Proper Disposal

Smoke Detector Disposal

A Guide to Doing it right in Lawrence and Mercer Counties

About Smoke Detectors

There are two types of smoke detectors: ionization and photoelectric. Ionization smoke detectors, the most common type, use a small amount of radioactive material known as Americium-241 to detect smoke. Photoelectric types do not contain any radioactive material.

The law requires smoke detectors containing radioactive material to have a warning label.

Statistics by the United States Fire Administration state the risk of dying from a home fire is cut in half in homes with working smoke detectors. The devices should be tested monthly and batteries replaced yearly, or as soon as you hear a low-battery warning which usually sounds like a "chirping" noise.

Smoke Detector Radiation

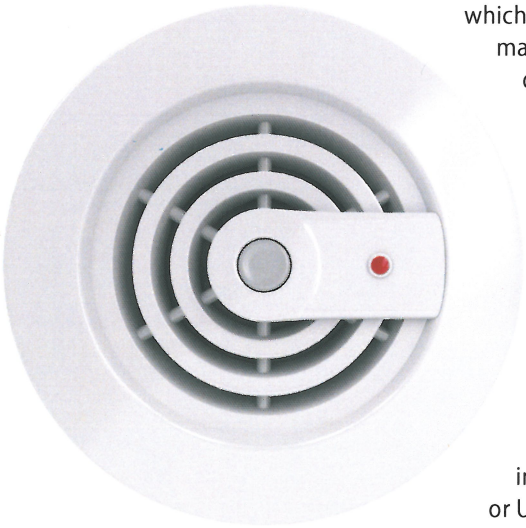
The Americium-241 used in smoke detectors is bonded to a metallic foil that is sealed inside the ionization chamber. According to the Nuclear Regulatory Commission (NRC), this presents no hazard to users as long as it is undisturbed. The ionization chamber seal can only be broken by the deliberate use of force, such as taking a hammer to the smoke detector. Never disassemble or take apart your smoke detector.

The yearly dose of radiation from a home containing two smoke detectors can be compared to the background radiation that people receive from the earth and space. The NRC suggests the amount of radiation that escapes from a modern smoke detector is roughly 3,000 times less than the normal background radiation exposure measured three feet from the detector.

Warning labels on ionization smoke detectors may have this international symbol for radiation.

Safe Disposal Options for Smoke Detectors

The radioactive material in a smoke detector can become a problem if the detector is not properly disposed. Smoke detectors placed in the trash or burned will release their radioactive material into the environment. This holds true for any chemical or potentially hazardous material, which is why proper disposal is important. When it comes to waste and the environment, there is no "away."



The life expectancy of smoke detectors is about 10 years, after which their sensors can begin to lose sensitivity. The manufacture date is located on the back of your smoke detector. Remove the smoke detector from the wall or ceiling to check the date of manufacture. Replace the smoke alarm with a new one if the unit is more than 10 years old or the test alarm does not work.

You can return your old or unneeded smoke detector to the original manufacturer for disposal as hazardous waste. Locate the brand name and/or address on the back of the device, or find the information in the user's manual. After removing the battery, return the entire unit intact with a note indicating that the device is intended for disposal. Send detectors by surface mail or UPS Ground so they don't travel by airplane.

Lawrence-Mercer

Recycling/Solid Waste Department

For questions or more information, check out our website www.co.lawrence.pa.us/recycling and Facebook page or contact us directly at 724-658-6925.