

UNDERSTANDING HAZWOPER

COURSE OUTLINE

- **In 1976, the U.S. Environmental Protection Agency (EPA) issued the Resource Conservation and Recovery Act (RCRA) to regulate the handling of hazardous waste Afrom cradle to grave".**
 - RCRA covers operations which generate, treat, store or dispose of hazardous waste.
- **In 1980, the EPA issued the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).**
 - Also known as "superfund", CERCLA made provisions for the cleanup of abandoned and uncontrolled hazardous waste sites not covered by RCRA.
- **In 1986, CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA).**
 - SARA provided nine billion dollars to fund hazardous waste cleanup operations.
 - It also charged OSHA with establishing standards to protect workers on hazardous waste sites.
- **The Occupational Safety and Health Administration (OSHA) was created in 1970 as a part of the occupational safety and health act.**
 - This act requires employers to provide "a place of employment free from recognized hazards that are likely to cause death or serious physical harm to employees."
 - Congress empowered OSHA to enforce safety standards through inspections, citations and fines.
- **In 1986, when the EPA charged OSHA with the task of protecting HAZMAT workers, OSHA issued the Interim Final Rule for Hazardous Waste Operations and Emergency Response.**
 - Also known as "HAZWOPER."
- **In 1990, this HAZWOPER rule was finalized. It affects workers involved in:**
 - Hazardous waste treatment, storage and disposal.
 - Hazardous waste cleanup operations.
 - Emergency response operations where hazardous materials are present.

- **The purpose of this program is to help you understand:**
 - The HAZWOPER regulation.
 - Your rights and responsibilities as someone who works with hazardous materials.
 - How to work safely around hazardous substances.
- **What makes a substance "hazardous"?**
 - There is no simple answer.
 - You need to look at several sources of information to get a complete definition.
- **In OSHA's Hazard Communication Standard, a "hazardous chemical" is defined as any chemical which poses either a physical hazard or a health hazard. according to OSHA, chemicals that present "physical hazards" include:**
 - Combustibles.
 - Flammables.
 - Explosives.
 - Oxidizers.
 - Organic peroxides.
 - Reactive chemicals.
 - Compressed gases.
- **OSHA's list of chemicals that are "health hazards" includes:**
 - Sensitizers.
 - Irritants.
 - Corrosives.
 - Toxic and highly toxic agents.
 - Carcinogens.
- **The U.S. Department of Transportation (DOT) lists the materials it considers hazardous in its hazardous material table in 49 CFR 172.101.**
 - According to DOT, a "hazardous material" is any substance which could present an "unreasonable risk to health, safety or property when transported."
- **Since the EPA initiated HAZWOPER, we should look to some of their standards as well.**
 - To define "hazardous substances" in CERCLA, the EPA refers us to lists of specific materials in the clean water act and in RCRA (the resource conservation and recovery act).

- **Finally, also in RCRA, the EPA defines "hazardous waste" as any discarded material which is:**
 - Ignitable.
 - Corrosive.
 - Reactive.
 - Toxic.
- **Often, the easiest way to tell if a particular substance is hazardous is to look right on the container label.**
 - There are several different labeling systems, and OSHA, DOT and EPA guidelines all require that hazardous materials bear warnings of the hazards they present.
- **More detailed hazard information and handling instructions can be found on a hazardous material's shipping papers and other written documentation.**
 - You can also look at a chemical's Safety Data Sheet (SDS) for information on hazards and safety precautions.
- **Sometimes, however, an SDS is not available. Other times we can encounter materials without container labels... or even without containers.**
 - In these situations, we need to use air monitoring to detect what HAZWOPER calls "IDLH conditions" (conditions which are "immediately dangerous to life and health").
 - Laboratory analysis of contaminated air or samples of the material itself can confirm any IDLH conditions.
 - Analysis can also provide detailed information about other safety and health hazards the substance may present.
- **Once we have this information, we can determine which controls and practices we need to use to minimize these hazards.**
 - This is the goal of the HAZWOPER regulation.
- **In accordance with HAZWOPER, your operation has a "site safety and health plan" that specifies how hazards should be:**
 - Identified.
 - Evaluated.
 - Controlled.

