

## WELDING SAFETY

There are a variety of welding methods available today, all of which have inherent safety and health hazards associated with them. It is important to understand these hazards and to always follow safe work practices.

### Potential Hazards

- **Illness from metal fume exposure** caused by various metal fumes. Metal fumes are formed when a metal is heated above its boiling point and its vapors condense into very fine particles. Metal fumes may also be generated (typically to a lesser degree) from allied processes such as grinding, drilling and cutting of metals.
- **Burns** caused by contact with hot surfaces or hot flying particles.
- **Eye injuries** caused by exposure to ultraviolet and infrared radiation created from the arc.
- **Fire** caused by flying hot particles contacting combustible or flammable materials in the welding area.



### Safe Work Practices

- **Housekeeping** - Clear any combustible or flammable materials away from the welding area and maintain a clear egress path out of the welding area as well as to the nearest emergency eyewash.
- **Equipment Inspection** - Check welding equipment including personal protective equipment (PPE) for defects and damage before beginning work.
- **Respiratory Health** - Always use local exhaust ventilation such as an exhaust trunk while performing welding activities. If local exhaust ventilation is not available or feasible, respiratory protection is needed. Please contact Yale EHS to discuss the need for respiratory protection.
- **Welding Curtains** - Position welding curtains as needed to protect the eyes of other occupants in the area who may be in view of the welding arc.
- **Communication** - Inform occupants in the area of your intent to start welding and set up any signs or safety cones as needed.

### Clothing and PPE

- **Welding Helmet** – An auto-darkening welding helmet is highly recommended. Auto-darkening helmets allow the user to keep the helmet in the lowered position, reducing fume exposure to the face, eyes and respiratory system. These helmets also reduce the urge to use the neck muscle to flip the helmet to the “up” position, which can cause significant neck discomfort and possible injury.
- **Leather Gloves** – Gauntlet style that cover the wrists are recommended.
- **Long pants** - Flame-resistant or natural-fiber apron (such as denim).
- **Apron or Jacket** - Made of leather or other flame-resistant material.
- **Leather boots**