

MAJOR PROGRAM POINTS

"DOT SAFETY 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 Safety Training" Course

The following outline summarizes the major points of information presented in the course on "DOT HAZMAT Safety Training". 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.

- **Hazardous materials are used in business and industry every day. They:**
 - Heat our buildings.
 - Help us to clean and maintain equipment.
 - Are the raw materials in many manufacturing processes.

- **However, these materials can cause trouble if they aren't handled carefully.**
 - Leaks, spills and explosions of hazardous materials can result in serious injuries to people, damage to property and harm to the environment.
 - If they get into the hands of terrorists, hazardous materials can easily be transported to population centers or industrial targets, with devastating results.

- **Knowing how to handle these materials correctly before, during and after transport allows them to reach their destination safely no matter how they are being shipped, whether it's by:**
 - Highway.
 - Railway.
 - Pipeline.
 - Sea.
 - Air.

- **This transportation process involves many different people.**
 - To start things off, someone calls in an order.
 - Warehousing pulls the product and takes it to Shipping,
 - Shipping packs it for transport and sends it out.
 - Once the product arrives at its destination it is unloaded and stored until it needs to be used.

- **To ensure that everyone carries out their role in the process safely, the United States Department of Transportation has developed regulations addressing the handling and transporting of these "hazardous materials".**
 - The regulations are referred to as the HMR (Hazardous Materials Regulations).
 - You can find them in 49 CFR, parts 100 – 185.

- **Training plays a major role in these regulations. In fact, the Department of Transportation has defined five different types of training for "HAZMAT Employees". This training is designed to:**
 - Increase each employee's awareness of the potential dangers of transporting and handling hazardous materials.
 - Demonstrate how to work with these materials safely.
 - Enhance the security measures that are taken for hazardous materials during transportation.

- **This program covers "Safety Training", which includes:**
 - Procedures for avoiding accidents.
 - Measures to protect employees from hazards.
 - Emergency response information.

- **To prevent problems from occurring, we need to follow certain procedures for avoiding accidents.**
 - The first step is recognizing when hazardous materials are present.

- **To help us out, the HMR require that information on the risks posed by hazardous materials be available to everyone involved in the handling and transportation process.**
 - This information enables us to anticipate possible problems, so that we are ready to act.

- **One of the best ways to know what types of hazardous you are dealing with is to look for "warning indicators".**

- **"Hazard Class" labels and placards are often the first signs that we are dealing with hazardous materials.**
 - They identify the specific hazards presented by a product that is being transported.
 - They must conform to DOT specifications with regard to shape, size, color and the information they contain.
 - If you have any questions about what a label or placard means, consult your supervisor or the "Hazardous Materials Regulations" .

- **Don't forget to pay attention to other markings on the outside of packages and containers as well.**
 - They can provide important handling instructions and other valuable information about the materials.

- **"Shipping Papers" are another valuable source of information. They provide a basic description of the product, which includes:**
 - Its proper Department of Transportation "Shipping Name".
 - The material's "Hazard Class".
 - Its 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 reach someone who is knowledgeable about the hazards presented by the materials (this person must also have easy access to comprehensive emergency response and incident mitigation information).

- **If you are looking for detailed information on the health hazards presented by a specific product, check its Material Safety Data Sheet (MSDS).**
 - The MSDS contains health hazard data and first aid information that will help you take steps to protect yourself.
 - It will also tell you how to reduce the risk of fire and explosion.
 - Instructions on other special protection measures and spill cleanup procedures can be found on most MSDS's as well.

- **Once you are aware of the risks posed by the products you are working with, it's important to follow proper "work practices". For instance, when getting a hazardous material ready for shipment you should:**
 - Only use packaging that has been approved for that material.
 - Prepare the container and secure the product in a way that will ensure it will travel safely.

- **To comply with the HMR you must accurately describe the contents of the container on the shipping papers, then mark and label the package appropriately.**
 - This provides valuable information for those who handle the shipment down the line.

- **If you are involved in loading packages, handle them carefully.**
 - Pay attention to the labeling (remember, packages must be labeled in accordance with the regulations).
 - Reject packages with illegible or worn out labels (stick to established procedures or consult your supervisor regarding the disposition of these packages).
 - Don't forget to follow instructions like "This End Up" and "Keep From Freezing".
 - Make sure the package is undamaged (if it is damaged don't ship or store it; consult your supervisor to see how you should handle it).

