



GRAND TRAVERSE METRO FIRE DEPARTMENT

FIRE OFFICE 897 Parsons Road – Traverse City, MI 49686
Phone: (231) 947-3000 Fax: (231) 947-8728 – Website: www.gtmetrofire.org Email: Info@gtmetrofire.org

Disposal of Smoke Detectors

Hazards

- The most common type of smoke detector is an ionization detector, which contains a small amount (2 microcuries) of Americium 241, a synthetic isotope which emits both alpha and gamma rays. Each smoke detector contains about 1 microcurie (about 1/ 5000 of a gram) of Americium shielded inside of your detector. The ingredient is shielded by a metal chamber within the plastic casing of the detector. On your wall, this material poses little threat; however, when a detector is broken open in an incinerator or a landfill, it can present a health hazard. For this reason, all detectors, by law, must be labeled as to radioactive content. Detector companies must accept returned radioactive detectors for disposal as hazardous waste.
- The alpha particles emitted from the detector penetrate the air no more than a few centimeters. The gamma radiation is a low intensity ray, and much of it is blocked by the casing of the detector. According to the Nuclear Regulatory Commission, the amount of radiation that escapes the detector is roughly 3000x less than normal background radiation exposure rates, at 1 meter from the alarm. Background radiation rates consist of the radiation from everyday sources, (the sun, rocks, soil, air, etc.). The only possible health risk is if the Americium 241 is inhaled. So, make sure not to disturb, poke or play with the ingredient in your ionization detector.



Handling

- Do not crush smoke detector.

Management Options

- Although it is legal to dispose of your ionization detector in the trash, we encourage you to return the product back to the manufacturer. They are mandated by the Nuclear Regulatory law 10 CFR 32.27 to see that the radioactive waste is disposed at a nuclear waste disposal facility. When sending back a smoke detector, you should NOT take it apart. The entire smoke detector needs to be returned to the manufacturer or store by UPS ground mail (not airmail). The batteries, however, should be removed and properly disposed of or recycled. No special shipping is needed for your smoke detector: just put it in a box, maybe with some newspaper for padding, and send it.

- If unable to return smoke detector to manufacturer, remove battery from smoke detector and deliver battery to household hazardous waste disposal event or facility; dispose of smoke detector in the garbage if no other options exist.