

## 2016 Shop Safety Inspection

Date: \_\_\_\_\_ Room(s): \_\_\_\_\_ Building: \_\_\_\_\_  
 Department: \_\_\_\_\_ College: \_\_\_\_\_ Supervisor: \_\_\_\_\_  
 Inspector: \_\_\_\_\_ Shop Name: \_\_\_\_\_

### I. Physical Shop Safety

<p>1. General housekeeping is maintained to ensure a clean, orderly and sanitary condition? (Floors are clear and dry; proper drainage is maintained; floors are free of debris and potential hazards such as nails, loose boards, or holes)</p> <p><b>Recommendation:</b> Working surfaces must be maintained free of debris, which may lead to an injury or illness to an employee. Ensure daily housekeeping measures are implemented.</p>	<p><b>Reference:</b> 29 CFR 1910.22(a)(1-3)</p> <p><b>Risk Ranking: 1</b></p>
<p>2. Aisles and passageways are clearly marked and free of obstructions, and safe clearances are provided where mechanical handling equipment is utilized?</p> <p><b>Recommendation:</b> Permanent aisles and passageways must be clearly marked and free of obstructions. Any area where mechanical handling equipment, such as a forklift, is used, must ensure adequate clearances.</p>	<p><b>Reference:</b> 29 CFR 1910.22(b)(1-2)</p> <p><b>Risk Rating: 1</b></p>
<p>3. If required, Eyewash and Safety Shower is available and can be reached within 10 seconds; and it is checked on a periodic basis.</p> <p><b>Recommendation:</b> Eyewash and safety showers are required when there is a risk of chemical exposure to the eyes or body. If present, these systems should be flow checked on a periodic basis.</p>	<p><b>Reference:</b> ANSI Z358.1-2004</p> <p><b>Risk Rating: 2</b></p>

### II. Means of Egress/Fire Protection & Prevention

<p>4. A Building Emergency Action Plan (BEAP) is available for the facility, staff have received training regarding building emergencies, and evacuation coordinators are assigned for the facility.</p> <p><b>Recommendation:</b> All buildings must have a completed BEAP; personnel must be trained on emergency procedures; and evacuation maps/evacuation coordinators should be in place should an emergency occur. For more information about the OSU BEAP program visit: <a href="#">OSU EHS BEAP</a></p>	<p><b>Reference:</b> 29 CFR 1910.38</p> <p><b>Risk Ranking: 1</b></p>
<p>5. The proper class portable fire extinguishers are provided, mounted, located, identified by signage, and fully charged to ensure accessibility.</p> <p><b>Recommendation:</b> A proper class of fire extinguisher, dependent on what its intended use is, must be provided in all OSU buildings and shops. A sufficient number of fire extinguishers should be located to ensure access is not blocked. They should be mounted and identified by signage within the facility.</p>	<p><b>Reference:</b> 29 CFR 1910.157(c-d)</p> <p><b>Risk Ranking: 2</b></p>
<p>6. Fire extinguishers are inspected on a monthly basis.</p> <p><b>Recommendation:</b> All fire extinguishers must be visually inspected monthly. Written record of inspection must be maintained to include the date of inspection and the inspector's initials.</p>	<p><b>Reference:</b> 29 CFR 1910.157(e)</p> <p><b>Risk Ranking: 1</b></p>
<p>7. If the building is equipped with automatic sprinkler systems, is adequate clearance provided in sprinklered areas?</p>	<p><b>Reference:</b> 29 CFR 1910.159(c)(10)</p>

<p><b>Recommendation:</b> A minimum of 18 inches of clearance must be provided at all sprinkler locations to ensure adequate spread of water during discharge.</p>	<p><b>Risk Ranking: 2</b></p>
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**III. Medical, First Aid & Injury/Illness Recording**

<p>8. The facility is equipped with first aid supplies suitable for the work being done by employees. Employees are aware of the location of first aid supplies and they are accessible at all times.</p> <p><b>Recommendation:</b> First aid kits should be stocked with suitable supplies in all equipment shops on campus. The contents of the first aid kit will depend on the type of work being done in the shop, but should include basic first aid supplies. For more information on the requirements for first aid kits, visit <a href="http://OSHA.gov">OSHA.gov</a> <a href="http://29CFR1910.151">29CFR1910.151</a></p>	<p><b>Reference:</b> 29 CFR 1910.151</p> <p><b>Risk Ranking: 1</b></p>
<p>9. Employees are aware of the Employee Accident Report (EAR) and have been notified of what actions to take in the event of a work related injury or illness.</p> <p><b>Recommendation:</b> Work related injuries and illnesses must be reported to a supervisor, who is responsible for completing the Employee Accident Report. For more information on employee accident reporting, visit <a href="http://OSUEHS">OSUEHS</a> <a href="http://Employee Accident Reporting">Employee Accident Reporting</a></p>	<p><b>Reference:</b> Ohio Administrative Code Chapter 4167-6</p> <p><b>Risk Ranking: 1</b></p>

