Hazard Communication Basic Training

This training is best viewed in Internet Explorer 6.0 or above.

Hazard Communication

Introduction

Hazard Communication training, also called "Right to Know" or "HazCom", is required by OSHA. You have the right to know about any chemicals you use at work. You need to know about the chemicals' properties, their safety hazards and risks, and how to protect yourself from these chemicals.

The following slides will help equip you to recognize chemical hazards and to keep yourself safe and healthy. We'll cover some of the hazards related to chemicals, their potential effects on your health, and how you can protect yourself from these dangers. Knowing these things will help you minimize the risk of illness or injury.

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Physical Hazards

Chemicals present both physical hazards and health hazards. Beware of physical hazards from these substances:

Flammable Liquids or Solids	• Can easily catch fire; may explode under some conditions • ex. paints, gasoline
Combustible Liquids	• Can ignite, but not as easily as flammable liquids
Compressed Gases	• Stored under high pressure • If container or piping is punctured, gases may rush out and cause health problems or turn the gas cylinder into a deadly projectile
Explosive Materials	• Explode when ignited or pressurized
Unstable Materials	• Highly sensitive to conditions, such as exposure to: • air • high temperature • high pressure • sudden shock • light
Water Reactive Materials	• Become highly dangerous when exposed to water

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Health Hazards

Improper handling of chemicals puts you at risk of serious health consequences, both short-term and long-term.

ACUTE HEALTH HAZARDS

- These short-term symptoms typically appear right after exposure to high concentration of chemicals:
  - Headaches, dizziness, nausea
  - Difficulty breathing, burning sensation in lungs
  - Rash
  - Burning sensation in eyes
  - Chemical burns
- Symptoms are painful and uncomfortable, but can usually be treated.
- Corrosives and irritants are the most common danger.

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Health Hazards

CHRONIC HEALTH HAZARDS

- These long-term illnesses may appear after months or years of exposure to low concentrations of a chemical:
  - Damage to central nervous system
  - Sterility
  - Heart ailments
  - Liver, kidney or lung damage
  - Cancer
- Some illnesses are irreversible or deadly. Many have no known cure.
- Examples of dangerous chemicals include neurotoxins and carcinogens.

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Routes of Exposure

Now that we've examined the effects of chemical exposure, let's look at how you might become exposed.

1. INHALATION

Breathing in vapors or fumes. Anything airborne can be inhaled. This is the most common method of exposure.

2. ABSORPTION

Materials are absorbed into your body through skin or an open wound. This is especially dangerous with corrosive materials.

3. INGESTION

Eating or drinking chemicals, e.g. forgetting to wash hands before lunch.

4. OCULAR ENTRY

Chemicals splashing in your eyes, or you might rub your eyes without washing your hands.

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Hazard Communication Program

Staying safe from chemical hazards means reducing exposure to chemicals whenever possible. As required by OSHA, our facility has a Hazard Communication Plan in place to help keep employees safe from chemical dangers. The goals of this program are:

- To reduce the risks of working with chemical hazards
- To give information about potentially dangerous substances in the workplace
- To reduce incidents involving hazardous substances

To access KUKA-AT's HazCom plan, ask your supervisor. Or from any work computer, open Internet Explorer, then look under "Records and Docs" on our internal website.

In accordance our HazCom plan, the rest of the slides will look at sources of information regarding hazardous chemicals and how you can protect yourself from potential dangers.

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Finding Information

LABELS

The first step towards protecting yourself is to always look at the label before using the chemical. Never use an unfamiliar substance without first reading the label.

Labels provide the following information:

- Chemical name
- Manufacturer
- Appropriate hazard warnings, e.g. toxic, corrosive, carcinogen
- Recommended personal protective equipment
- Safe handling practices
- Proper emergency response

All containers must be labeled clearly and legibly.
Never remove or deface a label.

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Finding Information

LABELS

Rating systems are used to quickly give information on chemical properties. Each color represents a different type of hazard. The numbers indicate the severity of the hazard.

HEALTH HAZARD

0 Ordinary material
1 Slightly hazardous
2 Requires breathing apparatus
3 Requires full protective clothing
4 Deadly hazard

FIRE HAZARD

0 Will not burn
1 Burns when pre-heated
2 Burns if moderately heated
3 Ignites at room temperature
4 Extremely flammable or explosive

REACTIVITY

0 Stable
1 Unstable if heated
2 Violent chemical change possible
3 Shock or strong heat may detonate
4 May detonate

SPECIFIC HAZARDS

Water-reactive
Corrosive

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Finding Information

MATERIAL SAFETY DATA SHEETS (MSDS)

MSDS are documents prepared by the manufacturer to provide detailed information about a chemical's properties, hazards, and safe handling techniques. MSDS offer more information than labels.

