

MAJOR PROGRAM POINTS

"DOT GENERAL AWARENESS TRAINING: HANDLING AND TRANSPORTING HAZARDOUS MATERIALS SAFELY"

**For the Department of Transportation's
49 CFR 172.700 Subpart H Training Requirements**

Quality Safety and Health Products, for Today...and Tomorrow

Outline of Major Points Covered in the "DOT HAZMAT General Awareness" Course

The following outline summarizes the major points of information presented in the course on "DOT HAZMAT General Awareness". The outline can be used to survey the course before taking it on a computer, as well as to review the course when a computer is not available.

- **Every day facilities across America send out thousands of shipments.**
 - We depend on safe and efficient transportation by air, land and sea to get these goods to their destinations.
- **Some of these materials require special attention.**
 - Some are fragile.
 - Others are bulky.
 - Some are hard to handle.
- **Other shipments, however, need attention for a more important reason.**
 - These are the ones that pose health and safety risks.
 - They are what we call "hazardous materials".
- **In the U.S. alone there are over 800,000 shipments of hazardous materials each day.**
- **It is extremely important to handle these hazardous materials safely.**
 - Not handling them properly can lead to serious incidents, such as chemical spills and fires.

- **To prevent these types of accidents, the U.S. Department of Transportation has developed a set of regulations addressing the handling of hazardous materials.**
 - These regulations, located in 49 CFR, parts 100 – 185, are referred to as the HMR (Hazardous Materials Regulations).
 - To keep them as comprehensive as possible, the HMR are revised frequently.
 - The most recent revisions are designed to combat the threat of terrorism, by increasing the security of hazardous materials during transportation.

- **In today's environment security is especially important.**
 - If hazardous materials fall into the hands of terrorists, they can pose a significant threat.

- **While they are being transported, hazardous materials are particularly vulnerable.**
 - Unlike at fixed facilities, there is much less security when materials are on the move.
 - When materials are "mobile" they can easily be taken to population centers or industrial targets, where they can cause devastating damage.

- **So if you work with hazardous materials, you need to know about these "HAZMAT" regulations.**

- **The Department of Transportation defines a hazardous material as...**
 - "A substance or material... which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce."

- **Each regulated material is listed in the Hazardous Materials Table in the Hazardous Materials Regulations.**
 - The table lists the materials alphabetically, by proper shipping name.
 - The table shows you where to find all of the information necessary for shipping each material, from proper labeling to proper packaging.

- **The table is revised periodically, so make sure you are using the most up-to-date version available.**
- **The Department of Transportation's HMRs affect all "HAZMAT" employers. These are companies that:**
 - Are involved in transporting hazardous materials.
 - Cause hazardous materials to be transported.
 - Manufacture, recondition or test containers that are used in the transportation of hazardous materials.
- **The Hazardous Materials Regulations also affect all "HAZMAT Employees." HAZMAT Employee" is defined very broadly, and includes:**
 - Anyone who directly affects a hazardous material's transport (loads, unloads or otherwise handles the material).
 - Workers who prepare hazardous materials for transport.
 - Employees who are responsible for assuring that safe handling procedures are followed when hazardous materials are used.
 - Workers who manufacture, recondition or test containers or other packaging that is used in the transportation of hazardous materials.
 - Vehicle operators, such as truck drivers and train engineers, who transport hazardous materials.
- **No matter what role you play in the transportation of hazardous materials, one of the most important requirements of the HMR is that you participate in training.**
- **The Department of Transportation has defined five different types of training for HAZMAT employees. This training is designed to:**
 - Increase employees' awareness of the potential dangers of transporting and handling hazardous materials.
 - Demonstrate how to work with hazardous materials safely.
 - Enhance the security measures that are taken for hazardous materials during transportation.

- **The first type of training is "General Awareness Training" (the topic of this program).**
 - This training focuses on helping employees recognize hazardous materials.

- **The second type of training is "Function-Specific Training".**
 - This addresses how each worker's specific job is effected by hazardous materials.
 - For instance, people in a Shipping Department need to know how to pack hazardous materials for transport, so that employees who make deliveries or unpack the materials for storage will be safe.

- **The third type of training required by the HMR is "Safety Training". It covers:**
 - Emergency response information.
 - Measures that can be taken to protect employees from hazardous materials.
 - Methods and procedures used to avoid accidents.