**IV. Machinery and Machine Guarding**

<p>10. Machines, tools and equipment is properly guarded to protect the operator and other employees in the area from hazards created by point of operation, nip points, rotating parts, flying chips and sparks.</p> <p><b>Recommendation:</b> All shop equipment where hazards from point of operation, nip points, rotating parts, flying chips and sparks must be properly guarded to prevent injury. Refer to the manufacturer specifications for the proper guarding techniques for shop equipment.</p>	<p><b>Reference:</b> 29 CFR 1910.212</p> <p><b>Risk Ranking: 3</b></p>
<p>11. Stationary equipment electrical connections are adequate (extension cords not used as permanent power source) and properly grounded; and equipped with emergency shut off switches are accessible to the operator.</p> <p><b>Recommendation:</b> Stationary equipment should be provided with a dedicated power outlet and equipped with an emergency shutoff, which is accessible by the operator.</p>	<p><b>Reference:</b> 29 CFR 1910.213</p> <p><b>Risk Ranking: 3</b></p>
<p>12. Push sticks or blocks are provided at the work place in appropriate sizes and suitable for the work being done.</p> <p><b>Recommendation:</b> Woodworking equipment where operators feed wood into the cutting surfaces should be used with push sticks or blocks to prevent human contact with blades.</p>	<p><b>Reference:</b> 29 CFR 1910.213(s)</p> <p><b>Risk Ranking: 3</b></p>
<p>13. There is a formal process for removing a piece of stationary equipment from service.</p> <p><b>Recommendation:</b> Inoperable equipment and machines must be removed from service and locked, or tagged, out to prevent unauthorized startup. For additional information on locking, or tagging, out equipment refer, visit <a href="http://OSUEHS">OSUEHS</a> <a href="http://Lockout/Tagout">Lockout/Tagout</a></p>	<p><b>Reference:</b> 29 CFR 1910.147</p> <p><b>Risk Ranking: 3</b></p>
<p>14. Personnel have been properly trained on the use of equipment and machinery; and training is documented and maintained by the shop supervisor.</p> <p><b>Recommendation:</b> Any employee expected to utilize equipment or machinery must be trained on overall shop safety and equipment-specific training, which should be</p>	<p><b>Reference:</b> 29 CFR 1910 Subpart O</p> <p><b>Risk Ranking: 3</b></p>

<p>provided by shop personnel, or their designee, who is familiar with the equipment. For more information on overall shop safety and training, visit <a href="#">OSUEHS Shop Safety Program</a>.</p>	
<p>15. Jacks, cranes and hoists are clearly marked with weight limitations and are not overloaded during use, and are certified on an annual basis</p> <p><b>Recommendation:</b> Jacks, cranes, hoists and other lifting apparatus' must be clearly marked with the weight limitations, which must be followed at all times to prevent injury or damage to equipment as outlined in the <a href="#">OSUEHS Crane, Hoist and Sling Safety Program</a>. In addition, these systems must be certified on an annual basis.</p>	<p><b>Reference:</b> 29 CFR 1910.244(a) &amp; 1910.179</p> <p><b>Risk Ranking: 4</b></p>

**V. Hand and Portable Power Tools**

<p>16. Power actuated fastener equipment is used under strict safety conditions and stored to prevent unauthorized access.</p> <p><b>Recommendation:</b> Power actuated fasteners must be used as outlined in the <a href="#">OSU EHS Power Actuated Fastener Equipment Requirements</a>. Equipment must be stored to prevent unauthorized access and used only with prior approval.</p>	<p><b>Reference:</b> 29 CFR 1910.243(d)</p> <p><b>Risk Ranking: 4</b></p>
<p>17. Compressed air powered tools are maintained in proper working order and are equipped with safety features to prevent misfiring of fasteners.</p> <p><b>Recommendation:</b> Compressed air powered tools must be maintained in a clean and working condition. Ensure regular lubrication of internal parts. Tools must be equipped with safety features to prevent misfiring of a fastener.</p>	<p><b>Reference:</b> 29 CFR 1910.243(b)</p> <p><b>Risk Ranking: 4</b></p>
<p>18. Personnel have been properly trained on the use of portable power tools; and training is documented and maintained by the shop supervisor.</p> <p><b>Recommendation:</b> Any employee expected to utilize portable power tools must be trained on overall shop safety and equipment-specific training, which should be provided by shop personnel, or their designee, who is familiar with the equipment. For more information on overall shop safety and training, visit <a href="#">OSUEHS Shop Safety Program</a></p>	<p><b>Reference:</b> 29 CFR 1910 Subpart P</p> <p><b>Risk Ranking: 2</b></p>

