#### **CHEMICAL SAFETY AWARENESS**

If you're skeptical about how hazardous chemicals can be, read about these real accidents investigated by the U.S. Chemical Safety and Hazard Investigation Board:

- When employees mixed chemical wastes in a 55-gallon drum, an uncontrolled chemical reaction between the chemicals produced a large amount of vapor that exploded, seriously damaging the building and injuring 17 employees and 14 members of the public. Had OSHA hazardous waste regulations been followed the accident could have been prevented.
- One employee was killed and eight others injured when a spark from welding equipment ignited vapors in a sulfuric acid tank. Tons of the powerful corrosive were also released into the environment. This accident could have been avoided had the potential risks of performing hot work under the existing conditions been appreciated and proper precautions taken.
- As two tank trucks were unloading a highly volatile waste material into a collection pit, a flammable vapor cloud formed in the unloading area. The vapor was then drawn into the air intakes of the trucks' running diesel engines, causing the engines to race and backfire. The flammable cloud ignited. Two employees were killed and two severely burned. The accident could have been prevented had the hazards been recognized and the chemical wastes handled properly.



# **MOC Safety and Environmental Management**

# Safety Works

**Marine Operations Center** 

**July 2005** 

# Terrorism and Safety

### Check your knowledge of workplace security

The more you know about security measures and the steps you can take to protect yourself and your co-workers in a terrorist emergency, the better prepared you'll be to deal with any situation. Take this quiz to see how well prepared you are.

- **1.** Which is the best source of specific information about what to do in case of a terrorist attack on your workplace?
  - a. Your organization's Emergency Action Plan
  - b. U.S. government Homeland Security website
  - c. Local television news
- 2. What should you do if you notice an unfamiliar person in your workplace?
  - a. Nothing—the person wouldn't be there if he/she didn't have a good reason
  - b. Call the police
  - c. Ask the person for identity and purpose for being here
- **3.** Cyberterrorism is:
  - a. A remote-controlled attack
  - b. The actual or threatened destruction of computer networks
  - c. Neither a nor b
- 4. The proper response to the actual or threatened release of chemical or biological agents is:
  - a. Turn off air handling systems, e.g., heating, ventilation, or air conditioning
  - b. Call 911 or security personnel
  - c. Both a and b
- **5.** "Shelter-in-place" in the event of a threatened attack means:
  - a. Quickly building a shelter for yourself wherever you are
  - b. Take shelter in a designated area of the building
  - c. Evacuate the building as quickly as possible
- **6.** If you see an envelope or package with no return address in an unexpected place, the best response is to:
  - a. Immerse it in water
  - b. Open it to see what's inside
  - c. Notify security personnel
- 7. The best expression of how to deal with the threat of terrorist attacks is:
  - a. Don't give up the ship
  - b. Be prepared
  - c. Don't count your chickens before they hatch

**Answers:** (1) a (2) c (3) b (4) c (5) b (6) c (7) b

Web Sites for Security: NOAA and Department of Commerce Office of Security at NOAA http://www.osec.doc.gov/osy/NOAA/NOAA2.htm DOC Office of Security http://www.osec.doc.gov/osy/



#### **FOCUS ON THE FIVE Ss**

The Japanese have long recognized the vital importance of workplace housekeeping. Many Japanese companies follow a simple but rigorous housekeeping program known as the Five Ss:

- 1. Seiri, which can be translated as sorting, refers to the practice of sorting through all the tools, materials, etc., in the work area and keeping only essential items. Everything else is stored or discarded. This leads to fewer hazards and less clutter to interfere with productive work.
- 2. Seiton, or organizing, focuses on the need for an orderly workplace. Tools, equipment, and materials must be systematically arranged for the easiest and most efficient access. A place for everything and everything in its place.
- 3. Seiso, which means cleaning, indicates the need to keep the workplace clean as well as neat. Cleaning in Japanese companies is a daily activity. At the end of each shift, the work area is cleaned up and everything is restored to its place.
- 4. Seiketsu, or standardizing, allows for control and consistency. Basic housekeeping standards apply everywhere in the facility. Everyone knows exactly what his or her responsibilities are. Housekeeping duties are part of regular work routines.
- 5. Shitsike, which means sustaining, refers to maintaining housekeeping standards and keeping the facility in safe and efficient order day after day, year after year.

