All employees involved with the packaging, marking, labeling, measuring, loading, transporting, and storage of packages containing radioactive material are classified as Hazardous Materials Employees and must have training.

This training is mandated by the Code of Federal Regulations (CFR). The CFRs are comprised of general rules and regulations that govern activities both on federal and state levels. The CFR is segmented into volumes called titles, chapters, subchapters, parts and sections. HazMat training is required by the Department of Transportation (DOT)(49CFR172.704(a) and is required within 90 days of employment and every three years thereafter.

The afore mentioned DOT regulation specified in the Code of Federal regulations requires training that YOU specifically NEED. That training is as follows:

**General Awareness and Familiarization** of the employee with the requirements of the Hazardous Materials Regulations (HMR) subchapter.

**Safety measures** to protect the employee from radioactive materials, methods and procedures to avoid accidents and emergency response information.

**Security awareness training** focuses attention on securing the radioactive material from unauthorized access or use.

**Function-specific training** for the tasks that you as a hazmat employee perform (e.g. transporting radioactive material from site to site).
GENERAL AWARENESS/FAMILIARIZATION training requires that you are able to recognize and identify radioactive (hazardous) materials and be familiar with the types of materials you are transporting. Radioactive material is marked with a symbol as indicated below:

The three-blade symbol always represents radioactive material. Any radioactive material should be handled with precaution or in most all cases left alone until a nuclear medicine technologist, radiation safety officer, emergency responder or other appropriate personnel can assess the activity and relative risk of the material.

The DOT requires that radioactive materials offered for transport be specially packaged and surveyed before you move them from one location to the next. Shipping labels are required on the outside of these packages that will look like this:
Radiation Safety for Mobile Truck Drivers

There are two types of radioactive materials that will be offered for transport when you are driving the mobile unit. The two types are sealed and unsealed sources. Sealed sources are encapsulated and will NOT transfer radioactive material to you if handled directly. You will transport sealed sources every time you drive the mobile unit from location to location. These sources are used on a daily basis for machine calibration. Unsealed sources are typically liquid and potentially could transfer radioactive material to you if handled directly. These sources are unused syringes containing material that would have been injected into a patient or used syringes that did contain material injected into a patient. Note: If you are transporting unsealed radioactive sources you will be issued a shipping paper and will know these types of materials are present on the vehicle. You will transport unsealed sources from time to time, not necessarily every time you drive the mobile unit. Under NO circumstances are any of these sources life threatening or could cause bodily harm.

SAFETY TRAINING

We are exposed to radiation every day of our lives. The total amount of radiation the average individual is exposed to in the United State is equal to 620 mrem/year. This exposure comes from various sources including natural occurring radioactive sources (radon, cosmic, terrestrial and internal), medical sources (x-rays and nuclear medicine procedures we receive through diagnostic procedures), consumer products and a small percentage from other sources. The distribution of exposure can be visualized in the following chart.

![Sources of Radiation Exposure in the United States](chart.png)

Full report is available on the NCRP Web site at www.ncrp.org.
Transporting radioactive materials could increase your annual exposure by a small amount but the amount is negligible. As a general rule there are three principles to remember when encountering radioactive material to reduce your overall exposure. These principles are time, distance and shielding.

1. The less **time** you spend around radioactive material the less your radiation exposure.
2. The greater the **distance** you are from any radioactive source the less your radiation exposure.
3. The more **shielding** you can introduce between you and the radioactive material the less your radiation exposure.

As a driver the first, two principles are the most applicable. If for any reason you believe you encountered unsealed radioactive material the first thing you want to do is wash your hands. The second thing you want to do is inform your supervisor and/or the radiation safety officer. At all times if you are uncertain of a spilled or mis-placed source you are encouraged to secure the trailer and call for assistance, without touching or moving anything. There should be a call list of people you can contact if you have questions or need emergency assistance (please see final page of this document). If a complete list is not available to you ask the RSO to assemble and distribute an emergency contact list.

**SECURITY AWARENESS**

After September 11, 2001, the DOT has required hazmat employees to be trained to recognize and respond to security threats related to radioactive material. To prevent any misdirected activities of radioactive material the transport vehicle must be locked at all times when not directly under supervision. Doors should not be blocked open and access must be limited to the vehicle to known individuals, regardless of the intent to gain access. This means when you are not driving the vehicle it should be completely locked to prevent access to the cab or the trailer portion of the mobile unit. If any suspect activity is observed you should immediately contact your supervisor and the radiation safety officer.

**FUNCTION SPECIFIC TRAINING**

While moving the vehicle from location to location you will also be moving radioactive material. There are two types of radioactive material you could be potentially moving; sealed and unsealed sources.

You will be moving sealed sources of radioactive material every time you drive the vehicle. These sources do not require a shipping paper or any more awareness from you other than that radioactive material is present in the “work area/camera area” of the vehicle. In the event of an incident, emergency responders will be able to locate these sources.

You could also be transporting unsealed radioactive sources. In this case you will be given shipping papers completed by the nuclear medicine technician or other qualified personnel. The shipping papers will look similar to the following:
<table>
<thead>
<tr>
<th>Account Number</th>
<th>Emergency Contact Number</th>
<th>Shipper Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking ID</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hazardous Materials Description and Quantity

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature | Date
---|---

Page 1 of 1
Radiation Safety for Mobile Truck Drivers

Shipping papers contain a 24/7 emergency contact number for you (or others) to contact in the event of an emergency. The shipping paper should also be accompanied with emergency response information which looks like the following:
Radiation Safety for Mobile Truck Drivers

Both of these documents must be kept in the proper place. While driving it is acceptable to place the documentation in the pouch on the driver’s door or within immediate reach while the seat belt is fastened while driving or if the vehicle is left unattended on the driver’s seat. Once the end destination is reached, the shipping papers should be placed in a designated location for filing as it is required to maintain these records for two years. Your primary job is to drive the vehicle from location to location. Yes, there is radioactive material on board (always) of varying amounts however it is not dangerous and in the event of an emergency the information on the shipping paper will provide responders with the necessary information to handle the material properly.

Please fill in the blank portions of the chart below and retain for emergency preparedness. Note the following information should not be used for contact information on the shipping paper but rather as a reference for further information in the event of an incident.

<table>
<thead>
<tr>
<th>Title</th>
<th>Name</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear Medicine Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiation Safety Officer (RSO)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Physics Consultants (MPC)</td>
<td>N/A</td>
<td>1-800-321-2207</td>
</tr>
<tr>
<td>NRC operations center</td>
<td>N/A</td>
<td>1-301-816-5100</td>
</tr>
</tbody>
</table>

This document proprietary and confidential. This document may not be disclosed to a third party without prior written consent of Medical Physics Consultants.