Improper use of OXYGEN/ACETYLENE torches places University, employees and students at increased risk of serious injury.

Storage

✓ Keep cylinder caps in place when cylinders are not in use or are being transported
✓ Keep cylinders upright and chained to a FIXED support
✓ Store oxygen cylinders away from flammable gas cylinders (minimum 20 feet or separated by fire barrier at least 5 feet tall)
✓ Cylinders in outside storage must be locked or attended at all times
✓ While moving cylinders always use appropriate cart and screw on the protective cap to protect the valves.
✓ Do not store overnight with pressure on the regulator
✓ Remove leaking cylinders from inside storage immediately and notify the supplier
✓ Do not tamper with or attempt to repair cylinder valves – Always notify the supplier
✓ When a cylinder is empty, close the valve and mark it “EMPTY”.

Prior to Use

✓ Inspect equipment to ensure good working condition and oil-free.
✓ Blow out cylinder valves before attaching regulators.
✓ Always use the proper pressure regulator for each gas and pressure range.
✓ Never force connections that do not fit – dispose and replace connectors with faulty seats
✓ Check connections for leaks using soapy water or its equivalent. NEVER USE A FLAME.
✓ Replace or repair damaged equipment, including hoses.
✓ Release regulator adjusting screw BEFORE opening cylinder valves.
✓ Open cylinder valves SLOWLY and do not stand directly in front of the regulator. Do not use acetylene at pressures higher than 15 psi.
✓ Ensure that flashback arrestors are installed between the regulator and the hose if the torch does not have one built into its handle.
✓ Keep hoses, cables, and other equipment clear of passageways, stairs, ladders, etc
✓ Purge oxygen and acetylene lines before lighting the torch.
✓ When lighting torch, point away from persons and combustibles.
✓ Light torch only with friction lighter or stationary pilot flame.
✓ Light acetylene before opening oxygen valve on torch.
Safety During Use

✓ Keep a fully charged Class ABC Fire Extinguisher nearby with an INDEPENDENT FIRE WATCH responsible for ensuring a fire does not start or spread.
✓ Remove combustibles at least 35 feet from hot work. If combustibles cannot be relocated 35 feet from hot work, complete a hot work permit.
✓ Take steps to prevent sparks from falling through floor cracks, etc. Remove or protect combustible material in “falling spark” zones.
✓ Provide adequate ventilation whenever welding or cutting, particularly around cadmium, zinc, lead, fluorine compounds, or other toxic materials.
✓ Keep flame and hot slag off concrete. Intense heat may cause flying particles of concrete.
✓ Before cutting or welding on an “empty” container, be sure it does not contain flammable vapors or any residues that might burn or give off flammable or toxic vapors.
✓ Keep sleeves and collars buttoned on clothing.
✓ Wear gloves and eye protection with the appropriate shade:
  - Soldering 2
  - Torch Brazing 3 or 4
  - Light Cutting, up to 1 inch 3 or 4
  - Medium Cutting, 1 inch to 6 inches 4 or 5
  - Heavy Cutting, 6 inches and over 5 or 6
✓ A FIRE WATCH MUST BE STATIONED IN THE VICINITY OF THE WORK FOR AT LEAST HALF AN HOUR AFTER WELDING OR CUTTING OPERATIONS ARE COMPLETED.

1 The fire watch must be properly trained on fire extinguisher use, must know the location of the nearest fire alarm (or be provided with a cell phone or radio for emergency notification), must be provided with the appropriate PPE (including tinted eye protection) and must have no other assigned duties while posted.
2 Source: AWS ANSI Z49.1 “Safety in Welding and Cutting.”

Last reviewed by Cynthia Norton on December 14, 2015