- **This written plan includes descriptions of the specific tasks being performed on-site, as well as information about your operation's:**
 - Organizational structure.
 - Safety and health training program.
 - Medical surveillance program.
 - Standard operating procedures.
- **Your company also has a written "emergency response plan", which includes instructions on how to report and handle emergencies at your site.**
- **The HAZWOPER standard has specific training requirements for employees who could be exposed to hazardous materials on the job, which include:**
 - The identification of the specific safety, health and other hazards on the site.
 - The use of engineering controls.
 - Appropriate work practices.
 - Selection and use of personal protective equipment (PPE).
- **The amount of training you need depends on the type of work you will be doing. If you are involved in the removal of hazardous substances, or other activities that could expose you to these substances for prolonged periods, you need:**
 - A minimum of 40 hours of classroom instruction.
 - No less than three days of field training.
- **You need a minimum of 24 hours of classroom instruction and no less than one day of field experience if you:**
 - Will only be on site occasionally to perform specific, limited tasks... such as surveying or taking air samples.
 - Are unlikely to be exposed to hazardous materials above their published exposure limits.
- **The same 24-hour training requirement holds true if you work in areas where:**
 - Exposures are lower than published exposure limits
 - Respirators are not necessary.
 - No health hazards are present.
 - Emergencies involving hazardous materials can not occur.

- **While these guidelines represent the minimum amount of training which is required, you may actually receive more. On the other hand, you may undergo less training if you already have experience which is equivalent to some of the training required by HAZWOPER. This can include:**
 - Work experience.
 - Academic course work.
 - Other hazardous materials training.
- **Either way, you will still receive site-specific training about the hazards of your operation before beginning work.**
- **At least once a year, you will also receive eight hours of "refresher training".**
 - This will be a basic review of your initial HAZWOPER training.
 - It may also include a critique of any recent emergency incidents that illustrate the types of situations you could face.
- **HAZWOPER also requires that all hazardous waste sites be evaluated to:**
 - Identify specific hazards.
 - Determine what safety and health control procedures should be used at the site.
- **This begins with a "preliminary evaluation" to determine what precautions need to be taken in order to do a more thorough "site characterization".**
- **IDLH conditions are the focus of the preliminary evaluation, along with any other conditions which could cause death, serious illness or injury. These include:**
 - Confined spaces.
 - Visible vapor clouds.
 - Potentially flammable or explosive situations.
- **Once these immediate hazards have been dealt with, site characterization can continue.**
 - At this stage, all of the potential safety and health hazards will be thoroughly explored and analyzed.
 - The end result of site characterization is the development of a "site control program".

- **The site control program is a part of your operation's written site safety and health plan.**
 - It includes a site map displaying work zones, as well as guidelines for using the "buddy system" to help prevent exposures.
 - The program also outlines communication procedures, including how to report emergencies.
- **The site control program also identifies your operation's:**
 - Standard operating procedures.
 - Safe work practices
 - Sources of medical assistance.
- **"Monitoring" plays a major role in:**
 - Preliminary evaluations.
 - Site characterizations.
 - Ongoing activities at your site.
- **It is the primary means of identifying and measuring levels of hazardous substances.**
 - This is vital in determining the controls and practices that should be used at the site.
- **During a site's preliminary evaluation, the goal of monitoring is to identify:**
 - Conditions which are "immediately dangerous to life or health" (IDLH).
 - Airborne contaminant levels over a substance's published exposure limit.
 - Radiation levels over a radioactive material's "dose limit".
- **Monitoring is also used to identify other dangerous conditions, such as:**
 - Flammable atmospheres.
 - Oxygen-rich or oxygen-deficient environments.
- **Depending on the conditions at your work site, monitoring could be ongoing, or just done periodically.**
 - Monitoring will continue as long as exposure levels have the potential to rise above published exposure limits.
 - It must also continue if flammable atmospheres or other dangerous conditions could possibly develop.

