Don’t Let the Welding Fume Plume Make You Sick

What’s at Stake?

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.

What’s the Danger?

The fume plume is the clearly visible column of fume that rises directly from the spot of welding or cutting. 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. Carbon monoxide gas can form, posing a serious asphyxiation hazard. Health effects from welding fumes can include metal fume fever, stomach ulcers, kidney damage, cancer and nervous system damage.

How to Protect Yourself

Just as with other workplace chemicals, your employer must provide information and training on the hazardous metals and gases in welding fumes.

PPE, including respirators, welding helmets, gloves and leather aprons must be worn to prevent inhalation exposure, eye injuries and burns.

Welding surfaces should be cleaned of any coating that could potentially create toxic exposure, such as solvent residue and paint.

Air monitoring is often necessary to test the level of toxic fumes in the air. Even with air monitoring proper exhaust and ventilation is a must to direct the gases and fumes from the fume plume out of your breathing area and away from by-standers.

- Keep fume hoods, fume extractor guns and vacuum nozzles close to the plume source to
  remove the maximum amount of fume and gases.

- Position portable or flexible exhaust systems so fume and gases are drawn away from you
  and exhaust ports should be directed away from other workers.
- Never weld in confined spaces without ventilation!

Final Word

Being aware of the hazards in and around the fume plume, wearing required PPE and always using proper exhaust and ventilation, can protect you and your co-workers from the potentially deadly gases and fumes that happen during welding procedures.