









# M E R T T Hazard Recognition

## notes

The following labels may be used on packages used to transport radioactive material:

**Radioactive White-I:** minimal radiation levels detectable outside the package.

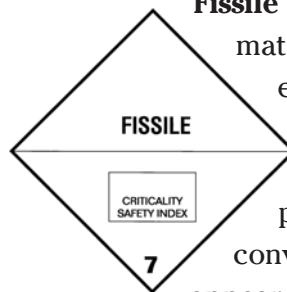


**Radioactive Yellow-II:** medium-level radiation levels detectable outside the package.

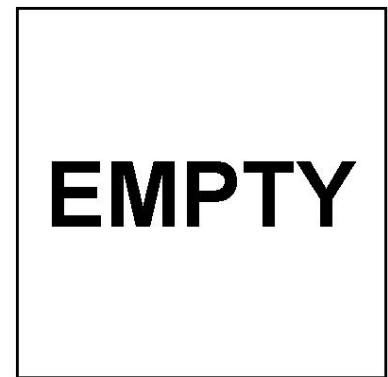
**Radioactive Yellow-III:** highest radiation levels detectable outside the package.



**Fissile Label:** applied to packages that contain fissile materials<sup>3</sup>. The Criticality Safety Index (CSI) for each package will be noted on the label. The CSI is displayed on the label to assist the shipper in controlling how many fissile packages can be grouped together on a conveyance. When applicable, the fissile label will appear adjacent to the radioactive material label.



**EMPTY:** applied to packages that have been emptied of their contents as far as practical but may still contain regulated amounts of internal contamination and minimal radiation levels detectable outside the package.



<sup>3</sup> Fissile materials are composed of atoms that can be split by neutrons in a self-sustaining chain-reaction (criticality) to release enormous amounts of energy. Special controls are placed on fissile materials during transportation to ensure nuclear criticality safety.





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The standard placard for radioactive material is square-on-point and is yellow on top and white on the bottom, with black lettering and a black radiation symbol in the yellow portion. Standard size is approximately 11 x 11 inches. In the bottom corner, the DOT hazard class number “7” denotes radioactive material.



There is one other type of radioactive placard that you may encounter on highway shipments. It looks like the standard placard, except that it has a white square background and a black border. This placard represents a “Highway Route Controlled Quantity” (HRCQ) shipment. HRCQ shipments contain higher quantities of radioactive material and require special controls during transport. Special controls include operating highway vehicles over “preferred routes.”







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### Secondary Hazards

Responders should always be alert for the presence of secondary hazards at an incident site. These secondary hazards can come from other possible sources such as other hazardous material carried on the vehicle or external factors such as downed power lines, spilled fuel, etc. If you observe a radioactive placard, do not let this distract you from looking for additional placards on the vehicle. Be aware that some radioactive material may have other hazardous properties. For instance, they may be contained in a compressed gas or contain corrosive chemicals.

Remember that radioactive placards may not indicate the only hazard(s) on the vehicle. Don't get "tunnel vision" about radiation; it is important to look for spilled fuel, downed power lines, etc., since these may pose a more immediate hazard than the radioactive material.





# Check Your Understanding



1. Package \_\_\_\_\_ and labels are designed to inform transportation workers and emergency response personnel about a package's radioactive contents.
2. Orientation arrows on the outside of a package are a good indication that the package contains \_\_\_\_\_.
3. All packages of radioactive material require radiation-warning labels. True/False.
4. Which of the following is true regarding the use of radiation-warning labels?
  - a) Radiation-warning labels are only used on medical shipments
  - b) When required, they will appear on opposite sides of the package
  - c) All shipments of radioactive material require radiation-warning labels
  - d) Radiation-warning labels are placed on vehicles transporting radioactive material
5. The \_\_\_\_\_ label is applied to packages that, after being emptied of their contents, may still contain a regulated amount of internal contamination.
6. Placarding is required on all shipments of radioactive material. True/False.
7. The standard placard for radioactive material is \_\_\_\_\_ on top and \_\_\_\_\_ on the bottom, with black lettering and a black radiation symbol. In the bottom corner, the DOT hazard class number \_\_ denotes radioactive material.

## M E R R T T



## ANSWERS

1. markings
2. liquids
3. False
4. b
5. empty
6. False
7. yellow
7. white