

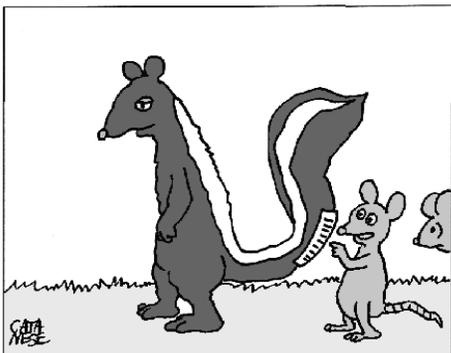
SAFE EXPOSURE LIMITS

To guard against dangerous health effects from hazardous materials in the workplace, scientists have identified exposure limits for different kinds of materials. Generally, these limits are the maximum amount of a material that you can be exposed to without possibly suffering negative health effects. This information is contained on Material Safety Data Sheets (MSDS). MSDS sheets provide information about the substance's physical data, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill handling procedures. Here's a rundown on the exposure limits, which you'll find on the Material Safety Data Sheets (MSDS):

⇒ **Permissible exposure limit (PEL)** is often expressed as the quantity of a hazardous material that an average person can safely be exposed to in an 8-hour workday. We keep exposure levels below the PEL with safety controls such as ventilation and Personal Protective Equipment (PPE). The limits are usually expressed in parts per million (ppm) or milligrams per cubic meter of air (mg/cu meter).

⇒ **Threshold limit value (TLV)** is another way of looking at exposure limits. It's similar to the PEL and, in fact, the TLV is the model on which the PEL is based. TLV is the amount of a material in the air that almost all healthy adult workers are predicted to be able to tolerate without adverse health effects.

⇒ The exposure limits may be measured over an 8-hour workday (**time-weighted average, or TWA**), or over a very short term of exposure (**short-term exposure limit, or STEL**).



"Oh man – check out the label! You got isopentyl mercapton, methyl crotyldisulfide..."

RIDDLE OF THE MONTH

What question can someone ask all day long, always get completely different answers, and yet all the answers could be correct?

Answer on Page 2 in Safety Bits and Pieces.

Safety Matters



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Hazardous Materials

What you need to know

Hazardous materials are just about everywhere these days, and millions of workers are exposed to them on the job. There's a lot you need to know about the materials used and stored in our workplace, beginning with the form in which you might find them. Materials come in three basic forms:

- **Solids** such as powders, dusts, fumes, and fibers
- **Liquids**, including both fluids and mists
- **Gases and vapors** that are given off by solid or liquid chemicals

Whether they're solid, liquid, or gas, hazardous materials present two basic hazards—physical and health hazards.

Materials with **physical hazards** include those that are:

- ☛ **Flammable**, meaning that they catch fire easily. Examples are gasoline, propane, and oil-based paints.
- ☛ **Explosive**, meaning they can explode, such as materials in aerosol cans.
- ☛ **Reactive**, meaning they can react dangerously if they come into contact with another material. Sometimes, even contact with air or water can cause a violent reaction.

Materials with **health hazards** include those that are:

- ☛ **Corrosive**, meaning that they can eat away or otherwise damage other substances, including your skin.
- ☛ **Toxic**, meaning that they are poisonous and can make you sick or kill you.

To protect yourself from hazards, you need to do four important things:

- 1. Inform yourself about material hazards and precautions** by reading container labels and consulting the material safety data sheet (MSDS) for every material with which you come in contact.
- 2. Wear required personal protective equipment (PPE)**, such as gloves, eye protection, and respirators, and inspect your PPE carefully before each use.
- 3. Follow established work procedures** and ask questions if there's anything you don't understand.
- 4. Take advantage of ways to minimize exposures**, such as using ventilation and following the guidelines established by exposure limits (for additional information on exposure limits see **News and Notes**, page 1, column 1) listed in the MSDS.

Do You Remember How to Do the Heimlich Manuever?

A person can choke to death in a couple of minutes. The fastest way to find out if someone is choking is to ask the person, *Are you choking?* If the person can cough or talk leave him or her alone. But if the person can't talk, try the Heimlich manuever:

- 1). Stand behind the victim and wrap your arms around the waist.
- 2). Make a fist with one hand. Place your fist, thumb side in, against the victim's stomach, above the navel but below the ribs. Grab your fist with the your other hand.
- 3). Pull in and up sharply. Repeat if necessary.

