	Hazard Assessment for Laboratories	
	Assessor name(s):	EHS Contact Information:
	Assessor(s) email address:	Liz Dobson-Davis Cell: 518-925-2753 Office: 518-388-6340 Email: dobsonde@union.edu
Date:		

Lab Information

Department
Faculty or Staff name
telephone number
email address
Building
Lab room number(s)




























Explanation of Ratings

1: Compliant 0: Non compliant/not acceptable

N/A: Not applicable

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Hazardous Assessment for Laboratories

Employee Training and Information - Section 3 of Chemical Hygiene Plan (CHP)					Comments							
1	0	S	N/A									
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemical Hygiene Plan is accessible (hard copy or on-line)								
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Hazard Communication Plan is accessible (hard copy or on-line)								
Hazard Identification-Section 4.0 of CHP					Comments							
1	0	S	N/A									
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Hazard Assessment checklist from previous year for lab room is included with Chemical Hygiene Plan								
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Standard Operating Procedures (SOPs) are available for hazardous chemicals or equipment, either electronically or hard copy, for procedures done routinely or done by students working independently.								
Physical Hazards associated with Chemicals												
Present in Lab?	Physical Hazard	Description of Hazard (From Appendix to CFR 1910.1200). Refer to Safety Data Sheet for Chemical for storage and handling procedures.	Use Globally Harmonized System (GHS) Pictograms on the Manufacturer container label & Safety Data Sheet to help identify physical hazards of chemicals:									
	Combustible Dust	A combustible particulate solid that presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations, regardless of particle size or shape.	<table border="1"> <tr> <td>Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity</td> <td>Flame  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides</td> <td>Exclamation Mark  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)</td> </tr> <tr> <td>Gas Cylinder  • Gases under Pressure</td> <td>Corrosion  • Skin Corrosion/ burns • Eye Damage • Corrosive to Metals</td> <td>Explosion Bomb  • Explosives • Self-Reactives • Organic Peroxides</td> </tr> <tr> <td>Flame over Circle  • Oxidizers</td> <td>Environment (Non Mandatory)  • Aquatic Toxicity</td> <td>Skull and Crossbones  • Acute Toxicity (fatal or toxic)</td> </tr> </table>	Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	Flame  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	Exclamation Mark  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)	Gas Cylinder  • Gases under Pressure	Corrosion  • Skin Corrosion/ burns • Eye Damage • Corrosive to Metals	Explosion Bomb  • Explosives • Self-Reactives • Organic Peroxides	Flame over Circle  • Oxidizers	Environment (Non Mandatory)  • Aquatic Toxicity	Skull and Crossbones  • Acute Toxicity (fatal or toxic)
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Gas Cylinder  • Gases under Pressure	Corrosion  • Skin Corrosion/ burns • Eye Damage • Corrosive to Metals	Explosion Bomb  • Explosives • Self-Reactives • Organic Peroxides										
Flame over Circle  • Oxidizers	Environment (Non Mandatory)  • Aquatic Toxicity	Skull and Crossbones  • Acute Toxicity (fatal or toxic)										
	Compressed Gas	Contained in a receptacle at a pressure ≥ 200kPa, includes liquefied gases, dissolved gases and refrigerated liquefied gases.										
	Corrosive to Metals	By chemical action will materially damage or destroy metals.										
	Explosives	Solid or liquid by itself is capable by chemical reaction of producing gas at temperature, pressure & speed to cause damage to surroundings.										
	Flammables	Liquids with flashpoint < 93° C or readily combustible solid or solid that may cause or contribute to fire through friction.										
	Organic Peroxides	Liquid or solid organic chemical that contain bivalent -O-O- structure. Organic peroxides are thermally unstable and may undergo exothermic self accelerating decomposition.										
	Oxidizers	Liquids, solids or gases that may cause or contribute the combustion of other materials by yielding oxygen.										
	Pyrophorics	Liquid or solid, even in small amounts, is liable to ignite within 5 minutes of coming in contact with air.										
	Self-Heating	A solid or liquid substance or mixture, other than a pyrophoric liquid or solid, which, by reaction with air and without energy supply, is liable to self-heat; this substance or mixture differs from a pyrophoric liquid or solid in that it will ignite only when in large amounts (kilograms) and after long periods of time (hours or days).										
	Self-Reactive	Thermally unstable liquid or solid chemicals liable to undergo a strong exothermic decomposition, even without oxygen (air). This definition excludes substances and mixtures classified under the GHS as explosives, organic peroxides, or as oxidizing.										
	Water Reactive (Emits Flammable Gas)	Solids or liquids by interaction with water are liable to become spontaneously flammable, or give off flammable gases in dangerous quantities.										
Present in Lab?		Other Physical Hazards in Laboratory:	EHS is available to assist with implementing storage or use requirements for chemicals with physical hazards.									
		Biosafety 2 organisms or greater										
		High voltage equipment										
		Moving or rotating equipment										
		Sharp objects										
		LASERS- Contact Laser Safety Officer for hazard assessment. (dobsonde@union.edu)										
		Radioactive materials- Contact Radiation Safety Officer for hazard assessment. (dobsonde@union.edu)										
1	0	S	N/A									
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	The list of chemical names and container sizes in lab room has been updated (required annually).	Any changes should be provided to Plan Administrator so MSDSonline (SDS database) can be updated.							
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Manufacturer containers are labeled with chemical name, hazard warning, and date received.								
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Secondary product containers- labels have chemical content, hazard warning and manufacturer's name	See section 4 of CHP for conditions when secondary containers must be labeled.							
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Safety Data Sheets (SDSs) are accessible (hard copy or on-line)								

