

HazSafety

Training Advisor

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All wet!

This issue of HazSafety focuses on various issues surrounding liquids in the workplace that employees will find helpful when working with hazardous substances, chemicals, materials, and waste. We'll cover these issues in a variety of articles, activities, and quizzes, as outlined below:



What's in that pipe? 2

Reviews requirements and color scheme for labeling pipes in the workplace.

Audience: Useful for all employees working in facilities that have marked pipes.



Making a splash. 3

Discusses requirements for emergency eyewash/showers and reviews proper use.

Audience: Geared to employees who may be exposed to corrosive or hazardous chemicals.



Liquid transport 4

Explains hazardous and non-hazardous liquids in transport, and the requirements for drivers to have the hazardous materials endorsement (HME) and tanker endorsement. **Audience:** Valuable for all employees whose work activities include driving and transporting hazardous liquids.



Liquid and flammable. 5

Describes how OSHA and EPA look at handling and storing flammable waste, and provides safe handling and storage guidelines. **Audience:** Targeted toward employees who handle and store flammable waste, or who work in areas where flammable wastes may be handled or stored.

Quiz: Test your knowledge. 6

Allows readers to test their knowledge of hazcom, HAZWOPER, hazmat, and haz-waste issues covered in this newsletter.

Learning activity: Fill In The Blank Game 7

Training notes 8

These training notes help you incorporate company-specific information into your program.



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What's in that pipe?

Except in a few specific circumstances, OSHA does not require pipes carrying hazardous substances in the workplace to be labeled. However, pipes carrying flammable or combustible materials must be identified, and this is frequently accomplished by labeling them.

The ANSI/ASME A13.1-2007 Scheme for Identification of Piping Systems specifies piping identification that is short in length and easy to understand, along with arrows to indicate the direction of flow. Labels should be applied to piping at valves and where the pipes branch or go through walls or floors; to mark changes in direction; and every 50 feet on straight pipe runs.

Labels should be oriented so as to be easily read, facing employees. Labels on overhead pipes should be on the lower side of the pipe, or at eye level on vertical pipes, and on the upper part of the pipe if employees must look down.

Labeling systems

Pipe labels must comply with the following color coding:

- Flammable (fluids or fluids producing vapors that can ignite) – **black text on a yellow background.**
- Combustible (fluids that may burn but are not flammable) – **white text on a brown background.**
- Fire quenching (water and other substances in sprinkler/fire-fighting systems) – **white text on a red background.**



- Toxic and corrosive (fluids that are or will produce substances that are toxic and corrosive) – **black text on an orange background.**
- Water (except that used in fire-fighting/sprinkler systems) – **white text on a green background.**
- Compressed air (any vapor or gas under pressure the does not fit the above) – **white text on a blue background.**

Other color combinations, such as white lettering on a black or gray background and black lettering on a white background, can be defined by the user.

What's on your pipes?

Your employer should include training on any pipe labeling scheme used in your workplace.

Making a splash

Those responding to spills in the workplace should know where emergency eyewashes and showers are located, and how to use them.

Of course you need to know about the hazards of the chemicals in your workplace before responding to a spill. Information about emergency response and first aid is found on the Safety Data Sheet (SDS). If you get a hazardous chemical in your eyes or on your skin, often the recommended first aid procedure is to flush your eyes and/or skin with plenty of clean water.

Use an eyewash

Always know where the nearest eyewash station is. If a chemical is splashed into your eyes, you will effectively be blind. Your eyes will squeeze shut and start to water, so you won't be able to see clearly. If someone is nearby, ask for help.

Don't rub your eyes, and don't panic. Get to the eyewash and start flushing your eyes as quickly as possible.

Start the eyewash, and put your eyes into the water streams. Hold your eyes open with your fingers. Gently lift your eyelids and roll your eyes so the water can reach and wash the entire eye. Call for help or have someone contact your workplace first responders.

You'll get wet, and probably be uncomfortable, but keep flushing your eyes for at least 15 minutes.