**VI. Electrical Safety**

<p>19. All electrical equipment is free from recognized hazards, which could result in physical harm. Employees exposed to arc flash hazards are provided with the appropriate Arc Flash PPE.</p> <p><b>Recommendation:</b> All electrical equipment should be marked with manufacturer specifications for electrical requirements and must be free from damage or other hazards, which could result in physical harm. Arc flash PPE must be provided to employees exposed to 440 volts or greater.</p>	<p><b>Reference:</b> 29 CFR 1910.313(b)(1)</p> <p><b>Risk Ranking: 3</b></p>
<p>20. Wiring within the shop/work area meets minimum requirement where wiring is not exposed; junction boxes are accessible and covered; outlets and circuits are not overloaded; and switches and outlets are properly covered.</p> <p><b>Recommendation:</b> Wiring within all shops should be encased in metal conduit to prevent abrasion. All junction boxes must be secured and switches and outlets properly covered.</p>	<p><b>Reference:</b> 29 CFR 1910.305</p> <p><b>Risk Ranking: 3</b></p>
<p>21. Electrical panels are accessible and not obstructed; are properly covered with the door in the closed position; and all breakers are properly labeled.</p> <p><b>Recommendation:</b> Electrical panels must be accessible; free from obstruction; with a</p>	<p><b>Reference:</b> 29 CFR 1910.305</p> <p><b>Risk Ranking: 2</b></p>

secure cover; door in the closed position; and properly labeled to ensure efficient and safe response to emergencies or necessary service to equipment.	
22. Personnel have been properly trained on electrical safety; and training is documented and maintained by the shop supervisor.  <b>Recommendation:</b> All shop personnel should receive electrical safety program and the shop should have a completed Electrical Safety Program in place. For more information on electrical safety, visit <a href="#">OSUEHS Electrical Safety</a> ; and for more information on the OSU Electrical Safety Program, visit <a href="#">OSUEHS Electrical Safety Program</a> .	<b>Reference:</b> 29 CFR 1910.332  <b>Risk Ranking: 2</b>

### VII. Ventilation

23. Any stationary equipment where airborne hazards are present, such as grinding, cutting, buffing or spray finishing are equipped with sufficient ventilation or vacuum to eliminate the hazard from potential exposure.  <b>Recommendation:</b> Stationary equipment where dust, particles, mist, fumes, vapors, gases or other airborne hazards may be present should be equipped with adequate ventilation controls to eliminate the hazard from the operator's breathing zone. Most commonly, this is accomplished through the use of vacuum systems, spray booths, or canopy hoods.	<b>Reference:</b> 29 CFR 1910 subpart G  <b>Risk Ranking: 3</b>
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### VIII. Hazardous Materials

24. Flammable and combustible liquids are stored in proper containers.  <b>Recommendation:</b> Flammable and combustible liquids must be stored in the correct containers and in the appropriate amounts:	<b>Reference:</b> 29 CFR 1910.106(d)(2)(iii)(b)  <b>Risk Ranking: 3</b>																																																				
<table border="1"> <thead> <tr> <th rowspan="3">Table H-12</th> <th colspan="5">MAXIMUM ALLOWABLE SIZE OF CONTAINERS AND PORTABLE TANKS</th> </tr> <tr> <th colspan="3">Flammable liquids</th> <th colspan="2">Combustible liquids</th> </tr> <tr> <th>Class IA</th> <th>Class IB</th> <th>Class IC</th> <th>Class II</th> <th>Class III</th> </tr> </thead> <tbody> <tr> <td>Container type</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Glass or approved plastic</td> <td>1 pt</td> <td>1 qt</td> <td>1 gal</td> <td>1 gal</td> <td>1 gal</td> </tr> <tr> <td>Metal (Other than dot drums)</td> <td>1 gal</td> <td>5 gal</td> <td>5 gal</td> <td>5 gal</td> <td>5 gal</td> </tr> <tr> <td>Safety cans</td> <td>2 gal</td> <td>5 gal</td> <td>5 gal</td> <td>5 gal</td> <td>5 gal</td> </tr> <tr> <td>Metal drums (DOT spec.)</td> <td>60 gal</td> <td>60 gal</td> <td>60 gal</td> <td>60 gal</td> <td>60 gal</td> </tr> <tr> <td>Approved portable tanks</td> <td>660 gal</td> <td>660 gal</td> <td>660 gal</td> <td>660 gal</td> <td>660 gal</td> </tr> </tbody> </table>	Table H-12	MAXIMUM ALLOWABLE SIZE OF CONTAINERS AND PORTABLE TANKS					Flammable liquids			Combustible liquids		Class IA	Class IB	Class IC	Class II	Class III	Container type						Glass or approved plastic	1 pt	1 qt	1 gal	1 gal	1 gal	Metal (Other than dot drums)	1 gal	5 gal	5 gal	5 gal	5 gal	Safety cans	2 gal	5 gal	5 gal	5 gal	5 gal	Metal drums (DOT spec.)	60 gal	60 gal	60 gal	60 gal	60 gal	Approved portable tanks	660 gal	660 gal	660 gal	660 gal	660 gal	
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25. Flammable liquids with flashpoints between 73°-100 degrees F (Class IA-IC) are stored in cabinets not exceeding 60 gallons; and flammable liquids with flashpoints above 200 degrees F (Class III) are stored in properly labeled FLAMMABLE LIQUIDS cabinets not exceeding 120 gallons.  <b>Recommendation:</b> Flammable liquid storage cabinets must not exceed regulatory limits.	<b>Reference:</b> 29 CFR 1910.106(d)(3)(i)  <b>Risk Ranking: 3</b>																																																				
26. Compressed gas cylinders are securely stored and segregated appropriately.  <b>Recommendation:</b> Compressed gas cylinders must be securely stored with chains or other sufficient methods to prevent accidental tipping. Cylinders not in use must be capped at all times. Cylinders of differing gases must be segregated based on the hazard present.	<b>Reference:</b> Compressed Gas Association CGA P-1:3.3  <b>Risk Ranking: 3</b>																																																				
27. All hazardous materials are stored, labeled, and segregated properly.	<b>Reference:</b> 29 CFR 1910.1200(e)(ii)																																																				

