 THOMPSON RIVERS UNIVERSITY Occupational Health & Safety	Number: OH&S 17.36.1
	Revision Date: 06/03/2014
	Safety for Oxyacetylene Welding

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1. **PURPOSE**







1.1. To provide safety guidance in the use in performing oxyacetylene welding.

2. **SCOPE**







2.1. For all Employees, Instructors and Students who will be working with oxyacetylene welding equipment and

3. **PRECAUTIONS**

POTENTIAL HEALTH & SAFETY HAZARDS

HAZARD		TO PROTECT YOURSELF
EXPLOSIVE		Make sure volatile chemicals are stored and handled correctly. Proper grounding must be used for all containers.
HIGH SOUND LEVELS Sound levels exceed 85 dB		HEARING PROTECTION is required when working in designated areas.
EXPOSURE		Understand the chemical(s) you are working in the vicinity of. Consult the MSDS and wear the appropriate PPE.
FOOT INJURY		Approved protective footwear is needed when there is the risk of foot injury due to slipping, uneven terrain, abrasion, crushing potential, temperature extremes, corrosive substances, puncture hazards, electrical shock and any other recognizable hazard
COMPRESSED GASES		Do not <ul style="list-style-type: none"> • drop • keep near heat
FIRE Due to flammable liquids, gases or combustible dusts		Complete a hot work permit work requires it.

4. PERSONAL PROTECTIVE EQUIPMENT

	Safety glasses must be worn at all times in work area!
	Respirator with HEPA filters must be worn when working with materials that give off harmful fumes
	Work Boots must be worn at all times when working in an area where there is risk of serious foot injury due materials falling onto the foot.
	Work Gloves should be worn when there is a risk of hand injury during the course of work tasks.
	Hard hats must be worn when working in an environment where there is a risk of objects falling from above or where there is a high risk of striking your head on objects.
	Close fitting clothing or protective clothing must be worn.

5. PROCEDURES

5.1 Safety procedures when working with oxyacetylene welding equipment.

- Wear personal protective equipment. Wear welding gloves, helmet, leather apron, welding chaps, leather boots, welding goggles, and other personal protective equipment to help prevent weld burns and injury. Make sure the welding goggles or face shield have at least a No. 4 filter lens. Do not wear clothing made of synthetic fibers while welding.
- Fasten cylinders securely. Do not handle cylinders roughly. Chain cylinders in an upright position to a wall or cart. When regulators are not on cylinders, keep safety caps in place. Caps will prevent damage to cylinder valves.
- Never use oil on welding equipment. Oil and grease may ignite spontaneously, when in

contact with oxygen.

- Open cylinder valves correctly. Open the valve on the acetylene cylinder no more than three-fourths of a turn so it can be closed quickly in case of emergency. Open the valve on the oxygen tank fully. While welding or cutting, leave the valve wrench in position.
- Keep the tip pointed away from your body. Do not saturate your clothing with oxygen or acetylene. Before and while lighting the flame, keep the tip pointed away from the body.
- Light the flame with an approved lighter. Using matches to light the torch brings your fingers too close to the tip.
- Set the operating pressure carefully. Never use acetylene at a pressure over 15 psi. Follow the manufacturer's recommendations for the correct operating pressures for the metal being welded and for the tip size being used.
- Do not smoke or allow anyone else to smoke near the oxy-fuel gas welder. If fuel gas were to leak from the unit, smoking could provide ignition and cause a fire or an explosion.
- Treat the flame with respect. Keep flame and heat away from the cylinder, hoses, and people. Never lay down a lighted torch. Be sure the flame is out before laying down the torch. Never walk around with a lighted torch.
- Control flashbacks and backfires. Make certain that reverse flow-check valves and flash arrestors are installed on the oxygen and acetylene lines.
- Do not leave the work area until the cylinder valves are closed. Be sure the cylinder valves are closed and pressure is relieved from the hoses before you leave your work area.
- Never stand in front of a regulator while opening a tank valve.
- Do not weld or cut on containers that have held flammable materials.
- Remove regulators and replace protective caps before transporting cylinders.
- Store oxygen cylinders away from acetylene cylinders. A non-combustible wall at least 5 feet high should be used to separate cylinders.
- Handle hot metal with pliers or tongs. Do not leave hot metal on the welding table because unsuspecting persons may touch it and be burned.
- Check connections for leaking gases. To prevent fires or explosions, use soapy water to check connections for leaks.

6. ASSOCIATED DOCUMENTATION

<u>Doc. Number</u>	<u>Doc. Title</u>
OH&S 18.35.1	Welding Safety Procedures

7. RECORDS/VERIFICATION OF UNDERSTANDING

7.1. Records

7.1.1 Records of Safe welding training

7.2. Verification of Understanding

7.2.1. A master log will be maintained by the chairperson for the welding department.

8. SUMMARY OF CHANGES

<u>Revision #</u>	<u>Date</u>	<u>Change (include section #)</u>	<u>Issued By</u>
1	06-03-2014	NEW	OHS Officer