicals, creating a self-powered light source without electrical power or batteries. These exit signs are available for purchase in the United States, and are licensed in Utah by the Division of Waste Management and Radiation Control. The signs are generally safe to use and handle; however, contamination can occur if the signs are broken.

Can radioactive self-luminous exit signs be used at the University of Utah?

Because of the high cost and liability associated with disposal and contamination, the University's Radiation Safety Committee has directed that these signs should only be used when no reasonable alternative is available. Current disposal costs are around \$150 for an undamaged sign. There have been incidents in which signs have been damaged and cleanup costs have exceeded \$100,000. These signs can currently be found around some University buildings and parking structures, as there previously were fewer restrictions on their purchase and use. Prior approval from the University's Radiation Safety Committee is required to purchase, replace, dispose, or use radioactive exit signs.

What are the responsibilities of sign possession?

The University is committed to being in full compliance with all applicable rules and regulations. Radioactive signs must be tracked and inventoried every six months, and properly disposed. If a radioactive sign is damaged or lost, regulatory agencies must be notified. Please contact Radiation Safety at 1-6141 if you are aware of a sign being purchased, in-use, misused, vandalized, abandoned, or missing.

Tritium exit signs may never be put into ordinary trash.

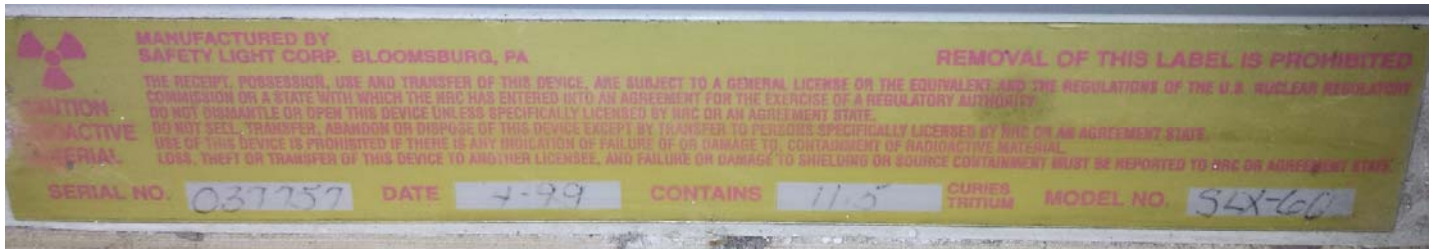
What are the risks associated with the use of these signs?

Health risks from exposure to tritium is low. Accidental exposure from inhalation, skin absorption, or ingestion can pose a potential health risk to individuals. Tritium exposure has been linked to developmental, reproductive and genetic abnormalities and other health problems in laboratory animals. The radiation from tritium is too weak to present a radiation hazard outside of the human body. Internal contamination to tritium is the primary health concern.

Tritium is also an environmental concern. Tritium contamination has been found in landfill runoff, which can move into groundwater. While it is not possible to confirm the exact sources of the observed tritium in landfill runoff, the EPA reports that tritium exit signs have been, and continue to be, illegally disposed of in landfills.

How do I identify a radioactive self-luminous exit sign?

These exit signs have a yellow radioactive material label on them. The label is often on the bottom or edge. The radiation trefoil symbol is usually visible. Other identifying information about the specific sign can also be found. Signs which are very old, or have been sun exposed, may have labels that have faded or that are missing.



Radioactive signs measure around 14" X 8.5" X 1.5" and are usually green, but may also be red. Luminescent signs less than 1/4" thick are not radioactive. Signs that are hardwired or have batteries are not radioactive. Signs with fluorescent or incandescent bulbs are not radioactive. Please contact Radiation Safety at 1-6141 for assistance in identifying signs.

What should I do if I identify a radioactive self-luminous exit sign?

Please notify Radiation Safety at 1-6141. Please note that radioactive signs that are already tracked will be marked with an "ATTENTION" sticker with a three-digit inventory number. It is not necessary to notify us of these tracked signs.



What should I do if I damage, or find a damaged, radioactive self-luminous exit sign?

Please immediately contact Radiation Safety at 1-6141. After hours, contact Campus Security at 5-2677 (5-COPS) and ask them to contact a Radiation Safety representative. If you break a radioactive exit sign, please ventilate, if feasible, and ask others to leave the area with you. As soon as possible, wash face and hands with warm water and gentle soap, but do not scrub the skin. Do not attempt to clean up the sign or the surrounding area unless specifically directed to do so by Radiation Safety.

If a tritium exit sign is broken, leave the area immediately, and contact Radiation Safety at 1-6141 or Campus Security at 5-2677 (5-COPS).

What alternatives to radioactive self-luminous exit signs are there?

Most buildings in the United States are required by building codes to provide exit signs to mark the means of egress and assist people in quickly evacuating a building during a fire, or other event. Exit signs must work even if a building loses power. An alternative to radioactive exit signs, which do not require electricity, are photoluminescent. Those that are powered by electricity, including battery operated, are LED, fluorescent, incandescent, and electroluminescent.