- **Because of the increased threat that terrorists could use hazardous materials as "weapons of mass destruction", the DOT has created two types of security-related training as well.**

- **All HAZMAT Employees must undergo "Security Awareness" training, which covers:**
 - The security risks associated with hazardous materials.
 - The procedures to enhance the security of hazardous materials during transportation.
 - The ability to recognize and respond to possible security threats.

- **"In-depth Security Training" must be given to all HAZMAT Employees who work for companies that are required by the DOT to maintain a security plan. This includes:**
 - Companies that transport any quantity of "extremely dangerous" materials (such as radioactive chemicals, certain types of explosives and some substances that are defined as "poisonous by inhalation").
 - Companies that deal with shipments of hazardous materials which are large enough to require placarding under DOT regulations.

- **"In-depth Security Training" must cover:**
 - The company's security objectives.
 - Specific security procedures.
 - Employee responsibilities.
 - Actions to take in the event of a security breach.
 - The company's organizational security structure.

- **When we think about hazardous materials, one of the things we need to remember is that we can encounter them in a number of places.**

- **If you work for a company that sells hazardous materials, you can find them:**
 - Out on a delivery truck.
 - In storage facilities like tanks and warehouses.

- **If your facility uses hazardous materials you can find them:**
 - On trucks arriving at the loading dock.
 - In various locations where research, manufacturing or maintenance is being performed.

- **If your company is involved in transportation, you may encounter hazardous materials:**
 - On trucks.
 - In railroad cars.
 - On ships.
 - Even in pipelines.

- **No matter what your job description is, "Warning Indicators" such as labels are one of the best ways to determine whether or not you are handling hazardous materials.**
- **Hazardous materials are divided into nine different "classes".**
 - Each class has its own specific label.
 - These labels are used on boxes and other containers to identify both the primary and secondary hazards of the materials inside.
- **"Hazard Class Labels" are meant to attract attention. So they:**
 - Are diamond shaped.
 - Must measure at least 100 millimeters (3.9 inches) on each side.
- **Each hazard class has its own symbol, which must appear in the top corner of the diamond. Labels must also:**
 - Be a specific color.
 - Have the "Hazard Class Number" at the bottom of the diamond.
- **You may also see placards with these same symbols on things such as trucks and rail cars that are carrying large quantities of hazardous materials.**
- **Because placards are meant to be seen when they are in motion, they are bigger than labels.**
 - Placards must measure at least 273 millimeters (10.7 inches) on each side.
- **Placards must only show information that describes the shipment.**
 - Messages like "Drive Safely" and "Have A Nice Day" are no longer allowed to appear on placards and placard holders.
- **Specific hazard information, such as additional handling precautions and prohibitions, can sometimes also be found on the outsides of packages and containers.**

- **Other types of markings are important too.**
 - Labels such as "Cargo Aircraft Only" or "This End Up" serve notice that a specific type of handling is required.
- **Make sure that you take note of all labels and markings on a container... and take the precautions that they indicate are necessary.**
- **The "shipping papers" that accompany hazardous materials are another good source of hazard information.**
- **The most important thing that shipping papers are required to list is the material's "Basic Description". This includes:**
 - It's proper DOT "Shipping Name".
 - The material's "Hazard Class".
 - The material's four-digit "Identification Number".
 - The material's "Packing Group" (this indicates the degree of danger associated with the material).
- **Two other pieces of important information must also appear on the shipping papers:**
 - The total quantity of the material being shipped.
 - A 24-hour emergency response telephone number that can be used to get additional information in the event of an incident.
- **The last section of the shipping papers is a declaration that the shipment is safe, and that it has been packed according to the rules in the HMR.**
 - This must be signed by the provider of the hazardous material.
- **Remember, packages can not be released for shipment unless they are in full compliance with all the requirements in the regulations.**

- **One reason that the Department of Transportation is so rigorous about the information that must appear on the shipping papers is that it may be needed at a later date to track the shipment.**
 - Because of this, the DOT requires each company that offers hazardous materials for shipment to maintain a paper or electronic copy of this information for a minimum of 375 days after the shipment has been accepted by the initial carrier.
 - If the material in question is considered to be a "hazardous waste", the shipping papers must be kept for a period of three years.
- **Another resource for important information about hazardous materials is the Department of Transportation's "Emergency Response Guidebook".**
 - It provides first responders with easy-to-use instructions for handling emergencies involving hazardous materials.
- **Since materials have similar hazards, the book has divided initial emergency response actions into over sixty "Guides".**
 - To determine which action should be taken in the event of a HAZMAT incident, simply look up the material that is involved and the Guidebook will point you to the appropriate "Guide Number".
- **The Guidebook is updated frequently, just like the hazardous materials regulations.**
 - So you must be aware of recent revisions and make sure that you are using the most up-to-date version available.