<p>Hazardous materials must be properly labeled to identify the chemicals/products present; stored in the appropriate location based on quantity and type of hazard; and segregated to prevent incompatible chemicals from contacting one another.</p>	<p><b>Risk Rating: 3</b></p>
<p>28. Chemical spill supplies are available including absorbing, containment, and PPE supplies and shop personnel are appropriately trained on their use.</p> <p><b>Recommendation:</b> Where chemicals are present in a shop, spill supplies should be available to accommodate the quantities present if a release occurs. Spill supplies should be located and available for all shop personnel and personnel should be trained to contain and/or clean up chemical spills in small amounts. Chemical spill response training can be completed on the EHS website.</p>	<p><b>Reference:</b> Ohio Fire Code 1301: 7-7-27(A)(3)</p> <p><b>Risk Ranking: 2</b></p>
<p>29. Chemical waste is identified, labeled, segregated, stored and disposed properly.</p> <p><b>Recommendation:</b> Chemical or hazardous waste must be properly stored, labeled and segregated in order to be picked up and disposed. EHS can assist with disposal and containment methods.</p>	<p><b>Reference:</b> RCRA Chapters 3734 &amp; 3745</p> <p><b>Risk Ranking: 3</b></p>

**IX. Personal Protective Equipment**

<p>30. Employees are provided the appropriate PPE based on a job hazard analysis to determine job duties and hazards present in the workplace.</p> <p><b>Recommendation:</b> Employers must provide the appropriate personal protective equipment to the employee based on the hazards they encounter as part of their job duties. Typical PPE includes eye, hand, head, foot, hearing, and respiratory protection including safety glasses, gloves, hard hat, steel-toe boots, ear plugs/muffs and respirators. For more information on the Job Hazard Analysis program, visit <a href="#">OSUEHS Job Hazard Analysis</a>.</p>	<p><b>Reference:</b> 29 CFR 1910 Subpart I</p> <p><b>Risk Ranking: 3</b></p>
<p>31. Employees exposed to excessive sound levels have been evaluated to determine if enrollment in the Hearing Conservation Program is required. Hearing protection is provided where excessive sound levels are present.</p> <p><b>Recommendation:</b> Employees exposed to excessive sound levels, may be eligible for enrollment in the OSU Hearing Conservation Program. Employees should be evaluated by EHS to conduct personal noise dosimetry to evaluate noise exposure. For information regarding the OSU Hearing Conservation program, visit <a href="#">OSUEHS Hearing Conservation Program</a></p>	<p><b>Reference:</b> 29 CFR 1910.95</p> <p><b>Risk Ranking: 3</b></p>
<p>32. Employees exposed to inhalation hazards have been evaluated to determine if enrollment in the Respiratory Protection Program is required. Respiratory protection is provided where airborne hazards exist.</p> <p><b>Recommendation:</b> Employees exposed to inhalation hazards may be eligible for enrollment in the OSU Respiratory Protection Program. Employees should be evaluated by EHS to conduct chemical monitoring to evaluate inhalation hazards. For information regarding the OSU Respiratory Protection Program, visit <a href="#">OSUEHS Respiratory Protection Program</a></p>	<p><b>Reference:</b> 29 CFR 1910.134</p> <p><b>Risk Ranking: 3</b></p>

**X. Hazard Communication**

<p>33. The shop has a completed Hazard Communication Plan in place, which includes a chemical inventory; properly labeled chemical containers; Safety Data Sheets for all chemicals used/stored in the shop; and training (including the new Globally Harmonized Standard (GHS) training).</p> <p><b>Recommendation:</b> All OSU shops must have a copy of the OSU Hazard Communication Program in place along with a complete chemical inventory; properly</p>	<p><b>Reference:</b> 29 CFR 1910.1200</p> <p><b>Risk Ranking: 3</b></p>
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labeled chemical containers; a Safety Data Sheet for all stored/used chemicals; and employees must be trained on the Hazard Communication standard along with the updated Globally Harmonized Standard training.	
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**XI. Confined Space Entry**

