Arc Welding Safety Stats and Facts



FACTS

1. The fume plume is the clearly visible column of fume that rises directly from the spot of welding or cutting.
2. Gases from the plume such as helium, argon, and carbon dioxide displace oxygen in the air and can lead to suffocation, particularly when welding in confined or enclosed spaces.
3. Carbon monoxide gas can form, posing a serious asphyxiation hazard.
4. Health effects from welding fumes can include metal fume fever, stomach ulcers, kidney damage, cancer and nervous system damage.
5. The 4 most common health and safety hazards of welding
    - **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.
    - **Physical Hazards:** Physical hazards that can cause burns, eye damage, cuts, and crushed toes and fingers are ever-present when welding.
    - **Electric Shock:** Electrocution is the most immediate and serious risk for a welder.
    - **Fire and Explosion**

STATS

- Welding poses a unique combination of both safety and health risks to more than 500,000 workers in a wide variety of industries. The risk from fatal injuries alone is more than four deaths per thousand workers over a working lifetime.
- OSHA reports that 1 in 250 construction workers will die from a welding injury.
- Between 2010 and 2013, the CSB reviewed 187 hot work incidents, 85 of which resulted in a fire or explosion while hot work was being conducted on or near a tank or container. These incidents resulted in 48 fatalities and 104 significant injuries. Twenty-three percent of injuries and 42 percent of fatalities involved contractor workers.
- CSB recently deployed to two hot work incidents. At Sunoco, seven contractors were injured in a flash fire while conducting hot work on a pipeline on August 12, 2016. On February 8, 2017, three contractors were

fatally injured in an explosion at the PCA facility while conducting hot work.

- Fire departments in the United States responded to an average of 4,400 structure fires a year involving hot work from 2010 to 2014.
- According to estimates from the Consumer Product Safety Commission (CPSC’s) National Electronic Injury Surveillance System (NEISS), and estimated 11,500 people visited hospital emergency departments because of injuries associated with welding soldering, and cutting tools considered consumer products in 2018.