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Industrial Burn Hazards

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Those who work in industrial facilities are exposed to multiple hazards. These hazards create scenarios where workers who are inattentive, untrained, or uninformed can be injured. Burns are one type of injury that occurs all too frequently in industrial workplaces across the United States. The four main types of burn injuries that industrial workers are exposed to are thermal, radiation, chemical, and electrical burn injuries.

Thermal Burns

Thermal burns are what most people think of when burns are mentioned. These burns occur when there is contact with a hot surface, fire, hot liquids, or an explosion. Welders can experience thermal burns from the generated high heat, sparks, and contact with hot metals. The severity of the burn is dependent on how hot and long the skin was exposed. Symptoms include pain, redness, swelling, blistering, and, in severe cases, skin charring.

Radiation Burns

Radiation burns are caused when skin is exposed to high levels of ultraviolet or infrared radiation. Welding is one job that exposes workers to high levels of UV and IR radiation. When exposed to significant amounts of radiation, skin cells are damaged, making the person more likely to develop skin cancer. Symptoms include redness or darkening of the skin, itching and pain, dry or peeling skin, swelling, and blistering.

Chemical Burns

Chemical burns occur when the skin or eye come in contact with strong acidic, corrosive, or alkaloid chemicals. These chemicals are used in many industrial work processes, including cleaning solvents and welding fluxes. Many of the chemicals used in different processes at different job sites can result in a chemical burn injury. Some common household products can also produce severe chemical burns if not handled correctly. These burns can cause significant damage to the skin and underlying tissues and the skin damage can be permanent.

Electrical Burns

Electrical burns occur when an electrical current has passed through the body. When the current travels through the body, the tissue gives it resistance which results in burns. These burns can be both on the inside, potentially impacting internal organs, and outside of the body. Symptoms can be minor or severe and include red, white, or charred skin, pain, numbness or tingling, blisters, peeling skin, and swelling. These injuries can be avoided by following safe work practices.

Things to Remember

- Always remember to wear Personal Protective Gear (PPE) such as gloves, welding, flame-resistant, and chemical protective clothing to protect from injury.
- Follow proper Lockout Tagout procedures to isolate equipment before any work begins. Identify and stay away from both underground and overhead powerlines.
- Inspect tools for defects. Look for missing ground prongs and any damage to the insulation of power cords and repair or discard them.
- Always work in well-ventilated areas to reduce the risk of exposure to harmful fumes and gases.
- Reduce exposure to or contact with steam, flames, flash, hot surfaces, or hot liquids above 115 degrees Fahrenheit. Avoid reaching over or through hot surfaces, pipes, or chemicals. Avoid picking up or grabbing metal recently welded.
- Keep sparks and open flames away from combustibles and flammable materials.
- Store and handle chemicals correctly and according to directions. Read product labels and the Safety Data Sheets (SDS) before working with any chemical.
- Know the location of the nearest first aid, eye wash station, and fire equipment before the job begins.

Do not let a burn injury ruin your day. Take the steps to avoid the hazards that cause burns. If more information is needed, please reach out to your supervisor or contact someone in Safety.