



# Think Safety!

A Publication Of The West Virginia Propane Gas Association

Spring 2008

## Safe Tank Painting



Spring is here and the winter is behind us. Unfortunately, that doesn't mean all of our work is over. There are plenty of things to occupy our time including painting tanks.

Painting tanks is probably one of the safer activities

associated with the propane industry, but that doesn't mean that employees can not be hurt during the process.

This issue of *Think Safety* will focus on the nature of the injuries and how they can be prevented.

## Heat Injuries:

Heat related injuries pose a serious risk to employees who work outside during the summer months.

Heat-related illness kills as many people each year in the U.S. as floods, tornadoes, lightning and cold

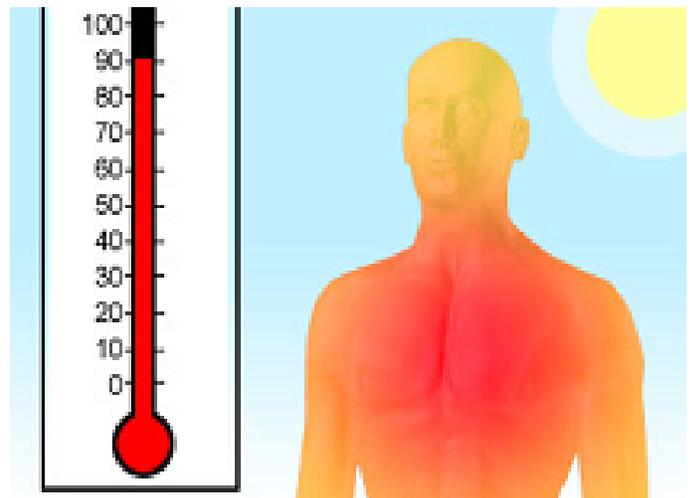
weather combined. During a 10-year period from 1995 through 2004, the National Weather Service reported an annual average of 235 fatalities from hot weather.

Excessive heat exposure can result in impaired think-

ing and decision making. This of course exasperates

the situation, leading to ac-

**Continued on page 2**



### Inside . . .

Heat Injuries Continued.....Page 2

Preparing the Tank.....Page 2

Painting the Tank.....Page 3

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Continued from page 1

cidents or serious mistakes.

There are some days when it might not be prudent to paint tanks outside in excessive heat.

When working outside the following tips could help avoid heat illness:

Try to plan strenuous tasks for the cooler times of the day (morning or very late afternoon).

Communicate specific precautions to workers in a language they understand, and make sure they clearly understand your instructions about the risks and

can demonstrate safe practices.

Take frequent breaks and get out of the heat if possible as you rest.

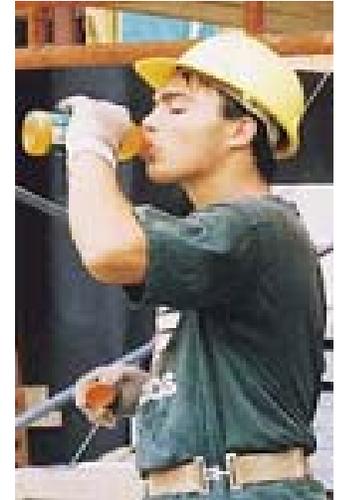
Wear lightweight, light colored, loose fitting clothing. A hat will protect you from the sun, but should be loose and well-ventilated.

Drink often. Dehydration is a major cause of heat-related health problems. Water is the best all-around drink for most outdoor workers. Sports drinks that contain a bit of salt and electrolytes are OK to drink, but avoid sugary

drinks and caffeine.

Heat-related illness includes heat exhaustion, which can rapidly progress to heat stroke, a life-threatening emergency. According to the American Red Cross, signs of heat exhaustion include: cool, moist, pale or flushed skin; heavy sweating; headache; nausea or vomiting; dizziness; and exhaustion. Body temperature will be near normal.

According to the Red Cross, signs of heat stroke include: hot, red skin; changes in consciousness; rapid, weak pulse; and



rapid, shallow breathing. Body temperature can be very high, reaching 105 degrees Fahrenheit.

