

HAZMAT Employee Training

D.O.T. Radioactive Material Shipments #7

(11/2010)

HAZMAT EMPLOYEE: _____ TRAINING DATE: _____

1. Hazardous Materials Regulations (HMR) originate from the following government agency:
 - a. U.S. Nuclear Regulatory Commission
 - b. Department of Transportation
 - c. Department of Homeland Security
 - d. Environmental Protection Agency

2. Because you receive radioactive material (RAM) and/or prepare/package RAM for transport you are considered:
 - a. A Haz Mat Employee
 - b. A very lucky person
 - c. Nuclear Medicine Technologist
 - d. Shipping guru

3. HazMat training is required for you at the following interval(s):
 - a. Prior to assuming duties involving RAM
 - b. Within 90 days of employment / Annually thereafter
 - c. Annually
 - d. Within 90 days of employment / Every three (3) years thereafter

4. Which of the following is **NOT** a topic that must be included in Haz Mat training?
 - a. General awareness / Familiarization with HMR
 - b. Management Training
 - c. Safety Training
 - d. Security Awareness Training



Questions 5 - 9 specifically concern the signs noted above

5. The “Contents” notation on each label must indicate:
 - a. Vial or Syringe
 - b. Liquid or Solid
 - c. All Radionuclides in the container
 - d. mR/hr at one meter

6. The “Activity” notation must be recorded in the following units:
 - a. Bq
 - b. dpm
 - c. Ci
 - d. cpm

7. “Transport Index” is a measure of the following:
 - a. Activity noted at one meter from container
 - b. Exposure rate noted at one meter from container, excluding units
 - c. Exposure rate noted at one meter from vehicle, excluding units
 - d. Total quantity in Bq in container

8. The “7” noted at the bottom of each label designated the following:
 - a. The HMR “Class” designation for Radioactive Material
 - b. The HMR designation for all Hazardous Material
 - c. The maximum activity allowed in curies
 - d. The maximum activity allowed in GBq

9. The exposure rate limits at surface / one meter for “White I” labeled containers are:
- 0.5 mR/hr/ background
 - 50 mR/hr / 1 mR/hr
 - 200 mR/hr/ 10 mR/hr
 - 1000 mR/hr/ > 10 mR/hr
10. The exposure rate limits at surface/ one meter for a “Yellow II” labeled container are:
- 0.5 mR/hr/ background
 - 50 mR/hr / 1 mR/hr
 - 200 mR/hr/ 10 mR/hr
 - 1000 mR/hr/ > 10 mR/hr
11. The exposure rate limits at surface/ one meter for a “Yellow III” labeled container (not exclusive use) are:
- 0.5 mR/hr/ background
 - 50 mR/hr / 1 mR/hr
 - 200 mR/hr/ 10 mR/hr
 - 1000 mR/hr/ > 10 mR/hr
12. The external removable contamination limits for “White I”, “Yellow II” and “Yellow III” labeled containers are:
- 2.2 dpm / cm² , 22 dpm / cm² , 2200 dpm /cm²
 - 22 dpm/cm² , 22 dpm/cm² , 22 dpm/cm²
 - 2 dpm /cm² , 20 dpm/cm² , 2000 dpm/cm²
 - 6 dpm/cm² , 60 dpm/cm² , 6000 dpm/cm²
13. The surface area required by the DOT to be sampled for wipe testing is:
- 100 cm²
 - 200 cm²
 - 300 cm²
 - 1 cm²

14. "Limited Quantity" shipments are important to you because they are the type you:
- Return to the Nuclear Pharmacy always
 - Receive from the Nuclear Pharmacy always
 - Would consider safe and uncontaminated
 - Are the only types of packages shipped *from* nuclear pharmacies.
15. Which of the following *is not important* when determining the maximum activity allowed in a "Limited Quantity" container?
- The radionuclide
 - The activity for each radionuclide contained in package
 - Noted by exposure level
 - The weight of the container
16. When a sealed source is returned to a supplier (i.e., a flood source), which of the following is **NOT** required?
- Notation or proof of a recent leak test for the source
 - Surface survey of container to be returned
 - Labels for either "Normal Form" or "Limited Quantity" shipment
 - Copies of shipper's training records.
17. Wipes for the received package containing radioactive material exceed limits for the label indicated, you should:
- Call the supplier, RSO and DOT immediately
 - Call the supplier, RSO, and the NRC immediately
 - Quit, it's always your fault
 - Call 911.
18. Security seals on received packages:
- Serve as a protection mechanism against tampering
 - Are not required on "Limited Quantity" shipments
 - Should be bulletproof padlocks
 - Should include a dye-pack to prevent tampering.

19. If transporting radioactive material and you must leave the vehicle, which of the following steps must be taken in order to secure the hazardous material:
- Lock all doors/accesses to vehicle.
 - Apply parking brake.
 - Place the shipping paper, if applicable, on the driver seat.
 - All of the above
20. The transportation of radioactive material by an NRC authorized physician user is:
- Not allowed
 - Exempt from all NRC / DOT requirements
 - Allowed if their vehicle is placarded during shipment
 - Allowed only via public transportation
21. The emergency response contact on the shipping papers must:
- Be available 24 hours a day, 7 days a week until the package reaches its destination.
 - Be someone who can answer any questions about what is in the package and how to respond to an emergency
 - NOT be a voice mailbox, pager, or hospital operator
 - All of the above
22. A shipping paper must be kept by a person who prepares the shipping paper and shipment for how long?
- One year
 - Two years
 - Three years
 - Four years
23. Mobile nuclear medicine trucks/facilities are exempt from DOT regulations.
- True
 - False