- **Monitoring will also be done whenever:**
 - A new type of activity starts.
 - New or unidentified substances are involved.
 - Work begins on another part of the site.
- **Individual situations which present a high risk of exposure to hazardous substances also require monitoring. This includes:**
 - Handling leaking drums or containers.
 - Working in areas with obvious liquid contamination, such as a spill or contaminated water.
- **Since many HAZMAT jobs present serious health hazards, HAZWOPER may also require that you participate in your operation's "medical surveillance program":**
 - This helps to protect you from the effects of exposure to hazardous substances.
- **You will participate in this program if over a one year period, you spend 30 days or more:**
 - Wearing a respirator.
 - Working in an environment where there is the potential for exposure above published limits (whether or not a respirator is worn).
- **Medical surveillance is also required if:**
 - You are a member of a HAZMAT emergency response team.
 - If you ever develop symptoms which could be caused by exposure to hazardous substances.
- **Medical surveillance includes an initial examination prior to starting work.**
 - The exam will be used to determine if you have any conditions which might affect your ability to work safely around hazardous substances.
 - It will also provide a baseline for comparison with additional examinations that you will have at least once every two years (OSHA recommends that these periodic exams be given every year).
- **You will also need to have an examination if you are:**
 - Accidentally exposed to a hazardous substance above its published exposure limits.
 - Displaying symptoms of overexposure.
 - Injured on the job (even if the injury doesn't involve a hazardous material).

- **Medical examinations will be conducted by, or under the supervision of, a licensed physician.**
 - Medical tests, such as X-rays or blood screening, may also be a part of the medical surveillance Program if the doctor feels they are necessary.
 - Exams and tests will be scheduled at a reasonable time and location.
 - They will be provided at no cost to you.
- **Based on the results of the medical exams and tests, the doctor will determine if you have any conditions which would:**
 - Put you at increased risk from work involving hazardous waste.
 - Cause problems if you had to wear a respirator.
- **The doctor will then provide your employer with a "written opinion", which will:**
 - Include any limitations on your work activity that the doctor recommends.
 - Not discuss any medical findings unrelated to your job (these are strictly confidential).
- **Your employer will provide you with a copy of the doctor's written opinion for your own records.**
- **The regulation also calls for a "system of controls" to be put in place to prevent overexposure to hazardous substances. This includes the use of:**
 - Engineering controls.
 - Safe work practices.
 - Personal protective equipment.
- **"Engineering controls" are devices designed to prevent or reduce your exposure to hazards. They can include:**
 - Pressurized cabs on material handling equipment.
 - Ventilation systems used to remove contaminated air from work areas.
- **"Safe work practices" are policies, procedures and actions which can reduce or prevent your exposure to hazardous materials. Examples include:**
 - Having non-essential personnel leave areas of potential exposure.
 - Staying upwind of possible airborne hazards.
 - Wetting down dusty operations.

- **Using safe work practices includes following "standard operating procedures". These are the methods for performing specific tasks at your site or in your facility which have been approved by your:**
 - Supervisor.
 - Manager.
 - Safety director.
- **The HAZWOPER regulation provides its own standard operating procedures for working with drums and other containers.**
 - Safe handling is vital to minimizing exposure to contaminants.
- **Government agencies, such as the DOT, OSHA and the EPA, have specific physical requirements for containers used to store or transport hazardous substances.**
 - You need to make sure that drums and other containers meet these guidelines.
 - Remember to inspect containers for integrity before, during and after use.
- **Containers used for hazardous substances must be properly labeled as well.**
 - You should treat unlabeled drums and containers as if they contain hazardous materials, until it has been determined otherwise.
- **If sealed containers need to be opened for any reason, special precautions must be taken. These can include:**
 - Having unnecessary personnel leave the area.
 - Using explosion-proof barriers and non-sparking equipment.
 - Bleeding off excess pressure within the container before opening it.
 - Moving drums and other containers of hazardous waste as little as possible.
- **Special safety measures, such as the use of handling equipment with protective shielding, are required when it is necessary to transport containers of materials that are:**
 - Radioactive.
 - Flammable.
 - Shock-sensitive.