## Preparing the Tank:



Preparation is a very important step in the painting process. The length of time paint adheres to a surface is often in direct proportion to the extent of preparation.

At minimum, the surface of the tank should be cleared of all oil, grease,

moisture, rust, mildew or any other substance that could interfere with paint adherence.

T a n k preparation could require anything from simple cleaning to commercial



blast or something in between such as a wire brush or sand paper. It is a good idea to raise the tank off the ground to allow the bottom of the tank to breathe and allow for access to the bottom. This part of the tank does not get a lot of attention.

Make certain that all rust spots have been removed from the tank along with any loose paint. Also, re-

member that a dull surface is much better for paint adhesion than a glossy finish. Sand the entire surface of the tank.

Once the tank has been sanded, it should be cleaned with a cleaning so-

Continued on page 3



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Continued from page 2

lution or wet solvent. Allow the tank to dry before you begin painting.

Some tanks may require priming before applying the topcoat. A tank with minimal rust may only require spot priming, but if more than a third of the tank surface is rusty, then the entire tank should be primed after the cleaning process.

Oil additives such as penetrol may be effective in allowing the paint to reach cracks or crevices and dis-

place the air and moisture that promotes rust.

These operations can be quite hazardous. Ensure there is not a concentration of propane vapor in the area before you begin work activities. Always wear gloves and eye protection and always thoroughly wash your hands before eating, as your hands will likely be contaminated with compounds including heavy metals such as lead and chromium that could make you ill. Use of a dust mask

respirator is a very good idea—consult with your employer on their recommendations. Note: hearing protection might also be required when using very noisy grinders and related tools. **Caution: never perform grinding operations around a tank when a tank fitting has been re-**



**moved and the tank is open to the atmosphere. A severe risk of fire or explosion exists.**

## Painting the Tank:



Weather conditions have a great impact on the ability of paint to adhere to the tank. For best results, you should paint when the temperature is between 50 and 90 degrees Fahrenheit. It is not a good idea to paint in



high humidity (85 percent or higher).

Consult your employer but be very careful applying paint and primer to tanks. When painting a tank at a customer location, paint tanks with a roller brush and in any case never paint a

customer's tank by spray painting. Spray painting creates overspray that could end up on the customer's house, vehicles or surrounding equipment.

**If you are painting tanks in a tank yard and overspray isn't a major**

**problem and you do decide to spray, never use propane as your propellant. Air should be used.** Propane vapor is very flammable, and you are putting yourself and others at risk of fire or explosion



by doing so.

Many paints and thinners are solvent-based, which means they are extremely flammable.

Handle all thinners with caution and be aware of any potential ignition sources in the area. Do not smoke and keep in mind

that some electrical tools, such as a drill used for mixing, can become an ignition source.



Be cautious of customers who could unknowingly bring ignition sources into the work area.

Some paints and thinners can be hazardous in other ways. Always refer to the manufacturer's MSDS when you use paints and thinners.

Avoid breathing in large amounts of the vapor. This is especially dangerous if a tank has been moved indoors to be painted. Tanks should not be painted indoors without adequate

**Continued on page 4**

Continued from page 3

ventilation.

Contact with the skin should be avoided as well because many of these chemicals will absorb into the skin and can cause severe reactions. Follow the manufacturer's instruction to remove any paint or thinner that does come in contact with your skin.

Always protect your eyes when painting. The danger

to your eyes comes in a couple of different forms. First, paint or chemicals could damage your eye. The second form of danger comes from the nature of the paint applied to the tanks. Tank paint is designed to reflect the sun's rays and reduce tank temperature and pressure. When applying the paint, the UV rays are reflected back toward the worker's

