Safety Tip: Welding Fume Hazards

Welding processes are classified into two groups: Fusion Welding and Pressure Welding. Pressure welding uses heat and pressure whereas fusion welding uses heat alone. Fusion welding involves three types: 1) Electric, 2) Arc and 3) Gas & Thermit. All of these forms of welding produce visible smoke that contains harmful metal fume and gas byproducts, according to OSHA. Always read the rod label directions and SDS. Welding fumes contain a variety of metals, including aluminum, arsenic, beryllium, lead and manganese. Argon, nitrogen, carbon dioxide, carbon monoxide and hydrogen fluoride gases often are produced during welding.

Welding fumes can cause serious health problems if inhaled. Short-term exposure can result in nausea, dizziness or eye, nose and throat irritation. Prolonged exposure to welding fumes can lead to cancer of the lung, larynx and urinary tract, as well as nervous system and kidney damage. According to OSHA, certain gases, such as helium, carbon dioxide and argon, displace oxygen and can pose suffocation risk with enclosed areas.

Some tips for Healthy Welding:

- Thoroughly understand the hazards associated with welding.
- Clean welding surfaces regularly to remove coatings that could potentially result in toxic exposure levels.
- Stay upwind of welding fumes when working in open or outdoor areas. Be aware, however, that working outdoors or in open work environments doesn't guarantee safe ventilation.
- Use local exhaust ventilation systems for indoor welding. Be sure to keep exhaust ports away from other workers.
- Never weld in a confined space that doesn't have ventilation.
- Wear respiratory protection if ventilation and work practices don't adequately reduce welding fume exposure to safe levels.