<p>34. If shop personnel enter confined spaces, a Confined Space Entry written program is in place in the shop and the supervisor(s) and employees are knowledgeable in its content.</p> <p><b>Recommendation:</b> Any time employees are engaged in confined space entry, a written confined space program must be made available to outline the safety precautions taken to ensure safe entry. For more information about confined space entry, visit <a href="#">OSUEHS Confined Space Entry</a>. For more information about the written program, visit <a href="#">OSUEHS Confined Space Program (written)</a>.</p>	<p><b>Reference:</b> 29 CFR 1910.146</p> <p><b>Risk Ranking: 3</b></p>
<p>35. Employees entering confined spaces have received appropriate training in safe entry; air monitoring device use; rescue operation; and permit completion; and the appropriate confined space entry tools/equipment are available for use.</p> <p><b>Recommendation:</b> Employees entering confined spaces must be properly trained to ensure the safety of all employees involved in the entry procedures. Visit <a href="#">OSUEHS Training</a> for online confined space training, or contact EHS for classroom training.</p>	<p><b>Reference:</b> 29 CFR 1910.146(g)</p> <p><b>Risk Ranking: 4</b></p>

**XII. Lockout / Tagout**

<p>36. Where hazardous energy is present, a written Lockout/Tagout program and procedure is in place to ensure maintenance and repairs can be made to energized equipment in a safe manner.</p> <p><b>Recommendation:</b> Any piece of equipment being service, which may become energized, or be considered unsafe for use, must be locked/tagged out to prevent unauthorized usage. For more information on the OSU Lockout/Tagout program, visit <a href="#">OSUEHS Lockout Tagout</a>.</p>	<p><b>Reference:</b> 29 CFR 1910.147</p> <p><b>Risk Ranking: 5</b></p>
<p>37. Locks and tags are sufficient for ensuring the release of hazardous energy does not occur during maintenance and repair activities.</p> <p><b>Recommendation:</b> Locks and tags must be constructed and applied to equipment in a manner, which renders them inoperable by unauthorized personnel.</p>	<p><b>Reference:</b> 29 CFR 1910.147(c)(5)</p> <p><b>Risk Ranking: 4</b></p>
<p>38. Employees involved in LOTO activities, or affected by LOTO devices have received the appropriate training to provide information regarding the LOTO program and its purpose.</p> <p><b>Recommendation:</b> Employees involved with applying LOTO devices, or those affected by LOTO devices must receive training regarding the OSHA Lockout/Tagout requirements. For additional information regarding LOTO training, visit <a href="#">OSUEHS Training</a></p>	<p><b>Reference:</b> 29 CFR 1910.147(c)(7)</p> <p><b>Risk Ranking: 4</b></p>

**XIII. Hot Work**

<p>39. Employees conducting hot work operations are familiar with the hot work permitting procedure and utilize the approved OSU EHS Hot Work Permitting process</p> <p><b>Recommendation:</b> Hot work operations must receive prior approval to eliminate the risk of fire during operations. This involves the completion and submittal of a properly completed Hot Work Permit. For more information on the OSU Hot Work Program and links to the printable and online Hot Work Permit forms, visit <a href="#">OSUEHS Hot Work</a></p>	<p><b>Reference:</b> 29 CFR 1910.252(a)(2)(iv)</p> <p><b>Risk Ranking: 4</b></p>
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<p>40. Shops, where hot work operations are conducted, have a written Hot Work Program and employees have received Hot Work safety training.</p> <p><b>Recommendation:</b> Any shop where hot work activities are conducted must have a copy of the OSU Hot Work Program, and employees must be properly trained to conduct Hot Work operations safely. For additional information on the OSU Hot Work Program, visit <a href="#">OSUEHS Hot Work Program</a></p>	<p><b>Reference:</b> 29 CFR 1910.252</p> <p><b>Risk Ranking: 4</b></p>
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**XIV. Elevated Work**

