

TITLE: 2935 HAZARD COMMUNICATION: Your Key Chemical Safety

15 MINUTES

PRODUCTION YEAR: 2009

PROGRAM SYNOPSIS:

Despite years of hazard communication training, employees often ignore the hazards of chemicals in the workplace. This program takes a fresh approach to this topic and gives practical information on the use of chemicals to answer the following four questions: 1) What am I working with? 2) Can it hurt me? 3) How do I protect myself? 4) What do I do if something goes wrong? The use of the new Global Harmonization System to communicate chemical hazards on manufacturers' labels is also discussed.

Topics include information on manufacturers' labels, Material Safety Data Sheets, organizing work materials into hazard categories, safe use and storage of chemicals, PPE and protective clothing and emergency response.

SHOOTING LOCATION: A variety of industrial facilities where hazard chemicals are stored and used

PROGRAM OBJECTIVES: After watching the program, the participant will be able to explain the following:

- What specific information can be found on chemical manufacturers' labels;
- Why it is important to consult the Material Safety Data Sheet for detailed information about chemicals;
- How organizing chemicals into categories can help remember their hazards and precautions;
- How chemicals can affect your body both short and long-term;
- How to protect yourself from various chemical hazards;
- How to respond to an emergency involving a hazardous chemical.

INSTRUCTIONAL CONTENT:

INFORMATION FOUND ON MANUFACTURERS' LABELS

- The next time you reach for a container of chemical product, stop and take a look at the label. This is important information that serves as your first line of defense.
- Chemical manufacturers throughout the world are standardizing label information. You may hear this referred to as Global Harmonization; it's a way of communicating the hazards of chemicals by using the same language and symbols regardless of what country your workplace is located in.
- Labels, as they come from the manufacturer, may look different, but they all have the same five basic pieces of information: a signal word, a hazard statement, precautionary statements and symbols, a product identifier and the name of the manufacturer or supplier.
- The first thing to look for on a label is a signal word. This word is used to alert you to the potential hazard and to indicate the relative severity level of the hazard.
- Danger is for more severe hazards and warning is for less severe hazards. Sometimes, there is no signal word, but that doesn't mean that the product has no hazards.
- Next is the hazard statement. This is a phrase that describes the nature of the product hazards, including, where appropriate, the degree of hazard. This can be a word like "flammable" or "toxic" or a phrase like "respiratory sensitizer."
- Precautionary statements and symbols are listed next. This gives a description of the recommended measures to minimize or prevent harmful effects from exposure, improper handling or improper storage. Examples of precautionary statements might include "use gloves when handling" or "keep out of eyes and off skin."
- You might see symbols or pictograms that represent various chemical hazards. These might include flammables, corrosives, oxidizers, compressed gases or toxins. There are special symbols alerting you to health hazards and environmental hazards.
- You might simply see an exclamation mark symbol. This symbol is meant to draw your attention to the written information on the label.
- The product identifier is the name of the product inside the container along with a list of ingredients that contribute to the hazards of the material. You may also find the shipping name, shipping numbers and part numbers.
- Finally, each label will include name and contact information for the manufacturer or supplier.
- Your organization may use a color-code system on their labels: blue is for health hazards, red for flammables, yellow means it's reactive and white is for additional information.
- A number within the colored area tells you the degree of danger. It's a number-based system going from zero to four, with four being the most hazardous.
- So if you have a four in the red area, that means the chemical is highly flammable. If there is a zero in this space, then there is little or no hazard associated with the product when used according to the manufacturer's instructions.
- You might also see icons or symbols that tell you what kind of personal protective equipment you should use.

LABELING SECONDARY CONTAINERS

- Manufacturer's labels are the easiest way to find out about the material inside container, but what happens if you put something into another container? Simple, you label it; otherwise, if someone else comes along, they won't know what's in your container.
- If you leave it on the workbench for a while, you might not remember what you put in it.
- If you're the only person using the container, like a bucket of floor cleaner, and you'll use it all during your shift, then you don't have to label it. Still, it's a good idea to get into the habit of labeling.

MATERIAL SAFETY DATA SHEETS

- You can't fit everything about a material on the label. That's where the Material Safety Data Sheet, or MSDS, comes in.
- These documents contain detailed information about a product. It might look overwhelming at first, but it's organized logically into different sections, making it easier to find the product information. Fortunately, the important information is at the beginning of the sheet.
- The first few sections have information about the product, the company that makes it and the hazards, including the short-term or immediate effects and effects that happen with long-term exposures.
- Your supervisor can tell you how to get a copy of the safety data sheet at your workplace. If you have any questions or need more information, ask your supervisor.