Fifteen minutes seems like a very long time when you have water hitting your eyes and face. But remember that you are trying to prevent a more serious injury. Always seek medical attention after using an eyewash.

Use an emergency shower

Keep a clear path to the emergency shower. All workers should be able to reach it within 10 seconds. There are equipment designs that include both a shower and an eyewash.

When your skin comes into direct contact with a chemical, you may or may not feel immediate irritation or burning. Don't delay – get to the emergency shower and start flushing your skin.

The initial shock of the water may be uncomfortable, but rinse the entire area completely. Get all of the contaminated area into the shower stream. Remove any contaminated clothing, even if there isn't a shower curtain. Act fast; some corrosive chemicals can quickly cause skin damage or burns.

Keep flushing your skin for at least 15 minutes. If the area near the shower doesn't have a drain, there will be a very large puddle. Don't stop the shower – the water can be cleaned up later.

Notify management and get medical attention after you've flushed the chemical from your skin.



Liquid transport

To transport any hazardous materials that require placarding, you must have the hazardous materials endorsement (HME). This means taking a written test on the hazmat regulations and passing a background check.

A retest and background check is required at least every five years, and possibly more often as part of the CDL renewal process.

Tanker endorsement

A tanker endorsement is required for drivers of any commercial motor vehicle requiring a CDL that is designed to transport liquid or gaseous materials within a tank that is either permanently or temporarily attached to the vehicle or chassis.

This includes drivers that operate van or flatbed vehicles that are carrying enough bulk containers (portable tanks with a capacity of more than 119 gallons) that, when the liquid capacity of all containers is added together, totals 1,000 gallons or more.

- If you only transport hazardous materials requiring placarding in boxes, all you need is the HME.
- If you transport non-hazardous liquids in a tank vehicle, all you need is the tanker endorsement.
- If you transport hazardous materials in bulk tanks or a tank vehicle, you will need both the HME and tanker endorsement.

Having the HME does not “automatically” get you the tanker endorsement. The tanker endorsement is required for drivers that operate tank vehicles or vehicles transporting enough bulk containers, regardless of whether or not they are transporting hazardous materials.

Renewals

You need to pay attention to when your HME is coming due for renewal, as your HME renewal date may be different than your CDL renewal date.



Liquid and flammable

If you manage or handle hazardous liquids or liquid ignitable waste on the job, you must be trained in handling it safely.

EPA and OSHA have different definitions and requirements for storing and handling flammable liquids and ignitable wastes. OSHA does not regulate hazardous waste, but the Agency does require employers to keep their employees safe on the job.

Your employer must train you on OSHA's chemical safety regulations for hazard communication, hazardous waste cleanup operations, and the general occupational safety and health standards at 29 CFR 1910 – especially Subpart H for hazardous materials.

You must also train on EPA's hazardous waste management regulations at 40 CFR 262 and 265. At a minimum, you must understand the hazards of the waste you are exposed to, how to protect yourself from those hazards, what to do in a spill or emergency, how to call for help, where the exit routes and emergency equipment are located, and how to clean up the spill (if that is part of your job).

Liquid ignitable wastes must be handled very carefully. You must take care not to allow incompatible wastes to mix. In fact, you should store incompatible wastes in separate areas to prevent explosions, fires, leaks, spills, and other catastrophic events. In addition, ignitable wastes must be stored at least 50 feet from the property line to reduce the risk of the public coming into contact with the waste or being harmed in an explosion. This may also prevent the



waste from migrating off the property if a leak does occur.

Do not stack drums of ignitable wastes. You must also keep ignitable or reactive wastes away from:

- Fire
- Hot surfaces such as operating machinery or engines
- Radiant heat or sunlight
- Cutting and welding operations
- Frictional heat (don't pull drums along the ground)
- Sparks from static electricity, electrical operations, or friction and
- Water (some chemicals react violently with water).

There should be no smoking or other sources of ignition around ignitable wastes and "No Smoking" signs must be posted at all areas near ignitable or reactive wastes.