<p>41. Mobile aerial lifts are in proper working condition; inspected before use; equipped with the appropriate safety controls; used in a safe manner; and provided with the appropriate personal protective equipment</p> <p><b>Recommendation:</b> Aerial lifts must meet all applicable OSHA and ANSI specifications, including the completion of pre-use inspections to address potential deficiencies; be equipped with necessary safety equipment including guardrail and anchor points for fall protection equipment; and used in a manner as outlined in the <a href="#">OSUEHS Elevated Work Safety Program</a></p>	<p><b>Reference:</b> 29 CFR 1910.67</p> <p><b>Risk Ranking: 4</b></p>
<p>42. Employees working on ladders do so in a safe manner and ladders are routinely inspected to ensure they are maintained in proper working condition.</p> <p><b>Recommendation:</b> Ladders of all types must be utilized and maintained in proper working condition to ensure the safety of employees. Employees engaged in ladder use should be trained on the applicable components of the <a href="#">OSUEHS Elevated Work Safety Program</a></p>	<p><b>Reference:</b> 29 CFR 1910.24-27</p> <p><b>Risk Ranking: 3</b></p>
<p>43. Employees working on scaffolding are trained to properly erect the scaffolding, conduct routine scaffolding inspections and ensure the scaffolding is constructed of appropriate materials to support the loads being applied to the surface and provide fall protection.</p> <p><b>Recommendation:</b> Scaffolding must be safely erected by a competent person(s) as set forth by OSHA regulations and must include the proper fall protection/arrest components, footings, platforms, guying ties/braces; and me inspected before each use.</p>	<p><b>Reference:</b> 29 CFR 1926 Subpart L</p> <p><b>Risk Ranking: 4</b></p>
<p>44. Employees working at hazardous elevations including the use of aerial lifts, ladders and scaffolding are properly trained in all applicable areas.</p> <p><b>Recommendation:</b> Employees utilizing aerial lifts, ladders and scaffolding to conduct work at elevations, must receive the appropriate training to ensure their safety at all times. For more information regarding the OSU Elevated Work Safety Program, visit <a href="#">OSUEHS Elevated Work Safety</a>. For information regarding elevated work safety training, visit <a href="#">OSUEHS Training</a></p>	<p><b>Reference:</b> 29 CFR 1910 Subpart D 29 CFR 1910.67 29 CFR 1910.24-27 29 CFR 1926 Subpart L</p> <p><b>Risk Ranking: 3</b></p>

**XV. Forklift Safety**

<p>45. Forklifts and powered industrial trucks are in proper working condition, inspected before each use and operated in a safe manner under the provisions outlined in the OSU Forklift and Powered Industrial Truck Safety Program.</p> <p><b>Recommendation:</b> Forklifts and other powered industrial trucks must be in proper working condition at all times; be inspected before each use; and operated in a safe manner to ensure the safety of employees. For information regarding the OSU Forklift &amp; Powered Industrial Truck safety program, visit <a href="#">OSUEHS Forklift &amp; Powered Industrial Truck Safety</a></p>	<p><b>Reference:</b> 29 CFR 1910.178</p> <p><b>Risk Ranking: 4</b></p>
<p>46. Forklift and industrial truck refueling/battery charging areas are maintained in an orderly manner and hazardous materials in these areas are stored and handled</p>	<p><b>Reference:</b> 29 CFR 1910.178(f)-(g)</p>

<p>properly.</p> <p><b>Recommendation:</b> Liquid and liquefied petroleum fuels must be stored in accordance with the NFPA Flammable and Combustible Liquids Code (NFPA No. 30-1969). Battery charging facilities must be clearly designated and be equipped with spill response supplies and the appropriate PPE.</p>	<p><b>Risk Ranking: 3</b></p>
<p>47. Forklift and powered industrial truck operators have received training to document their proficiency to safely operate the equipment.</p> <p><b>Recommendation:</b> Forklift and powered industrial truck operators must receive both classroom and competency training prior to operating the equipment. Competency training should be conducted on the equipment the employee will be operating as part of their job duties. For information regarding the OSU Forklift and Powered Industrial Truck Safety Program, visit <a href="#">OSUEHS Forklift &amp; Powered Industrial Truck Safety</a>. For the written program, visit <a href="#">OSUEHS Forklift &amp; Powered Industrial Truck Safety Program (written)</a></p>	<p><b>Reference:</b> 29 CFR 1910.178(l)</p> <p><b>Risk Ranking: 3</b></p>

**XVI. Fall Protection**

<p>48. Employees working at elevations are provided with the appropriate PPE including full body harness and lifelines to ensure safety at all times. PPE is inspected before each use and defective equipment is removed from service.</p> <p><b>Recommendation:</b> Employees working on installed fall protection systems, where tying off to an anchor point or lifeline is required, must be provided with the appropriate PPE, which must be inspected before each use.</p>	<p><b>Reference:</b> 29 CFR 1926 Subpart M</p> <p><b>Risk Ranking: 4</b></p>
<p>49. Employees working at elevations where fall hazards are present have been properly trained under the provisions outlined in the OSU Fall Protection Program; and the shop has a written Fall Protection Program</p> <p><b>Recommendation:</b> Employees working at hazardous elevations must be properly trained under the provisions outlined in the OSU Fall Protection Program. For information regarding the OSU Fall Protection Program, visit <a href="#">OSUEHS Fall Protection Program (written)</a>. For information regarding training, visit <a href="#">OSUEHS Training</a></p>	<p><b>Reference:</b> 29 CFR 1926 Subpart M</p> <p><b>Risk Ranking: 4</b></p>

