

Safety Note #45

BASIC GAS-WELDING SAFETY



Data available from the Consumer Products Safety Commission indicates approximately 18,000 welding injuries requiring hospital treatment occurred during 2003. Of this total, about 85% of the injuries were flash burns to the eyes. California Code of Regulations (CCR) Title 8, Section 4845 addresses safe operating procedures for gas welding. CCR Title 8, Section 3203 (7) requires employees be trained on the equipment they use in the workplace. ***This safety note is to be used in conjunction with the gas welding safety video (E-050) available for loan from the***

ANR Environmental Health & Safety Library at <http://safety.ucanr.org>.

Pre-Use Activities

- Thoroughly review and understand information provided in the gas-welding regulator and hand torch equipment brochures with particular attention given to descriptions of safety procedures.
- Before using, always inspect the gas cylinders, hoses, regulator, and hand torch for damage or disrepair and assure all hoses are connected properly.
- If the gas cylinders, hoses, regulator, or hand torch fails the pre-use inspection, notify your supervisor and remove the welding equipment from service by attaching a red tag that states "DO NOT USE." Complete red tag with appropriate information.

Operating Precautions

- Always wear a welding hood and gloves and appropriate protective clothing when using gas-welding equipment. Eye protection requires at least a No. 5 lens shade for gas welding.
- Gas cylinders shall always be securely fastened to a wall, dolly, or welding cart.
- Assure that the regulator and Compressed Gas Association fitting match the type of gas and cylinder being used.
- Prevent potential explosive or flammable conditions by never allowing oxygen to come in contact with oil, grease, or other flammable materials.
- When opening gas cylinder valves, always stand to one side and away from the regulator.
- Always crack (i.e., open slightly and close immediately) the cylinder valve before connecting a regulator.
- Acetylene or other fuel-gas cylinders shall always be used in an upright position.
- Always use a friction lighter to light a hand torch. Never use matches or a lighter.
- Begin gas-welding tasks by opening the acetylene valve on the hand torch and lighting the gas. Then open the hand torch oxygen valve and adjust the flame.
- When welding operations are suspended for a substantial period of time, such as lunch or overnight, gas cylinders shall be turned off.
- At the completion of gas welding, close the hand torch acetylene valve first and oxygen valve second. Next close the acetylene cylinder valve followed by the oxygen cylinder valve. Release pressure by opening both hand torch valves and turn off the regulator adjusting handle. Finally, close both hand torch valves.