Test your knowledge

The following quiz is designed to test your knowledge of liquids in your workplace as they relate to hazcom, HAZWOPER, hazmat, and hazwaste. The questions are based on material presented in this newsletter. Circle the correct answer.

HAZCOM

1. Pipe labels which have black text on an orange background mean the pipe carries:
 - A. Flammables
 - B. Toxic and corrosive
 - C. Combustible fluid
 - D. Water
2. You must be trained on any pipe labeling scheme used in your workplace.

True False

HAZWOPER

3. Don't flush your eyes or skin for the full fifteen minutes if there is no drain to take the water away.

True False
4. If you get chemicals splashed in your eyes, you should:
 - A. Call for help.
 - B. Get to the eyewash and start flushing your eyes.
 - C. Notify management after you used the eyewash.
 - D. All of the above.

HAZMAT

5. A tanker endorsement is required for drivers that operate tank vehicles.

True False
6. If you only transport hazardous materials requiring placarding in boxes, you need:
 - A. an HME.
 - B. a tanker endorsement.
 - C. both an HME and a tanker endorsement.
 - D. neither an HME nor a tanker endorsement.

HAZWASTE

7. To reduce the risk of the public coming into contact with ignitable wastes, it must be stored at least ____ feet from the facility's property line.
 - A. 25
 - B. 10
 - C. 50
 - D. 75
8. Some wastes react violently if they come into contact with water.

True False

Name: _____ Date: _____

Fill In The Blank Game

1. Pipe labels should be oriented so as to be _____, facing employees.
2. You must also keep ignitable or _____ away from water.
3. Do not stack drums of _____.
4. If you only transport hazardous materials requiring _____ in boxes, all you need is the HME.
5. Pipe labels identifying _____ will have black text on a yellow background.
6. Information about emergency response and _____ is found on the Safety Data Sheet (SDS).
7. Having the HME does not “automatically” get you the _____.
8. Employees working with or around _____ must be able to reach the emergency eyewash within 10 seconds.
9. OSHA does not regulate _____.
10. Always seek _____ after using an eyewash.
11. Your _____ renewal date may be different than your CDL renewal date.
12. Your employer should include _____ on any pipe labeling used in your workplace.

ignitable wastes

first aid

tanker endorsement

flammable liquids

medical attention

placarding

training

corrosives

hazardous waste

easily read

HME

reactive wastes

Training notes

The information in this newsletter addresses many issues your employees need to know about liquids in the workplace. Consider including company-specific information in your training.

Answer key: (from page 7)

1. Pipe labels should be oriented so as to be **easily read**, facing employees.
2. You must also keep ignitable or **reactive wastes** away from water.
3. Do not stack drums of **ignitable wastes**.
4. If you only transport hazardous materials requiring **placarding** in boxes, all you need is the HME.
5. Pipe labels identifying **flammable liquids** will have black text on a yellow background.
6. Information about emergency response and **first aid** is found on the Safety Data Sheet (SDS).
7. Having the HME does not “automatically” get you the **tanker endorsement**.
8. Employees working with or around **corrosives** must be able to reach the emergency eyewash within 10 seconds.
9. OSHA does not regulate **hazardous waste**.
10. Always seek **medical attention** after using an eyewash.
11. Your **HME** renewal date may be different than your CDL renewal date.
12. Your employer should include **training** on any pipe labeling used in your workplace.

Ideas for covering company-specific information in your training for this topic include:

- Discuss the contents of pipes at your facility and review the labeling system used.
- Demonstrate how to activate and use an eyewash. Have employees locate the eyewash or eyewash/shower closest to their work area.
- Explain what hazardous materials are shipped, what placarding is needed, and when an HME or tanker endorsement is required.
- Indicate the location of waste storage areas at your facility. Note the types of waste present in each area and how ignitable wastes are identified and handled.

Answer key: Test your knowledge (from page 6)

Use the following answer key to see how well your employees understood the material in this newsletter. Or, if you prefer, you can allow employees to check their own answers by copying the key and providing it to them with the newsletter.

- (1) B (2) T (3) F (4) D (5) T (6) A
(7) C (8) T

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