- **In addition to ensuring that everyone who works with hazardous materials is appropriately trained, another objective of the HMR is to make sure that employees know how to correctly pack hazardous materials.**
 - This means that packaging must meet or exceed the international performance-oriented packaging requirements established by the United Nations.
 - Packages meeting these standards carry the "UN" symbol, as well as codes that provide information about the type, material and construction of the container.

- **To make sure that the containers you are using are safe, you can consult the Hazardous Materials Table.**
 - If you have any other questions, the DOT's packaging standards can be found in section 178.600 of the regulations.

- **If you are involved with loading packages, you are one of the last lines of defense for ensuring that materials are packed according to DOT requirements.**
 - You also need to make sure that each package is undamaged.
 - If there is a problem, you shouldn't load it.

- **Once you confirm that everything is safely packed up:**
 - Double-check that each package has been labeled and marked according to the HMR.
 - Make sure that the shipping papers are ready to go with the shipment.

- **As you get ready to load the shipment, remember that some types of materials can be dangerous if they are shipped or stored together.**
 - In the event of an accident, these materials can react violently with each other.
 - To help guard against this problem, the Department of Transportation has developed tables in the HMR that dictate which hazardous materials must be segregated from one another.

- **If you are responsible for shipping hazardous materials, you need to make sure that all delivery vans, trailers, tankers and other transport vehicles are properly placarded.**
 - Placards must be displayed on each end and each side of vehicles and freight containers.
 - Placarding specifications can be found in the two placarding tables in section 172.504 of the HMR.
 - The tables describe what placards are required for each material, depending on how dangerous it is and how much of it is being shipped.

- **All carriers must keep a ready supply of extra placards and labels on hand at terminals or similar locations, in case the originals are lost or damaged.**

- **Before a shipment can leave a facility someone must confirm that the trailer, tanker, ship or other vehicle transporting the materials is in good running condition.**
 - Each vehicle should be carefully inspected and tested before it departs.
 - Security measures like locking or sealing the shipment to prevent tampering must also be in place.
 - If there are any problems, they should be reported to a supervisor.

- **Whenever hazardous materials are on the move, it's important that their shipping papers be readily available, no matter how the materials are being transported.**
 - In addition to basic information about the materials that are being shipped, these papers list actions that should be taken in case of an accident or other emergency.
 - For motor vehicles, the papers are usually kept inside a pouch on the driver's door.
 - They can also be kept other places in the cab, as long as they are within "arms' reach" of the driver.
 - They must also be in a location where they won't be confused with other documents.

- **Once a shipment arrives at a facility, there are a few things that need to be checked out before it is unloaded.**
 - First, make sure the shipping papers are in order.
 - Then check the shipping papers and any container labels for special handling instructions (such as whether personal protective equipment should be used when handling the materials).
- **If you are involved in receiving or storing hazardous materials, remember not to accept damaged packages.**
 - If you find a damaged package already on the shelf, notify your supervisor.
- **Many materials require specially controlled storage areas.**
 - Flammables and combustibles, for instance, should be kept away from heat and other potential sources of ignition.
 - Don't forget to keep materials that need to be segregated away from each other.
- **You can help avoid incidents when you are handling and transporting hazardous materials by taking the time to work with them safely... and making sure that they are "secured" properly.**

*** * * SUMMARY * * ***

- **Know your role, and be on the lookout for hazardous materials as you go about your work.**
- **Understand the HMR completely, so that you can spot potential problems.**
 - Be especially aware of security risks.
- **Know how to use the Hazardous Materials Table and other references to get answers to your questions.**
- **Make sure that packages, labels, placards and shipping papers meet compliance requirements.**

- Remember, the regulations are there to protect us all.
- Following the HMR will make handling and transporting hazardous materials safe for everyone!