**XVII. Legionella Exposure**

<p>50. Employees working on cooling towers, water misters, decorative fountains and heated spas have a Legionella Exposure Control Program and are competent in legionella prevention methods.</p> <p><b>Recommendation:</b> Employees working in areas where legionella may be present in airborne water sources must have a Legionella Exposure Control program in place, be properly trained, and take measures to prevent legionella growth.</p>	<p><b>Reference:</b> OSHA Technical Manual Section III: Chapter 7</p> <p><b>Risk Ranking: 4</b></p>
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**XVIII. Environmental Compliance**

<p>51. Refrigerant containing equipment is serviced by EPA-certified technicians; refrigerant is recovered and recycled under EPA guidelines; and leak rates are calculated annually.</p> <p><b>Recommendations:</b> Technicians must be certified by an EPA-approved certifying organization. The technician certification must be appropriate (Type I, II, III, or IV (Universal)) for the type of equipment serviced. Copies of each technician's certification should be readily available in the shop. Technician certifications do not expire.</p>	<p><b>Reference:</b> 40 CFR 82, Protection of Stratospheric Ozone</p> <p><b>Risk Ranking: 4</b></p>
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<p>The refrigerant recovery and recycling equipment must have the appropriate certification by an EPA-approved testing organization. The recovery and recycling equipment certification should be labeled on the equipment.                  Recover as much refrigerant as possible when evacuating refrigerant to a recovery unit. Intentional venting of refrigerant to the atmosphere is prohibited.</p> <p>Unwanted used refrigerant must be properly disposed of with certified reclaimer.</p> <p>Annual leak rate must be calculated with each refrigerant addition. Leak rate calculation records must be maintained on site and be readily available. Service records and refrigerant purchase records must also be maintained onsite.                  Leaks in refrigerant containing equipment with a capacity of 50 lbs must be repaired within 30 days if annual leak rate is calculated at or greater than 35% for commercial cooling equipment (e.g. grocery stores and warehouses) and industrial process refrigeration equipment or at 15% for equipment used for comfort cooling (such as building chillers).</p>	
<p>52. Universal waste (fluorescent light tubes and bulbs, batteries, mercury containing devices and pesticides) are stored and disposed of correctly.</p> <p><b>Recommendation:</b> A container for Universal waste may be stored up to one year and must have a Universal waste label indicating the contents and date of initial generation. The container must be kept closed, but not sealed, to allow for additions until the container is full or one year has elapsed.</p>	<p><b>References:</b> Ohio Administrative Code (OAC) Chapter 3745-273, Universal Waste Standards; 40 CFR 273, Standards for Universal Waste Management</p> <p><b>Risk Ranking: 4</b></p>
<p>53. Hazardous waste is properly identified, labeled, stored, segregated and disposed.</p> <p><b>Recommendation:</b> Hazardous waste must be properly identified, labeled, stored, segregated, and disposed of. Contact Environmental Safety and Health's (EHS) Hazardous Waste Operations group to evaluate the shop's waste streams.</p>	<p><b>References:</b> OAC Chapter 3745-51, Identification and Listing of Hazardous Waste; 3745-52, Generator Standards; 40 CFR 262, Standards Applicable to Generators of Hazardous Waste</p> <p><b>Risk Ranking: 4</b></p>

