

MBAA Safety Toolbox Talk



How to Handle Any Sort of Skin Burns in a Brewery

Overview

There are many ways to get burned in a brewery. There are hot liquids, open flames, caustics, acids and electricity in wet environments. Some lead to overheating of the skin, a pH related chemical burns or an electrical burn.

How a Burn Happens

Most think that all of the damage to the skin is immediate. For most burns this is not true. When a hot liquid/steam contacts the skin it heats the skin up causing more damage as the temperature increases. When a pH burn occurs the skin is turned either soft by caustics or leathery by acids. An electrical burn does do instant damage – but the entrance/exit wounds are heated up. All burns require quick reactions. Cooling the temperature of the skin, or diluting the chemical, is what must be done to limit damage.

How Hazardous are Burns

Hot Liquid/Steam Burns that cover 25%, or more, of the body can be life threatening. If the burns are on the face or genitalia you do not need that much.

- We all have had sunburns – a “First Degree Burn” that is very painful.
- When the skin blisters it is a “Second Degree Burn”.
- When the outer layer of the skin is permanently damaged it is considered a “Third Degree Burn”. In these burns the nerves have been destroyed.

No one only receives one type of burn other than a “First Degree Burn”. The burn surface will go from “First Degree Burns” – very painful, to “Second Degree Burns” – still very painful with blisters that should not be broken, to “Third Degree Burns” which do not cause pain – because the nerves are dead, but can easily become infected.

- pH burns are chemical burns that attack the skin. They can do

permanent damage in as little as 10 seconds.

- Acids will turn the skin leathery.
- Caustics will turn the skin yellow, soap and soft.

If these get into the eyes they can do permanent unrepairable damage. A caustic burn can ruin your vision by making you blind. At best it will appear that you are looking through frosted glass the rest of your life.

- An Electrical Burn will look black and will scar you for life. There will be an entry wound and an exit wound. You need to find and treat both of them.

How Do You Treat Them

First, stop whatever is causing the burn – shut off the electric, get out of the sun, stop the hot liquid/steam and limit the amount of chemical getting onto the person. All types of burns require immediate quenching with water – the cooler the better. Water cools the burn down limiting the damage. (The only exception would be when the burn is to the torso – cold water could cause an adverse reaction that would feel similar to jumping into a very cold pool of water and could cause medical problems.) The bottom line is any water is going to be cooler than the temperature that caused the burn.

With a pH Chemical Burn use water to dilute the chemical. (The thinking is that flushing it with beer can counteract the burn – this depends on the pH of the chemical and the pH of the beer and may not work as well as you hope.) You must flush the skin/eyes for a minimum of 15 minutes. It is better to continue flushing until the ambulance shows up and can take over.

After Cooling Water What Do You Do

Medical help is required.

- If the person has only a “First Degree Burn” send them with a couple chemical cold packs – using these

can help limit pain while waiting for medical treatment. (These packs are not as cold as ice. Ice should not be placed directly on the skin because ice freezes. This could damage the skin.)

- With a “Second Degree Burn” do not break the blisters and only lightly bandage to avoid infection.
- With a “Third Degree Burn” an ambulance is the only option.

How About Recovery

- For a “First Degree Burn” recovery is painful and will take a few days.
- For a “Second Degree Burn” the “First Degree” part will take a few days and then the blisters have to heal. Possible infection is a significant concern.
- For a “Third Degree Burn” cosmetic surgery would be required. Any replacement skin would come from your body. Many surgeries would be required making for a long recovery.

How do You Protect Employees

Prevention is best. Using Overflow Protection can avoid a potential problem. Some Personal Protective Equipment (PPE) can be helpful. (Gloves, chemical goggles, Face Shield, etc.) Eyewash stations and showers being available near these hazards will help – the closer the better.

Links

[OSHA.gov](http://www.osha.gov) for Eyewash/Shower Information. Go to the Red Cross, NSC or AHA for First Aid

If you have any questions regarding this, please see your supervisor or manager or a member of the Safety Committee.

FOR MORE INFORMATION ON BREWERY SAFETY, PLEASE VISIT THE MBAA BREWERY SAFETY WEBSITE AT:
<http://www.mbaa.com/brewresources/brewsafety>