- **Safely preparing a hazardous material for transport is only part of the job you need to do.**
 - Before a shipment can leave your facility, the trailers, tankers, ships and other vehicles that transport them must be properly placarded and in good operating condition.
 - Each vehicle should be carefully inspected before it leaves.
 - If there are any problems, they should be reported to a supervisor.

- **Don't forget, accurate shipping papers must accompany all shipments.**
 - This will allow for quick and easy access to product information.

- **If you are involved in unloading hazardous materials that arrive at your workplace, don't accept packages that are:**
 - Without proper shipping papers.
 - Improperly marked or labeled.
 - Damaged in any way.

- **Before handling any delivery, read the label and emergency response information to determine:**
 - The identity of the hazardous material.
 - The types of hazards that may be involved and their degree of danger.
 - Special procedures that should be taken when handling the material.
 - What personal protective equipment should be worn.
 - Any first aid that should be administered if someone is exposed to the material.

- **When you are storing hazardous materials remember to put them in proper storage areas, segregated from other materials if necessary.**

- **In addition to following proper work practices, it's important to anticipate possible danger.**
 - One of the best ways to be prepared is through the correct use of personal protective equipment.
 - To determine which equipment you should be wearing, look at material's MSDS and hazard communication labels.
 - Talk to your supervisor if you still have questions.

- **If an incident involving a hazardous material does not occur, it's critical that you know where to find emergency response information for that substance.**
 - In order to prevent an incident from getting out of control, you need access to precise details about the products that are being transported.
 - This is so important that it is specifically addressed by the Hazardous Materials Regulations in section 172.600, subpart G, "Emergency Response Information".

- **Subpart G requires all "HAZMAT Shippers" to provide the following information about the materials that they are sending out:**
 - The basic description, including the proper DOT "Shipping Name", hazard class or division number.
 - The immediate health hazards that the substance presents.
 - The risk of fire and explosion.
 - Precautions to be taken in the event of an accident.
 - Procedures for dealing with spills or leaks.
 - How to handle fires involving the materials.
 - First aid that should be given to anyone who has been exposed to the material.
 - An emergency response telephone number.

- **This information must accompany all shipments of hazardous materials and be kept in the cab of the delivery vehicle near the shipping papers.**

- **Even with all of this data available, one of the problems that often occurs in an emergency is making a quick and informed decision.**
 - Because of this, the Department of Transportation has developed the Emergency Response Guidebook.
 - The Guidebook provides first responders with information on initial emergency actions that need to be taken during a fire or spill.

- **The information in the Guidebook is divided into four color-coded sections.**
 - The first two help you to identify the correct "Guide" for the material in question.
 - Use the yellow section of the book if you know the substance's four-digit "Chemical Identification Number" (the materials are in numerical order, by their I.D. Number).
 - The blue pages list hazardous materials alphabetical, by "Proper Shipping Name".

- **Once you have found the appropriate "Guide Number" you can turn to the orange pages in the book.**
 - They will describe the specific emergency actions that should be taken if the material is involved in an incident.
 - Pay extra attention to entries that are highlighted (these materials have the potential to release poisonous vapors when they are involved in accidents).

- **In addition to following the emergency procedures in the orange section, you will need to turn to the green pages to determine how to isolate the released materials and limit exposure.**
 - These pages help you determine how to evacuate people near the accident scene.
 - They define two specific "isolation areas".

- **The first isolation area is called the "Initial Isolation Zone".**
 - It is a circular area around the incident.
 - It's diameter is measured in meters or feet.

- **The second isolation area is the "Protective Action Zone".**
 - This is set up downwind of the accident.
 - Because wind can carry poisonous vapors for long distances, the Protective Action Zone is measured in kilometers or miles.

- **Once the zones have both been defined, they must be cleared of anyone who is:**
 - Not authorized to participate in activities inside the zone.
 - Not wearing the proper PPE.

- **When an accident occurs, it's important to be aware of what you can do to protect yourself.**
 - You should also know what things you can do to limit any damage to the area around you.

