CrewSigned

Welding Safety Toolbox Talk

5-minute read-aloud · Last reviewed November 24, 2026

Welding puts four hazards in one spot: fumes you breathe, light that burns your eyes and skin, heat and sparks that burn you or start fires, and electricity that can shock you. Today we will go through each one, because the welder is not the only person at risk. Anyone working nearby can be hurt too.

Start with the fumes. When metal melts it gives off a cloud of tiny particles and gases. Depending on the metal and coating, that smoke can hold manganese, chromium, zinc, lead or cadmium. Stainless steel gives off hexavalent chromium, which can cause cancer. Galvanized steel can give you metal fume fever, which feels like a bad flu. Keep your head out of the plume. Weld outdoors or with good ventilation, and use local exhaust that pulls fumes away from your face. Clean paint, oil and coatings off the metal first when you can. Never weld in a tank, pit or tight space without ventilation and a plan, and wear the respirator we give you when the job calls for it.

The arc gives off ultraviolet light that burns your eyes in seconds, even from a few feet away. That is welder's flash, and it feels like sand in your eyes hours later. Welders need a helmet with the right shade lens. Everyone else should not look at the arc and should stay behind screens or curtains when they are up.

Protect your skin. Wear flame-resistant clothing with long sleeves, leather gloves and boots, and no synthetic fabrics that melt. Button your collar and cuffs, and do not keep a lighter in your pocket.

Electric shock is a real danger, especially when it is wet. Keep your gloves and clothes dry. Do not stand in water. Check your leads, holder and ground clamp before you start, and do not use cable with splices or repairs within ten feet of the holder. Make sure the machine is grounded, and turn it off before you change anything.

Finally, sparks travel. Look around before you strike an arc, move anything that can burn, and follow the hot work rules. If you are not sure the area is safe, ask before you weld.

Discussion questions

1. What metal or coating are we welding on this week, and what fumes could it give off?
2. How do we keep people walking by from looking at the arc?
3. When was the last time you checked your leads and electrode holder for damage?

OSHA standard

29 CFR 1926.351, Arc welding and cutting
https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.351

SOURCES

OSHA Welding, Cutting, and Brazing: https://www.osha.gov/welding-cutting-brazing
OSHA Welding, Cutting, and Brazing, Hazards and Solutions: https://www.osha.gov/welding-cutting-brazing/hazards-solutions
Controlling Hazardous Fume and Gases during Welding (OSHA FS-3647): https://www.osha.gov/sites/default/files/publications/OSHA_FS-3647_Welding.pdf
NIOSH, Welding Fumes and Manganese: https://www.cdc.gov/niosh/welding/about/index.html

This talk does not replace training that an OSHA standard requires. Scripts are based on OSHA and NIOSH publications and rewritten in plain language.

Safety Meeting Sign-In Sheet

TOPIC
Welding Safety Toolbox Talk

COMPANY

JOB / SITE

DATE

TIME

PRESENTER

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