KUKA-AT has an MSDS for every chemical used in our facility. These MSDS may be accessed at any time, by anyone. MSDS are located at:

Saginaw:	Manufacturing Electrical Office
Fenton:	Northeast Wall of Shop Floor

When you are unsure of a chemical's properties or dangers, recommended personal protective equipment, or emergency handling, consult the MSDS.

Always review the MSDS before working with a new chemical. Knowing how to handle the chemical safely and how to address emergency situations will help reduce the risk of accident and injury.

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Finding Information

MATERIAL SAFETY DATA SHEETS (MSDS)

An MSDS contains information regarding:

- Chemical name
- Manufacturer's / Importer's name and contact information
- Hazardous ingredients
- Physical characteristics, e.g. general appearance and odor
- Conditions under which the chemical may ignite or explode
- Health hazards, routes of exposure, and signs of exposure
- Substances with which the chemical may react badly
- Special precautions, such as:
  - Safe handling practices
  - Recommended personal protective equipment
  - What to do in case of spills or leaks

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Personal Protective Equipment

Beyond checking labels and MSDS, Personal Protective Equipment (PPE) provides another method of keeping you safe. If specific PPE is recommended for working with a particular chemical, it will be noted on the label and MSDS.

- ***SAFETY GLASSES AND GOGGLES*** protect against splashes, sprays and mists. At KUKA-AT, industrial safety glasses with side shields are required at all times on the Manufacturing Floor.
- ***GLOVES*** protect your hands when you handle chemicals.
- ***RESPIRATORS AND DUST MASKS*** guard against vapors, fumes and dusts.
- ***FOOT, HEAD AND FULL BODY PROTECTION*** protect against skin contamination from acids, oxidizing agents and so on.

ALWAYS CHECK THE PPE REQUIREMENTS BEFORE USING A CHEMICAL!

*For more information, consult your supervisor or the PPE training module.

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General Work Practices

The following practices will help reduce your risk of exposure to chemical hazards:

- Use chemicals only as directed.
- Before using chemicals, inspect equipment for leaks or loose connections.
- Make sure you have adequate ventilation.
- Never smell, inhale or taste a chemical. To identify a substance, check the label or MSDS. If you are still unsure, ask your supervisor.
- Keep chemicals away from hands, face, clothing and shoes.
- Don't eat or drink while using chemicals.
- After use, wash your hands thoroughly with soap and cool water.

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Safe Handling Procedures

If a chemical requires special precautions during handling and storage, this will be specified on the chemical's label and MSDS. Always follow the instructions provided on the MSDS.

Here are a few general hints for handling chemicals safely to keep them stable and prevent bad reactions:

- Keep flammable substances away from heat, flame or direct sunlight.
- Store chemicals far away from substances with which they might react badly.
- Store chemicals away from exposure to air or light.
- Avoid exposing chemicals to sudden shocks like dropping or shaking them. Even if the container remains intact, some substances can still explode upon such shock.

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Hazard Recognition

A chemical's label and MSDS indicate likely worst-case scenarios and how to handle such emergencies. This includes ways to recognize hazardous emergencies involving that chemical and warning signs for when an emergency has occurred.

For instance, knowing emergency procedures in advance for a chemical spill or fire will equip you to recognize and address dangerous situations.

The type of emergency incidents most likely to occur will depend on which chemical you're dealing with.

Being aware of possible worst-case scenarios will help prevent emergencies. If an accident does occur, you'll know what to do.

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Spill and Leak Response

What should you do if a spill or leak occurs?

1. Remove potential sources of ignition, if possible.
2. Evacuate the area.
3. Do not try to clean up the spill. Page the Spill Response Team; they will come and handle clean-up. If possible, give them the names of the chemicals involved.
4. Notify your supervisor of the situation.
5. Stay away from the area until given the "all clear" by your supervisor.

A chemical's MSDS provides specific instructions on spill and leak response.

A good rule of thumb is to be aware of what chemicals are around you.
Read the MSDS ahead of time so you can be ready to act in an emergency.

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In Case of Exposure

If you are exposed to a chemical:

- React fast!

Inhaled	Move to fresh air.
Eyes	Flush with running cool water for 15 minutes.
Skin	Flush with cool water for 15 minutes.
Swallowed	Seek immediate medical attention

- Report the incident immediately to your supervisor.
- If a delayed reactions occurs, such as a rash, seek medical attention.

If a co-worker is exposed:

- Page the Emergency Response Team to that location for a medical emergency. Notify the supervisor of the incident.
- Provide the name of the chemical(s) to which your co-worker was exposed.

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Conclusion

This concludes Hazard Communication basic training.

For more information, please consult either
your supervisor or the Safety Director.

Don't forget to complete and submit the quiz to Human Resources!

Click here to download the quiz.