

Disposal of Fire/Smoke Detectors

Introduction

Depending on where you live and what type of fire or smoke detector you need to dispose of, there may be regulations that apply to the disposal of scrap detectors.



Contents

Understanding

Types of Smoke Detectors	2
What type do you own?	2

Take Action

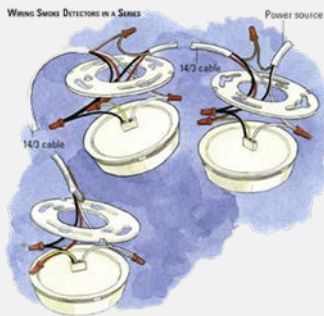
Recycling	3
Disposal Factors/Guidance	3
Disposal (Ionization)	4



Types of Smoke Detectors

The two types of smoke detectors most commonly encountered in the United States are ionization detectors and photoelectric detectors. Ionization-type smoke detectors contain a very tiny amount of radioactive material. Photoelectric-type smoke detectors do not contain any radioactive material. Combination smoke detectors, which contain both ionization and photoelectric smoke sensors, also contain a very tiny amount of radioactive material.


“A smoke detector is a device that detects smoke, typically as an indicator of fire. Household detectors, known as smoke alarms, generally issue a local audible or visual alarm from the detector itself.”



What type do you own?

If a smoke detector contains radioactive material, it is required by law to have a warning label on the body of the smoke detector. The label is usually located at the “top” of the detector, facing the mounting base that attaches to the ceiling or wall. Remove the smoke detector from its base, and look at the label. A typical label might read:

This product is designed to detect products of combustion using ionization technology. It contains 0.9 microcurie of Americium 241, a radioactive material.

 The label may have the international symbol for radiation on the label.

If a smoke Detector does not include either the warning or the radiation symbol on the label, and if there is no evidence that the label has been removed or destroyed, it is safe to assume that the device does not contain any radioactive material. If the label has been removed or destroyed, it is best to treat the device as if it is an ionization unit, and dispose of it as described below.



Recycling Electronic Devices

Recycling is almost always preferable to disposal in a landfill or an incinerator. According to the U.S. Environmental Protection Agency (EPA), recyclers recover more than 100 million pounds of materials from electronics each year. For up-to-date information on recycling of electronics (eCycling), visit the EPA's eCycling Web page: <http://www.epa.gov/epawaste/consERVE/materials/ecycling/basic.htm>

To locate a recycling facility for electronics in your area, visit the Web site of the Institute of Scrap Recycling Industries (ISRI), Electronics Recycling Industry: <http://www.isrielectronics.org/search/>

Many States and municipalities offer periodic recycling opportunities for electronic devices and/or smoke detectors. Check with your State or local solid waste disposal authority for the most current local guidance.

Disposal of Fire and/or Smoke Detectors

Regulatory Factors: Federal regulations do not address the disposal of smoke detectors, heat detectors, flame detectors and/or other types of fire detection systems and/or components. However, there may be State or local requirements applicable to disposal of ionization smoke detectors; see Disposal of Ionization Smoke Detectors for more information.

General Guidance: Recycling is the preferred option for disposal of all fire alarm components. The Recycling Electronic Devices section of this Tech Talk provides information about recycling of electronics. In the absence of state or local regulations to the contrary, scrap fire detection and alarm system components may be disposed of in the normal municipal waste stream.



Disposal of Ionization Smoke Detectors

Ionization smoke detectors containing less than 1 μCi of Americium-241 are exempt from Nuclear Regulatory Commission regulations. This means that Federal Law does not prohibit their disposal in the normal municipal waste stream. There are, however, a number of State and local regulations and/or laws that do prohibit disposal of ionization smoke detectors in the municipal waste stream. Contact the local solid waste management authority for up-to-date information about local regulations or directives.

Older ionization detectors that contain more than 1 μCi of Americium-241 are subject to regulation by the NRC, and they are subject to more stringent requirements. Smoke detectors with 5 μCi or more of Americium-241 should never be disposed of in the municipal waste stream. Some State Radiation Control Programs conduct an annual roundup of ionization smoke detectors similar to the roundup of batteries or hazardous household chemicals. Other State or local governments recommend that you return the unneeded smoke detectors to the manufacturer. The address of the manufacturer is usually listed in the product warranty or user's manual.

Be sure to remove any battery from the smoke detector and dispose of it at a hazardous waste disposal event or facility.

Caution! Never disassemble or take apart ionization smoke detectors!

If the amount of Americium-241 in the detector is:

Then dispose of the detector in this way:

Less than 5 μCi

These smoke detectors should be recycled if possible. (The *Recycling Electronic Devices* section of this Tech Talk provides information about how to recycle unneeded electronics.) Alternately, unless State or local regulation requires otherwise, they may be disposed of as normal municipal waste.

More than 5 μCi

These smoke detectors must be returned to the manufacturer for proper disposal. The **entire** smoke detector needs to be returned to the manufacturer by ground mail; not via airmail. Contact the manufacturer directly, and they will provide instructions regarding the special packaging and