ORGANIZING CHEMICALS INTO HAZARD CATEGORIES

- Whether it's from a label, a safety data sheet or your supervisor, hazard communication is an important part of your safety in the workplace. It's a lot of information and it's probably not practical to try to memorize information for every chemical.
- What you can do is organize the materials that you work with into chemical hazard categories like flammables, corrosives or toxins.
- These categories make it easier to remember the hazards and precautions for each group. For example, xylene, turpentine, toluene and lacquer thinner are different chemicals found in paints, but they are all flammable liquids, so the hazards and the precautions will pretty much be the same.
- Flammable substances catch fire or burn easily. They can be liquids, like gasoline, a gas, like propane or a solid, like sulfur.
- Corrosives include acids and bases and are often used for cleaning, etching or plating.
- Toxins are materials that can be poisonous to the body. We're used to thinking of toxins as liquids, like solvents, adhesives and lubricants, but they can also be gases, like carbon monoxide or sulfur dioxide or particle solids, like zinc or iron oxide fumes from welding and dust from plant processes.

HOW CHEMICALS CAN HURT YOU

- Chemicals can hurt you. Flammables can burn and corrosives can damage the skin, eyes, nose and lungs.
- Those hazards are pretty easy to understand, but toxins are different and the effects on your body might not always be obvious.
- Toxic materials can be poisonous to one or more of the body systems. Their effects can range from short-term problems like rashes or dizziness to long-term effects such as cancer.
- How dangerous a toxin is depends on how poisonous the material is, how much you've been exposed to, how often you're exposed and how long. The effects of toxins can be cumulative, meaning that it can build up over time.
- Some materials have hazards in more than one category and you need to protect yourself against all of them. The important thing is to recognize the hazards and use the proper techniques to control them.

PROTECTING AGAINST CHEMICAL HAZARDS

- Safe use of flammables means controlling sources of ignition, including flames, sparks and other hot work and using good ventilation to minimize the buildup of flammable vapors.
- Use containers specially designed for flammable liquids that are unbreakable, have flame arrestors and spring-loaded covers.
- Keep only small amounts of flammables in work areas and make sure the containers are properly labeled.
- Make sure all containers are bonded and grounded when dispensing or transferring flammable materials.
- Cover containers when they're not in use and make sure that any flammable-soaked rags are in covered, protected containers that are emptied regularly.
- Be sure to store flammables properly. Flammables should always be stored in flammable cabinets when they are not in use; larger amounts should be placed in specially-designed storage rooms, which have controls to minimize the risk of fire or explosion.
- Corrosive materials come in many forms and strengths, and can eat away equipment. If corrosives can dissolve things you work with, they can obviously affect your skin, eyes and lungs.
- You need to make sure your personal protective equipment is appropriate to the degree of danger. This includes wearing gloves, protective clothing and eye and face protection.
- Your best protection when working with toxic chemicals is to avoid getting the material in or on you. You can avoid breathing harmful vapors or fumes by making sure there's proper ventilation or by using an appropriate respirator.
- Avoid eating or drinking hazardous materials by washing often throughout the day, especially before you eat, smoke or use the restroom.
- Eat your lunch in an area away from chemical storage. Be sure all containers are labeled properly so no one eats or drinks an unknown substance.
- Keep hazardous materials off your skin by using protective clothing such as gloves, aprons, protective suits or liquid-proof boots.
- Prevent splashes in your eyes by wearing good eye protection such as goggles or face shields.

WHAT TO DO IF SOMETHING GOES WRONG

- You follow the rules and take precautions, but what happens when something unexpected occurs? You need to know and understand the final part of chemical safety, "What do I do if something goes wrong?"
- Every company should have an emergency procedure for hazardous material spills, releases or fires. You need to know and understand your role in this process and that means knowing what you're dealing with and how to protect yourself.
- Generally, a small spill of a low-hazard material needs to be wiped up or swept up right away. Make sure you wear gloves or other protective equipment to protect your skin. Talk to your supervisor about proper disposal of the spilled material.
- Responding to large spills of certain materials requires special precautions, so don't attempt this type of cleanup on your own. Leave it to the people who have the special training and equipment to do it safely.
- Your role in these types of emergencies may be to simply evacuate the area and activate your facility emergency response system or to shut down a process or equipment that may affect the spill.
- If you have a designated evacuation meeting place, be sure to check in with your evacuation coordinator or supervisor.