<p>54. Solvent contaminated wipes and rags are properly stored, labeled and disposed as hazardous waste.</p> <p><b>Recommendations:</b> Acceptable solvents for wipes to managed under the solvent contaminated wipe rule instead of as hazardous waste include: Acetone, Isobutyl alcohol, Benzene, Methanol, n-Butanol, Methyl ethyl ketone, Chlorobenzene, Methyl isobutyl ketone, Creosols, Methylene chloride, Cyclohexanone, Tetrachloroethylene, 1,2-Dichlorobenzene, Toluene, Ethyl acetate, 1,1,2-Trichloroethane, Ethyl benzene, Trichloroethylene (<i>for reusable wipes only</i>), 2-Ethoxyethanol, and Xylenes.</p> <p>Wipes must be accumulated, stored, and transported in non-leaking, closed containers that can contain free liquids, should they occur. Containers must be labeled “Excluded Solvent-Contaminated Wipes.” Wipes may accumulate up to 180 days from the start date of accumulation prior to being sent for cleaning or disposal. Wipe containers shipped to a recycler or disposal facility must be free of liquid. The removed free liquid must be managed as a hazardous waste. Generators must maintain documentation that includes: name and address of the laundry, dry cleaner, landfill, or combustor, documentation that the 180-day accumulation time limit is being met, and a description of the process the generator used to meet the “no free liquids” condition. If wipes are recycled, they must go to a laundry or dry cleaner whose discharge, if any, is regulated under sections 301 and 402 or section 307 of the Clean Water Act. If wipes are disposed of, they must go to a combustor regulated under section 129 of the Clean Air Act or to a hazardous waste combustor, boiler, or industrial furnace regulated under 40 CFR parts 264, 265, or 266 subpart H. Or they may go to a municipal solid waste landfill regulated under 40 CFR part 258 (including § 258.40) or to a hazardous waste landfill regulated under 40 CFR parts 264 or 265.</p>	<p><b>References:</b> 40 CFR 261.4(a)(26), Solid Waste Exclusion; 40 CFR 261.4(b)(18), Hazardous Waste Exclusion</p> <p><b>Risk Ranking: 3</b></p>
<p>55. Used oil is properly managed?</p> <p><b>Recommendation:</b> Containers of used oil must be in good condition and suitable for containing the oil without leaking. The container must be marked as “Used Oil.”</p>	<p><b>References:</b> OAC Chapter 3745-279, Used Oil Management Standards; 40 CFR 279, Standards for the Management of Used Oil</p> <p><b>Risk Ranking: 3</b></p>
<p>56. Spent aerosol cans are properly disposed of.</p> <p><b>Recommendation:</b> Spent aerosol cans may be a hazardous waste. They should be placed in a dedicated container that is labeled “Hazardous Waste / Spent Aerosol Cans”. The container should be kept closed, but not sealed, to allow for additions until the container is full. There is no time limit on maintaining a spent aerosol can container in a shop. The aerosol cans will be evaluated and properly disposed of by the Hazardous Waste Operations group once they collect it. Shops may also install aerosol can puncture/recycling system to meet this requirement.</p>	<p><b>References:</b> OAC Chapter 3745-51, Identification and Listing of Hazardous Waste; 3745-52, Generator Standards; 40 CFR 261, Identification and Listing of Hazardous Waste; 40 CFR 262, Standards Applicable to Generators of Hazardous Waste</p> <p><b>Risk Ranking: 3</b></p>
<p>57. Sanitary sewer discharge meets City of Columbus Municipal Code.</p> <p><b>Recommendations:</b> For planned, non-routine discharges, follow EHS’s Standard Operating Procedure (SOP) for Slug Discharges, including submission of a completed pre-approval form to EHS. The SOP also contains a list of discharge limits for certain parameters and a list of prohibited discharges.</p> <p>Have EHS evaluate routine discharges for pre-approval status. Mop water containing a non-solvent general cleaning agent is a pre-approved discharge.</p>	<p><b>Reference:</b> City of Columbus Municipal Code of Ordinances Section 1145, Standards of Discharge</p> <p><b>Risk Ranking: 3</b></p>

<p>58. Storm sewer discharge is prohibited.</p> <p><b>Recommendation:</b> Discharges to the storm sewer are not allowed. EHS will evaluate the discharge for other disposal options.          References: OAC 3745-33, Ohio National Pollutant Discharge Elimination System (NPDES) Individual Permits; NPDES Small MS4 (Municipal Separate Storm Sewer Systems) General Permit OHQ000002</p> <p>General recommendations for unplanned discharges to the sanitary or storm sewer: contact EHS at 292-1284 as soon as release is discovered. Provide applicable Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS), volume and time of discharge, and any other pertinent information known about the release so that it can be evaluated for mitigation and reporting requirements.</p>	<p><b>Risk Ranking: 3</b></p>
<p>59. Does the facility have aboveground oil storage containers, tanks, and oil-filled equipment (transformers, hydraulic systems, etc.) with an aggregate capacity of <math>\geq 1,320</math> gallons or <math>\geq 42,000</math> gallons underground? Containers and equipment <math>&lt; 55</math> gallons are excluded from the aggregate aboveground or underground total.</p> <p><b>Recommendation:</b> The facility is subject to Spill Prevention, Control, and Countermeasure (SPCC) regulations and must have either a stand alone SPCC Plan or be included in an existing facility SPCC Plan. The plan must be updated every 5 years. All oil handling employees must take SPCC training on an annual basis. EHS Online SPCC training module: <a href="http://ehs.osu.edu/Training/eat.aspx">http://ehs.osu.edu/Training/eat.aspx</a></p>	<p><b>Reference:</b> 40 CFR 112, Oil Pollution Protection</p> <p><b>Risk Ranking: 3</b></p>
<p>60. Does the shop install, operate, or maintain equipment that produces air emissions, such as paint spray booths, boilers, temporary boilers, emergency generators, or other stationary engines?</p> <p><b>Recommendation:</b> The unit may be subject to permitting and operating conditions. EHS will evaluate the units(s) to determine applicability of various air regulations.</p>	<p><b>References:</b> 3745-15, General Provisions on Air Pollution Control; 3745-31, <a href="#">Permits-to-Install New Sources and Permit-to-Install and Operate Program</a>; 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS); 40 CFR 63, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)</p> <p><b>Risk Ranking: 3</b></p>