

## Radtrak® Long-Term Radon Monitoring

Radtrak is an alpha-track radon gas detector designed to monitor radon exposure for three months to one year to obtain a long-term average concentration over time. Landauer service includes the Radtrak detector, comprehensive analysis, and a confidential report of the findings. Radtrak can be packaged for indoor or outdoor area monitoring or personnel monitoring.

Landauer is the leader and pioneer in radon gas detection and monitoring service. Since 1954, our scientists have been involved with the development of radiation monitoring services for nuclear research centers and laboratories, hospitals, medical and dental offices, universities, and other industries where radiation might be present. This experience and technology have been incorporated into Landauer's highly accurate Radtrak radon detector using our exclusive Track-Etch® process. Radtrak radon detectors are used by the Environmental Protection Agency, the National Institutes of Health, the American Lung Association, and many other government and professional organizations.



Radtrak measures the average radon concentration at the location of the detector during the monitoring period. The alpha-track detector has, inside the plastic housing, a radiosensitive element that records alpha particle emissions (alpha tracks) from the natural radioactive decay of radon.



When the detector is returned to Landauer's laboratory, the alpha tracks are counted using computer-assisted image analysis equipment. The number of alpha tracks along with the deployment time period provides the basis for calculating the average radon concentration. The report with the radon gas measurement, reported in picocuries per liter of air (pCi/l), is mailed within seven to ten days after receipt of detector.

### Thoron Proof Filter

Upon request, a detector can be fitted with a thoron proof filter that provides measurement of Rn 222 only.

### Technical Specifications

- The radiosensitive element is a CR-39 (allyl diglycol carbonate) based, passive alpha-track detector.
- The CR-39 is enclosed in a plastic housing composed of electrically conducting material with filtered openings to permit diffusion of radon gas only.
- Minimum level of detection is 30 pCi/l days i.e., 0.33 pCi/l based on 90 days.
- Detectors, before, during or after exposure, should not be in locations that exceed a temperature of 160°F (70°C).
- Radtrak detectors are packaged in film-foil bags that meet Military specification MIL-B-131, Class 1 to prevent exposure prior to use.
- A metallic label is provided for each detector to seal the filtered openings following the exposure period to minimize subsequent exposure to radon during the return shipment to Landauer's laboratory.
- Each detector is identified by a unique serial number laser engraved on the CR-39, printed and bar coded on the outside of Radtrak, and the film-foil bag.

### Indoor Use

Monitoring indoors requires placing the detector in an upright position on a flat surface, or it may be hung from a joist or ceiling with the detector's hanger strip included with the shipment. The U.S. Environmental Protection Agency recommends the detector be placed in the lowest lived-in level of the home. It should be placed in a room that is used regularly but not a kitchen or bathroom. States or other organizations may have differing recommendations. Contact your state agency if you have a question regarding placement.

### Outdoor Use

For monitoring outdoors, the detector is fastened to the bottom of a clear plastic cup. The cup is then installed inside a protective canister that has been attached to a post or other location. The protective canisters are sold separately.



### Personnel Monitoring

The personnel monitor comes with a clip that easily attaches to the detector and securely fastens to clothing.



For more information on radon, refer to the U.S. Environmental Protection Agency's publication "A Citizen's Guide to Radon" at <http://www.epa.gov/iaq/radon/pubs/citguide.html> or contact your state department of health.