

# Ionization Smoke Detectors

## Off-Site Source Recovery Program Fact Sheet

### Background:

Smoke detectors are a common household item. One type, ionization smoke detectors, use a small radioactive source as a key component for detection of smoke particles. The radionuclide used in ionization smoke detectors is americium-241 (Am-241), which is bonded to a metallic foil and sealed within a small chamber. As long as you use the smoke detector as directed and do not open it, it poses no radiation health risk. Photoelectric smoke detectors use a light and sensor to detect smoke and do not contain radioactive material. Many smoke detectors may use both ionization and photoelectric features to achieve maximum detection.

### What to look for:

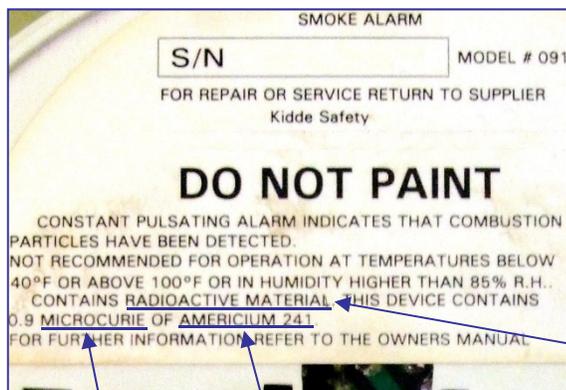
Unfortunately, not all smoke detectors are marked the same. Different indicators may be used to determine if the smoke detector contains radioactive material or not. Observe the labels and markings on the original packaging or on the back of the smoke detector; and refer to the owners manual. If you see any of the following, the device does indeed contain radioactive material:

- The radiation symbol in any size or color -- 
- Any of these words: "Radioactive," "Ionization," "Americium," "microcurie," "becquerel," or "Nuclear Regulatory Commission"
- Any of these abbreviations: "Am-241," "μCi," "kBq," or "NRC"

If none of these markings occur, chances are the detector is photoelectric only and does not contain radioactive material.

*[Please see the back of this fact sheet to find out what to do with unwanted ionization smoke detectors.]*

## Common Markings



This smoke alarm's manufacture and distribution are licensed by the U.S. Nuclear Regulatory Commission.

"Nuclear Regulatory Commission"

Radiation Symbol

"Am-241,"  
"μCi," or "kBq"

"Radioactive Material"

"microcurie" or "Americium"

"Ionization"



## What to do with old ionization smoke detector?

Never tamper with an ionization smoke detector or attempt to remove the radioactive source. Besides the obvious potential for spread of radioactive contamination, once the americium source is removed from its holder it becomes extremely difficult to arrange proper disposal.

Some municipalities allow exempt, non-regulated quantities of radioactive material such as smoke detectors to enter their landfills. However, not all municipalities authorize disposal of ionization smoke detectors, or they may have specific limitations. Therefore, OSRP recommends that all unused ionization smoke detectors be returned to the manufacturer or distributor.

Company contact information is provided in the owners manual; and the name and/or address of the manufacturer also usually appears on the back of the detector. Contact information for several manufacturers and distributors of smoke detectors is provided below. Perform an Internet search for smoke detector brand names not shown. You may also be able to return unused devices to the retail store (e.g., Sears, Radio Shack) where the purchase was originally made.

## Partial List of Manufacturers/Distributors:

Brand Name	Company	Website	Phone
<ul style="list-style-type: none"> <li>• American Sensors</li> <li>• BRK Brands</li> <li>• Family Guard</li> <li>• First Alert</li> <li>• Garrison</li> <li>• North American</li> </ul>	Dicon Global	<a href="http://www.nadi.com">www.nadi.com</a> <a href="http://www.firstalert.com">www.firstalert.com</a>	(800)387-4219 (800)323-9005
<ul style="list-style-type: none"> <li>• Firex</li> <li>• Code One</li> <li>• Maple Chase</li> <li>• UNI-LINE</li> </ul>	Invensys Controls	<a href="http://www.icca.invensys.com">www.icca.invensys.com</a>	(800)445-8299
<ul style="list-style-type: none"> <li>• Gentex</li> </ul>	Gentex	<a href="http://www.gentex.com/fire_protection.html">www.gentex.com/fire_protection.html</a>	(800)436-8391 (616)392-7195
<ul style="list-style-type: none"> <li>• Honeywell</li> </ul>	Honeywell	<a href="http://www51.honeywell.com/honeywell">http://www51.honeywell.com/honeywell</a>	(800)328-5111
<ul style="list-style-type: none"> <li>• Kidde</li> <li>• Fynetics</li> <li>• LifeSaver</li> <li>• Nighthawk</li> </ul>	Kidde	<a href="http://www.kidde.com">www.kidde.com</a>	(800)880-6788
<ul style="list-style-type: none"> <li>• Masterguard</li> </ul>	Masterguard	<a href="http://masterguard.com">http://masterguard.com</a>	(972)393-1700
<ul style="list-style-type: none"> <li>• System Sensor</li> </ul>	System Sensor	<a href="http://www.systemsensor.com">www.systemsensor.com</a>	(800)736-7672 (630)377-6580
<ul style="list-style-type: none"> <li>• Triad Safety Systems</li> </ul>	Triad Safety Systems	<a href="http://www.triadsafetyinc.com">www.triadsafetyinc.com</a>	(800)240-7681 (308)236-7062

*Contact the manufacturer before sending old smoke detectors. Some manufacturers have special return requirements.*



### Contact the OSRP Office:

**Email:** [osrp@lanl.gov](mailto:osrp@lanl.gov)  
**Phone:** 505.606.0362  
**Toll Free:** 877.676.1749  
**Fax:** 505.665.7913

**Do Not  
Dismantle  
Smoke  
Detectors**

**Do Not  
Remove the  
Radioactive  
Material**