# Workplace Hygiene

### Cleanliness is important to good health

Dirt and dust in your work area can harbor bacteria that can cause illness. Chemicals and other hazardous substances on work surfaces or work clothes and PPE can enter your body and make you sick. Follow these guidelines to stay healthy:

#### 1. Practice good personal hygiene:

- © Wash hands frequently and thoroughly.
- © Keep cuts and sores covered with a bandage.
- © Keep unclean hands away from your mouth, nose, and eyes.

#### 2. Keep work surfaces clean:

- © Clean work surfaces regularly to remove dirt and dust.
- © Wipe down work surfaces after using hazardous materials.

#### 3. Keep work clothes clean:

- © Remove and dispose of contaminated clothes in the proper area.
- Wash promptly after removing clothes.
- © Store and wash street clothes and work clothes separately.

#### 4. Keep food, beverages, and tobacco products out of the work area:

- © Eat and smoke only in designated areas.
- © Store food at the right temperature.
- Wash your hands before eating, drinking, or smoking.

It takes only a few minutes during the workday to keep things clean.

# **Cramped and Dangerous**

# How to avoid confined space accidents

While attempting to clean and repair a drain line, a worker entered the confined space of a wastewater holding tank that was 4 feet in diameter and 8 feet deep. Sulfuric acid was used to unclog a floor drain leading into the holding tank. The worker collapsed and fell face down into 6 inches of water in the bottom of the tank. A second worker attempted a rescue and was also overcome and collapsed. The first worker was pronounced dead at the scene, and the second worker died 2 weeks later. Cause of death was attributed to asphyxiation by methane gas. Sulfuric acid vapors may have also contributed to the deaths.

This case is typical of the type of accident that can occur in confined spaces. Working in a confined space can be a challenging and dangerous job. Approximately 100 workers die annually in accidents. To prevent a tragedy:

- **⊃** Know the hazards of exposure, its signs, symptoms, and consequences.
- **⊃** Use appropriate PPE.
- **⇒** Maintain communication at all times with outside attendants.
- **⊃** Exit the space as soon as possible
  - When ordered by an authorized person
  - When recognizing signs of danger
  - When an alarm sounds.
- **⊃** Alert the attendant when you recognize a hazard.



#### ANGER MAY TRIGGER STROKE

Here's a good reason to keep your cool: A study conducted by the Israel Center for Disease Control finds that anger and other negative emotions may trigger strokes.

Doctors know that emotional and mental stress have been linked to heart attacks. Now the researchers, who studied 200 stroke victims, say that nearly a third of those people reported an emotion such as anger, guilt, fear, irritability, or hostility 2 hours before their stroke.

Another trigger was a sudden change in body posture due to a startling event, such as reacting suddenly to a loud noise or an abrupt temperature change.

"It is possible that negative emotions evoke more intense reactions," conclude the researchers. Although they say that it is too early to draw long-term conclusions, keeping negative emotions at bay whenever possible certainly seems like a good idea.

Source: Neurology, 12/14/04

#### KEEP A GOOD HEAD ON YOUR SHOULDERS

If you ride a motorcycle, or know someone who does, you need to know that a rider without a helmet is three times more likely to be killed in an accident. Helmets reduce the risk of head and neck injuries—especially serious ones.

Think of it this way: Imagine your unprotected head hitting the pavement as you fly off a motorcycle at 60 miles per hour. With that image in mind, it's easy to remember to wear a helmet.

# In the Danger Zone

### How much do you know about machine safety?

Test your knowledge of machine safety with the following fill-in-the-blanks quiz
1. Three hazards of working with machines are,,
and
<b>2.</b> OSHA requires machines to be equipped with to keep hands,
feet, and other body parts away from moving parts during operation.
<b>3.</b> Never operate machinery if you're under the influence of or
4. When a machine is being serviced or repaired, it should be
so that it can't start up accidentally.
<b>5.</b> Two common types of PPE you might need when operating a machine are and
<b>6.</b> One type of PPE you should <i>not</i> use when operating machinery is
Answers:
<ul><li>(1) Mechanical hazards (getting body parts caught in the machine), electrical hazards (shocks and electrocution), and noise hazards (that damage hearing)</li><li>(2) Guards</li></ul>
(3) Alcohol or drugs, even prescription drugs that could make you drowsy
(4) Locked out
(5) Safety glasses (or goggles) and hearing protection
(6) Gloves (because they could get caught in the machine's moving parts)