- **Do not move containers that seem to be bulging or swelling from excess pressure until:**
 - The cause of the pressure can be determined.
 - Appropriate precautions can be taken.
 - Ask your supervisor about the specific procedures that are used at your location.
- **Prior to shipping, hazardous waste containers must be identified and classified in a staging area.**
 - This is the best way to make sure that everyone knows what they are dealing with and how to handle it safely.
- **If the combination of engineering controls and work practices cannot reduce your exposure to acceptable levels, then "personal protective equipment" must also be used.**
 - Remember, PPE is not meant to be a standalone solution.
 - It should be used together with other controls to provide adequate protection.
- **The personal protective equipment that you wear must always "match" the potential hazards of the work environment.**
 - There are four basic "levels" of PPE, each providing a different degree of protection.
- **"Level D" provides only basic protection, in the form of either:**
 - A standard work uniform.
 - Generic work clothing.
- **"Level C" protection is used when:**
 - The concentrations and types of airborne contaminants are known.
 - Contaminants are within acceptable limits for using full-face or half-mask air-purifying respirators.
 - Hooded chemical-resistant clothing is also used at this level, to provide protection against skin-contact hazards and to simplify decontamination.
- **"Level B" PPE provides the same amount of skin protection as Level C, but requires a much higher degree of respiratory protection. This includes the use of either:**
 - A full-facepiece self-contained breathing apparatus (SCBA).
 - A supplied-air respirator (SAR).

- **"Level A" provides the greatest degree of skin, respiratory and eye protection. This includes:**
 - An SCBA or an SAR.
 - A totally-encapsulating chemical protective suit.
 - Other appropriate gear and clothing.
- **While chemical protective clothing and PPE protects you from exposure to hazardous substances, it usually becomes contaminated in the process.**
 - Your clothing, PPE, tools and equipment... even you... must be decontaminated whenever you leave a contaminated area.
 - Decontamination is important to protect both you and everyone else you come into contact with, including your family and friends.
- **The facilities and supplies you need for decontamination will be provided by your company.**
 - PPE and tools must be treated appropriately.
 - Clothing must be laundered or properly disposed.
- **You must shower to remove any hazardous material which may have come into contact with your body if:**
 - A hazardous material can pass through your work clothing.
 - You are exposed during decontamination.
- **Equipment and solvents used during decontamination will also become contaminated in the process.**
 - They must be decontaminated or disposed of as hazardous waste as well.
- **HAZWOPER also has requirements for a emergency response to incidents involving hazardous materials.**
- **These requirements begin with a written "emergency response plan" which provides instructions on how to report and handle emergencies at your location. The plan includes information on:**
 - The roles of personnel participating in a response.
 - Lines of authority.
 - Methods of communication.
 - Training requirements.

- **Your facility's emergency response plan also includes information on:**
 - Recognizing and preventing emergencies.
 - Site security.
 - Evacuation procedures.
 - Decontamination procedures.
 - First aid.
 - Emergency medical treatment.
- **Training plays an important role in emergency response.**
 - HAZWOPER specifies five levels of training, depending on the role you might be expected to play in a hazardous materials incident.
- **The "First Responder: Awareness Level" is for workers who are likely to witness a leak, spill or other accidental release of a hazardous substance.**
 - If you fall into this category, you will be trained on the proper reporting procedures used to initiate an emergency response.
- **The "First Responder: Operations Level" is for workers who will be called upon to contain the release from a safe distance.**
 - People involved in operations level activities must undergo a minimum of eight hours of Emergency Response training.
- **The next level of training is for "Hazardous Materials Technicians".**
 - These are workers who will approach the point of release of a hazardous substance, and plug, patch or otherwise stop the release.
 - HAZMAT Technicians must undergo a minimum of 24 hours of training.
- **A "Hazardous Materials Specialist" gets the same level of training as a HAZMAT Technician, but receives more detailed training about the substances on site.**
 - HAZMAT Specialists may also be called upon to act as site liaisons with federal, state, local or other government authorities.
- **The individual with the most authority in an emergency response, the "Incident Commander", goes through a great deal of additional training to be prepared to:**
 - Take control of an incident scene.
 - Coordinate the entire emergency response.
- **No matter which role you play during an incident, it is important to be familiar with your operation's emergency response plan.**
 - Remember, this written program is the key to determining how to safely handle HAZMAT incidents at your site or facility.

*** * *SUMMARY* * ***

- **Hazardous waste can present "immediate dangers to life and health", as well as long-term health problems.**
 - On superfund cleanup sites.
 - At hazardous waste treatment storage or disposal facilities.
 - In emergency response situations.
- **That's why OSHA created HAZWOPER... the hazardous waste operations and emergency response regulation.**
 - So you can get the information, training and equipment you need to work safely around hazardous materials!