- **If you are present when a spill occurs, you should follow your facility's "Contingency Plan".**

- **You also need to be familiar with the regulations that address reporting spills.**
 - You should know what authorities to notify of the situation.
- **Knowing the location of spill cleanup kits is important as well.**
 - If you have been taught how to use the kits, and have been trained on the personal protective equipment you will need to wear, you can work to control the situation until a cleanup crew arrives.
 - Be sure you know what materials are involved in the spill, and which emergency procedures you should follow.
 - Remember to safeguard the environment (use protective barriers to keep hazardous materials out of storm drains and the sewer system).
- **If a chemical spill puts you in danger, don't be a hero.**
 - Evacuate the area and notify the people in your company who are trained to clean up hazardous spills.
- **If the incident involves a fire that is small enough for you to handle, you can try and put it out.**
 - You will need to determine what type of fire it is, so that you can choose the appropriate extinguisher.
 - But remember, don't pick up an extinguisher unless you have been trained to use it by a qualified instructor.
- **There are four classes of fires.**
- **"Class A" fires are fueled by ordinary combustibles, such as:**
 - Paper.
 - Wood.
 - Many types of plastic products.

- **"Class B" fires are fueled by flammable liquids and gases, like:**
 - Toluene.
 - Propane.
- **"Class C" fires involve electrical wiring or equipment.**
- **"Class D" fires involve flammable metals, such as:**
 - Magnesium.
 - Sodium.
- **Once you have the right extinguisher, use the "PASS" method to put the fire out.**
 - Pull the pin.
 - Aim the nozzle.
 - Squeeze the trigger.
 - Sweep from side to side at the base of the fire until it is extinguished.
- **However, with hazardous materials the fire is only part of the problem.**
 - The smoke may contain toxic vapors, which could spread a great distance.
 - The heat generated by the fire could lead to an explosion.
 - Consult resources like the DOT's "Emergency Response Guidebook" to make sure that you are protected from all of the hazards that may be present.
- **If you find yourself in danger when fighting a fire, leave the firefighting to the professionals.**
 - Call the fire department and evacuate the area.
- **Whenever you are dealing with a chemical incident you also have to worry about people coming into contact with the substance.**
 - In these situations, the MSDS provides good information about the first aid procedures that should be used.

- **Where large areas of the body are affected, the MSDS may tell you that a shower is the first line of defense. In this case:**
 - Get the victim to the nearest safety shower.
 - Remove their clothing, down to the underwear.
 - Soak them thoroughly.
 - But be careful!... the water from a shower is often cold, so you need to watch out for signs of hypothermia.

- **After the initial deluge from the shower, you can head to a locker room if one is nearby.**
 - This will allow you to finish the procedure under warmer, temperature-controlled water.

- **Wherever its done, the victim should be under a shower for no less than fifteen minutes.**
 - Once showering is completed, make sure the victim gets medical attention immediately.

- **In incidents where the area of contact is small, water is still very important.**
 - The affected area should be rinsed under a hose or faucet for a minimum of fifteen minutes.
 - Then get medical attention.

- **In the event that a hazardous chemical splashes into your eyes, the MSDS will probably recommend flushing them with water.**
 - If so, your eyes should be washed for at least fifteen minutes.

- **Be sure to know the location of the eyewash stations in your facility.**
 - If you are on the road and none are available, use an eyewash bottle (or even a hose) to dilute the chemical.
 - Then get to an eyewash station as soon as possible (a full fifteen minute rinse is still recommended).
 - And as with any chemical contact, get medical attention as soon as possible.

- **Many HAZMAT incidents can create "inhalation hazards".**
 - For the accidental inhalation of a hazardous substance the MSDS will often recommend that the victim be moved away from the area.
 - Get them to fresh air as quickly as possible.
 - Then seek medical attention immediately.

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- **Handling and transporting hazardous materials safely means recognizing the hazards you are working with... and being prepared to act if necessary.**
- **Read labels, shipping papers, emergency response information and Material Safety Data Sheets to make sure you are taking the proper precautions.**
- **Wear the right personal protective equipment for the job.**
- **In the event of an accident, be ready to act.**
- **Know how to use the Emergency Response Guidebook and other valuable references... as well as where to find emergency numbers and who to call for help.**
- **Complying with DOT regulations and participating in the required training will help you to guarantee that the hazardous materials you work with are handled and transported safely and securely!**