# **Be Good to Your Back**

# Protect your back from hazards

The best way to protect your back against the many hazards it faces on and off the job is to develop habits that reduce the strain on back muscles. For example:

- Slow down. Back injuries that result from slips, trips, and falls can often be prevented by walking instead of running from place to place. Wear shoes with nonskid soles and, of course, look where you're going.
- Stretch first. Your back muscles, and the stomach muscles that help them, benefit from stretching before heavy use, so stretch gently before lifting or other back activity. Gentle stretches at the beginning of the day, and periodically during the day, also help keep your back muscles flexible.
- Rest your back. When you sleep, your back gets a rest from carrying your body around. To give your back the best rest, sleep on a firm mattress. The best sleep positions for your back are on your side with your knees bent or on your back with your knees elevated.
- ◆ Lift safely. Break large loads down into smaller, more manageable parts. Whenever possible use material handling equipment, such as hoists, hand trucks, and dollies rather than your body to lift objects. Push hand trucks, don't pull them.



#### HIGH TEMPERATURE + HIGH HUMIDITY + PHYSICAL WORK = HEAT ILLNESS

Now that summer's here, OSHA reminds workers to remember the formula above and beware of heat illness. Serious heat illness occurs when the body is unable to cool itself through sweating.

The most severe heat-induced illnesses are heat exhaustion and heatstroke. If left untreated, heat exhaustion could progress to heatstroke and possible death.

#### What Are the Symptoms?

- Headaches
- Dizziness or lightheadedness
- Weakness
- Mood changes such as irritability, confusion, or the inability to think straight
- Upset stomach or vomiting
- Decreased or dark-colored urine
- Fainting or passing out
- Pale, clammy skin

#### What Should You Do?

- Act immediately.
- Move the victim to a cool, shaded area to rest. Don't leave the person alone. If symptoms include dizziness or lightheadedness, lay the victim on his or her back and raise the legs 6 to 8 inches. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (a cup every 15 minutes) unless nauseated.
- Cool the person's body by fanning and spraying with a cool mist of water or applying a wet cloth to the person's skin.
- Call 911 if the person does not feel better in a few minutes.

# **Keep S-A-F-E!**

# Remember these four steps to greater safety

Prevent accidents on the job by staying S-A-F-E, which means:

### S tay alert.

Give your work your full attention. Avoid becoming complacent or taking shortcuts, no matter how many times you've done a job or how many years of experience you have. Be prepared for the unexpected.

### A sk questions.

Check with your supervisor when you are unsure about a substance, procedure, or piece of equipment. If you're not sure if something is a hazard, ask. If something feels wrong, ask. Never let a safety question go unanswered!

#### F ocus on safety problems.

Take time to look for and identify hazards. Inspect your work area, tools, equipment, and materials before you start to work each day. Anticipate potential problems before you begin a job, and be prepared to deal with problems that arise.

#### E liminate hazards.

Take responsibility for your safety. Follow safety rules. Used assigned PPE. Keep your work area neat and safe. Remove or repair safety hazards you're trained to handle, and report other hazards to your supervisor right away.

Make safety an important part of your job—every working minute of every day.

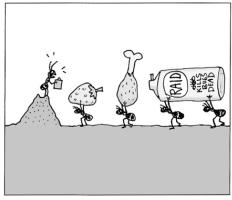
# Home, Safe Home

# Prevent falls around your house this summer

Did you know that falls account for more than half of all accidental deaths in the home? Since your family will probably be spending more hours at home during the summer months, they may be more at risk than during the rest of the year.