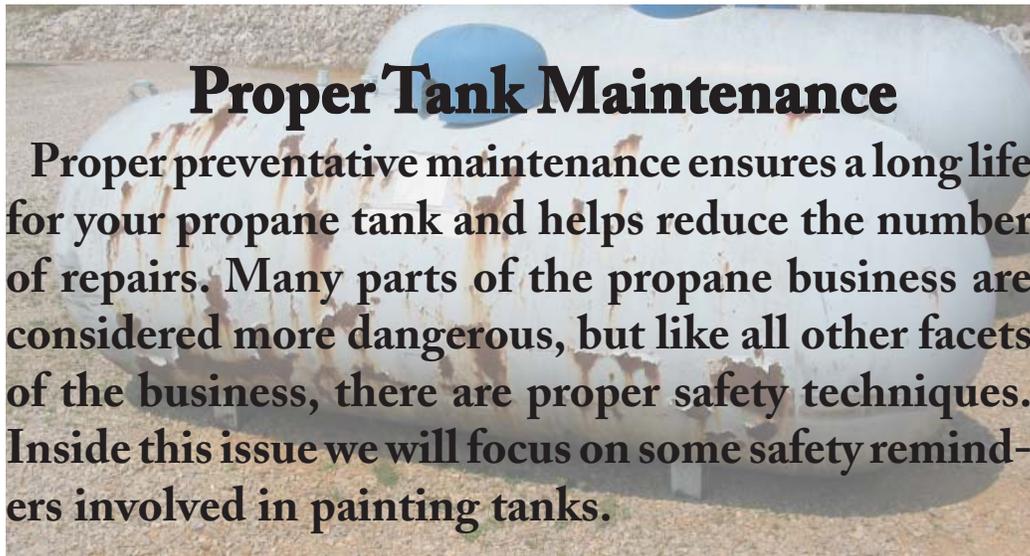
eyes. This is true on a cloudy day as well as a sunny day.

Quality sunglasses with UV protection or tinted goggles should be worn to protect the eyes.

Damage to your eyes may not show up immediately. Some eye in-



juries take years to manifest themselves.



**Proper Tank Maintenance**

Proper preventative maintenance ensures a long life for your propane tank and helps reduce the number of repairs. Many parts of the propane business are considered more dangerous, but like all other facets of the business, there are proper safety techniques. Inside this issue we will focus on some safety reminders involved in painting tanks.

# Training Quiz

Name \_\_\_\_\_ Social Security Number \_\_\_\_\_

- Heat-related illness kills as many people each year in the U.S. as floods, tornadoes, lightning and cold weather combined.  
A. True                      B. False
- Excessive heat exposure can result in impaired thinking and decision making.  
A. True                      B. False
- The clothing worn when working in the heat should be:  
A. Lightweight              B. Loose Fitting              C. Light Colored              D. A,B, and C
- Water is the best all-around drink for most outdoor workers.  
A. True                      B. False
- Signs of heat exhaustion include:  
A. Cool, moist, pale or flushed skin    B. Heavy sweating    C. Headeache    D. A,B, and C
- Your body temperature could be near normal while suffering from heat exhaustion.  
A. True                      B. False
- Signs of heat stroke include: hot, red skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing.  
A. True                      B. False
- Your body temperature can be very high, reaching 105 degrees Fahrenheit during a heat stroke.  
A. True                      B. False
- A tank with minimal rust may only require spot priming, but if more than a third of the tank surface is rusty, then the entire tank should be primed after the cleaning process.  
A. True                      B. False
- Ensure there is not a concentration of propane vapor in the area before you begin work activities.  
A. True                      B. False
- After preparing a tank, always thoroughly wash your hands before eating, as your hands will likely be contaminated with compounds including heavy metals such as lead and chromium that could make you ill.  
A. True                      B. False
- The fittings should be removed so that the tank can vent while using a grinder to clean the tank surface.  
A. True                      B. False
- For best results, you should paint when the temperature is between \_\_\_ and \_\_\_ degrees Fahrenheit.  
A. 40 and 50              B. 70 and 80              C. 65 and 90              D. 50 and 90
- It is not a good idea to paint in humidity \_\_\_ percent or higher.  
A. 60                      B.85                      C. 50                      D. 90
- Never use propane as your propellant.  
A. True                      B. False

# Training Quiz Answers

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