Safety Bits & Pieces

PERSONAL PROTECTIVE EQUIPMENT (PPE) CHECKLIST

Do you:

- Know the hazards of your job and which PPE you need to keep safe?
- Always use the PPE provided just the way you've been taught?
- Check your PPE before *each* use to make sure it's in good, safe condition?
- Make sure you get a good fit?
- Report any problems with PPE to your supervisor right away?
- Remove PPE carefully so that you don't contaminate yourself with hazardous substances that might be on the outside surface of the PPE?
- Take care of your PPE?
- Replace PPE that's worn, damaged, or defective immediately?
- Ask your supervisor if you have any questions about your PPE?

REMEMBER: Your PPE won't protect you if you're not wearing it!

PREVENT COMPUTER STRAIN

If you spend a lot of time on a computer at work or at home, make these adjustments to prevent strain and pain:

- The **monitor** should be in front of you, about arm's length away, and positioned so that your eyes are aligned with a point 2 to 3 inches below the top of the screen.
- The **keyboard** should be positioned so that your wrists remain in line with your forearms and not angled up or down or turned in or out.
- The **mouse** should be positioned so that you can keep your elbow close to your body, with your mouse hand just above elbow level.

PREVENT EYE INJURIES

February is Workplace Eye Health and Safety Month. Protect your eyes this month and all year.

- ☺ **Obey workplace warning signs** that call for eye protection.
- ☺ **Wear protective eyewear** before entering an area where hazards may be present.
- ☺ **Assume hazards are present** whenever you're in doubt. Better safe than sorry.
- ☺ **Get a good fit** for your eye protection.
- ☺ **Inspect protective eyewear before each use** and replace immediately if there are any defects.
- ☺ **Store eye protection safely** where it won't get scratched or damaged, and keep it clean.
- ☺ **Ask your supervisor** whenever you're unsure about which type of eye protection is required for the job.

Remember these tips when working around the house, cutting grass, or using various power tools or chemicals.

RIDDLE OF THE MONTH ANSWER:

What time is it?

What's Your Safety Role?

You're more important than you may think

Read each question or statement below, and circle the best choice (a, b, or c).

- 1. How would you describe your role in ensuring your safety?**
 - a. You play the most important role.
 - b. You play the least important role.
 - c. You play no role.
- 2. Taking ownership for safety means that you:**
 - a. Make your own safety rules
 - b. Are responsible for your safety
 - c. Have to buy your own PPE
- 3. Continuous safety improvement is primarily driven by:**
 - a. Management initiatives
 - b. Discipline for violations
 - c. Your safe behavior
- 4. What is the relationship between safety on the job and safety at home?**
 - a. You should take your work PPE home to use around the house.
 - b. You should practice the safety precautions at home that you do at work.
 - c. There is no relationship.
- 5. One good way to improve safety on the job is to:**
 - a. Set personal safety goals.
 - b. Compete with co-workers for safety incentives and rewards.
 - c. Rely on experts to find safer ways for you to do your job.

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

Will You Choose Safety?

It's your call

- 1.** Jane needs to set up an extension ladder to reach a roof 12 feet from the ground. How far away from the wall should she place the base of the ladder?
 - a. 2 feet
 - b. 3 feet
 - c. 4 feet
- 2.** Joe has to use a solvent he's never used before, and he isn't sure what kind of PPE he needs, if any. What should he do?
 - a. Ask a co-worker.
 - b. Check the MSDS.
 - c. Assume he'll be safe if he wears work gloves.
- 3.** Mary notices that her machine is not operating properly. Should she:
 - a. Turn off the machine and report the problem to her supervisor.
 - b. Keep working and report the problem at the end of her shift.
 - c. Try to fix the problem herself.
- 4.** Bill is a forklift operator whose prescription makes him drowsy. Should he:
 - a. Drink coffee to keep awake.
 - b. Notify his supervisor about the side effects.
 - c. Skip his medication on workdays.
- 5.** Chuck cuts himself with a box cutter. Should his co-worker Ellen:
 - a. Apply direct pressure to the wound with her bare hands.
 - b. Have Chuck apply direct pressure while she gets gloves.
 - c. Wash the wound with soap and water before touching it.

Answers: (1) b (2) b (3) a (4) b (5) b

ON THE LIGHTER SIDE...

A man went to visit a friend and was amazed to find him playing chess with his dog. He watched the game in astonishment for a while.

"I can hardly believe my eyes!" he exclaimed. "That's the smartest dog I've ever seen."

"Nah, he's not so smart," the friend replied. "I've beaten him three games out of five!!"

SAFETY TIP OF THE MONTH

Install smoke alarms in every home, on every level, outside each sleeping area and in each bedroom. Test and vacuum your smoke alarms each month to make sure they are working.

QUOTATION OF THE MONTH

"Success is not final, failure is not fatal; it is the courage to continue that counts."

Sir Winston Churchill