



## Tailgate Topic Review

[PP 07/07/2019 - 07/20/2019]

### Welding – Safe Practice

#### **Welding Safety Hazards**

Welding is a hazardous workplace activity which exposes over half a million workers to health and safety risks each year [in the United States alone](#). Welding safety measures are designed to protect employees from welding hazards. Welding safety can be implemented by conducting proper training, inspecting welding equipment, and ensuring workers are aware of safety precautions before performing welding activities to minimize the risk of health and safety injuries.

Here are 4 of the most common welding safety hazards and tips on how to avoid or control them.

#### **#Hazard 1. Exposure to Fumes and Gases**

Overexposure to welding fumes and gases can cause severe health problems like respiratory illnesses, cancer, and impaired speech and movement. [Exposure to fumes and gases](#) can be controlled by following these safety precautions:

- Provide adequate ventilation and local exhaust to keep fumes and gases from the breathing zone and the general area.
- Welding operators should always wear an approved respirator unless exposure assessments are below applicable exposure limits.
- Report concerns to a supervisor so your exposure to substances of the welding fumes can be checked.

#### **#Hazard 2. Physical Hazards**

Physical hazards which can cause burns, eye damage, cuts, and crushed toes and fingers are ever-present when welding. With the appropriate Personal Protective Equipment (PPE), you can protect your workers against physical hazards.

- [Wear appropriate PPE](#) like welding helmet and goggles to protect workers eyes and head from hot slag, sparks, intense light, and chemical burns.
- Fire and electricity resistant clothing, hand shields, welding gloves, aprons, and boots can be worn to protect workers from heat, fires, electrocution, and burns. Take note that flame retardant treatments become less effective with repeated laundering. Pant legs must not have cuffs and must cover the tops of the boots. Cuffs can collect sparks.
- Ear muffs and ear plugs can also protect workers against noise.

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### #Hazard 3. Electric Shock

Electrocution is the most immediate and serious risk for a welder. The sudden discharge of electricity to the human body can cause serious injury and even death. **Electrocution risk** from welding can be minimized by following these basic precautions:

- Inspect welding equipment and electrode holder before proceeding to work.
- Perform **lockout and tagout procedures** when performing repairs. Only qualified repair technicians should service or repair welding equipment.
- Do not touch the metal parts of the electrode holder with skin or wet clothing.

### #Hazard 4. Fire and Explosion

Flammable materials around the working area are the number one cause of fire. This can be prevented by maintaining a clean working area before proceeding to weld. It is also important to know the location of fire alarms, emergency exits, and fire extinguishers in the event of fire.

- Keep a suitable **Class ABC fire extinguisher** nearby while welding. Make sure the extinguisher gauge is full. If an extinguisher is not available, be sure to have access to fire hoses, sand buckets or other equipment that douses fire.
- If welding within 35 feet of flammable materials, put a piece of sheet metal or fire resistant blanket over the flammable material and have a fire watcher nearby to keep track of sparks.
- Remain in the work area for at least 30 minutes after finishing welding to ensure there are no smoldering fires.



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# WELDING SAFETY IN THE WORKPLACE



- ▶ Obtain any required "Hot Work" permits.
- ▶ Remove any flammable substances from the work area before starting a job.
- ▶ Use a combustible gas indicator or sensor to detect any air borne flammable gases.
- ▶ When working on a flammable flooring, such as wood, wet down or cover with a flame resistant shield.
- ▶ Cover flammables with a fire proof tarp when the objects cannot be removed.
- ▶ Smoke only in designated area.
- ▶ Keep your work area free from trash.
- ▶ Keep a fire extinguisher handy. Frequently check to make sure the extinguishers are charged and in operational condition.
- ▶ Always - PAY ATTENTION.



**Figure 1: A welder with more than 20 years' experience, was killed in an explosion at a crude oil storage facility in the ship channel in 2012.**