Follow these precautions from the experts at the Ohio State University Extension:

- Make "Walk, Don't Run!" a household rule.
- Wipe up spills immediately.
- Be careful when going up or down stairs in flip-flops or other floppy sandals.
- Never use small rugs at the top or bottom of stairways.
- If you use throw rugs in other parts of the home, make sure they are large enough to lie flat. Tape the edges down to keep them from skidding.
- Don't stretch electrical cords across the floor. Be careful where you place temporary-use cords such as vacuum cleaner and extension cords.
- Use a ladder or stepladder rather than a chair to reach high shelves.
- Keep others away while washing floors to avoid slips on wet surfaces.
- Install nightlights in bedrooms, hallways, and bathrooms.
- Close drawers as well as cabinet and closet doors after use.
- Teach children not to leave toys, shoes, balls, or other items lying around, especially on stairs.



"Good...very good...and HEY!
Are you two out of your minds?"

#### KIDS NEED ONLINE SAFETY RULES

Make sure your kids are safe online when you're not around to check up on them by setting up these rules from the Federal Emergency Management Agency (FEMA):

- Don't give out personal information, such as address, phone number, name and location of school, or parents' work address or phone number.
- Tell your parents if you see any information or receive any e-mail that makes you uncomfortable.
- Never make a date to meet someone you chatted with online without your parents' permission, and then meet only in a public place in the company of a parent.
- Never send a photo of yourself, your room, your family, etc. without your parents' permission.

# KEEP SAFE AND SECURE ON VACATION THIS SUMMER

#### If you're staying in a hotel or motel:

- → Make sure your room has a working smoke alarm.
- → Read fire instructions posted in your room as soon as you check in.
- > Find the closest fire exits as a family.
- → Don't leave money or valuables in room.

#### If you're renting a vacation home:

- → Keep your vacation home locked when you're out and at night.
- → Review escape plans with your family in case of a fire or other emergency.
- → Follow all other safety and security precautions that you take in your own home.

# **Keep Your Family Safe**

### Don't bring chemical hazards home

You love your family and you wouldn't do anything to hurt them, would you? But thousands of workers around the country have done just that. They didn't mean to, of course. They had no idea that they were actually poisoning their kids and spouses. But they did so nevertheless. How? Without realizing it, they brought hazardous chemicals from work home with them.

#### **How Your Home Can Become Contaminated**

Here's how hazardous substances from work could enter your home:

- 1. Work clothing. Chemicals on your clothes and shoes can rub off onto furniture or carpets. If work clothes are laundered with the family wash, everyone's clothes can become contaminated.
- **2. Tools and equipment.** Chemicals can also adhere to tools and equipment. If you bring them home—even just into your workshop—you could be spreading chemical contamination to your family.
- **3. Other items from work.** Contaminated items from work, such as bags, boxes, rags, metal drums, and scrap lumber, can cause serious or fatal poisonings of family members.
- 4.Your body. If you work with or around hazardous chemicals and you don't wash carefully before leaving work, you could bring those chemicals home on your hair, your hands, and your skin.

#### **How to Prevent Home Contamination**

To protect your family from harmful chemicals, always take these precautions:

- ✓ Change out of contaminated clothing and wash thoroughly with soap and water before going home.
- ✓ Leave soiled clothes at work to be laundered.
- ✓ Store street clothes separate from work clothes and away from any possible chemical contaminants.
- ✓ Don't bring home any object from work that might be contaminated.

If you are exposed to hazardous chemicals on the job, you take precautions to protect yourself at work, like wearing PPE and following safe work procedures. But remember to take these additional steps to make sure you don't take chemical contamination home with you and put your family at risk.

# Don't Play the Fool!

# Horseplay takes away your margin of safety

Working safely requires knowledge, attention, and common sense. So don't joke around with your well being and that of your co-workers. When you're at work:

#### DON'T ...

- × Run
- **✗** Chase or push another person
- ➤ Throw tools, materials, PPE, beverage cans, etc.
- ➤ Play with sharp-edged tools
- **✗** Speed or show off while driving a vehicle
- \* Ride on a conveyor or forklift
- × Play practical jokes
- ➤ Distract someone who's working with tools or machinery
- \* Wrestle or roughhouse with a co-worker
- **✗** Jump from heights
- ✗ Perform daring stunts
- **★** Challenge others to perform stunts

Most accidents are caused by unsafe acts—and horseplay is *definitely* an unsafe act. So don't be fooled—the workplace is no place to fool around.