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Standard Operating Procedures for the Use of Hazardous Chemicals-Section 5 of CHP					
1	0	S	N/A	General Practices	Comments
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Union College Safety Rules are posted in the Lab	
Hazardous Chemicals Storage					
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemical storage cabinets are labeled (i.e. flammables, corrosives, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemical containers are in good condition (non-leaking, non-corroded, can read label)	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Temperature sensitive chemicals are kept in designated refrigerators and fridge is labeled with "No food or beverages allowed"	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Chemicals that are both temperature sensitive and flammable are stored in a flammables material rated refrigerator/freezer, and fridge is labeled with "No food or beverages allowed"	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Corrosive chemicals stored below eye level, if possible	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemicals are stored away from direct sunlight, not under a sink, and away from heat sources	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemicals stored in fume hoods and on bench tops have been there for less than 1 academic year	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Ethers and other peroxide formers are dated when received and when opened	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Water reactive chemicals are segregated, contained and labeled	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Carcinogens segregated and stored in designated areas	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Pyrophoric chemical segregated, contained and labeled	
Hazardous Chemicals Disposal					
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Waste containers are labeled with "Hazardous Waste" and full chemical name is written clearly	EHS will add date to waste container when it's picked up for disposal.
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemical waste containers are in good condition and kept closed when not in use (no open funnels in place)	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Hazardous waste is stored in secondary container (tray or plastic carton)	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	There is less than 55 gallons of hazardous waste and less than 1 quart of acutely hazardous waste in an accumulation area	Contact EHS to determine if you have acutely hazardous waste.

Control Measures to Reduce Employee Exposure to Hazardous Chemicals and Physical Hazards, Section 6 of CHP				
1	0	S	N/A	Comments
Chemical Fume Hood(s):				
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Sash is at or below marked certified level Orange label on right side of fume hood.
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Sash stoppers are functional, if present
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Hood light functional
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Audible/visual alarm functional
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Minimal clutter in hood (equipment, chemicals & glassware)
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemicals in fume hood are at least 6" in from sash
Personal Protection Equipment				
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Lab coats are available and in good condition
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Safety glasses and splash goggles are available and marked as meeting ANSI Z87.1-2010 standard
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Gloves are available and suitable for types of chemicals being used
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Adequate supply of specialty PPE available (i.e. LASER eyewear, face shields, lab aprons, cryogenic gloves)
Housekeeping				
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	No food, drink, medication or cosmetics are in the designated lab work zones
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Secondary containment is provided for floor storage of glass chemical containers
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Minimal glassware on bench tops & in sink
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Proper waste disposal containers for sharps and broken glass are available
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Sharps containers are less than 3/4 full
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Floor space in room is clear and free of obstacles

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Control Measures to Reduce Employee Exposure to Hazardous Chemicals and Physical Hazards, Section 6 of CHP				
1	0	S	N/A	
Mechanical & Electrical Safety				
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Moveable parts on equipment are guarded, as appropriate
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Electric panel is accessible
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Plugs, cords and outlets are in good condition
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Extension power cords are only present for immediate use and are not a trip hazard (should be taped down or covered)
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Power strips are secured off the floor and away from liquids
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	No power cords are found under doors, carpets or through ceilings
Fire Safety				
1	0	S	N/A	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Stand alone flammables cabinets are NFPA rated
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	The volume of flammable chemicals stored in flammables cabinets does not exceed 150 gallons per lab room
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Flammable chemicals are not stored near oxidizers or heat and ignition sources
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Storage clearance from ceiling is at least 18" with sprinklers and 24" without sprinklers
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Fire extinguisher is: present/charged/accessible/tag updated/signage clearly visible

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Emergency Response- Section 7 of CHP					
1	0	S	N/A		Comments
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Campus Safety telephone number (388-6911) is posted in lab work space, as well as contact information for Faculty or Staff member who is responsible for lab	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Chemical spill materials or kit with written spill cleanup procedures is available	Spill kits should be stocked and maintained by Departments.
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	First aid kit present, stocked products are within expiration date	First aid kits should be stocked and maintained by Departments.
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Clearance area around safety shower at least 16" in each direction. Signage is clearly visible	
Particularly Hazardous Substances, Nanomaterials, Compressed Gases - Sections 9, 10 & 11 of CHP					
1	0	S	N/A	Particularly Hazardous Substances	
<input type="checkbox"/>			<input type="checkbox"/>	Particularly hazardous substances are present in lab	See section 9.0 of Chemical Hygiene Plan for definitions of particularly hazardous substances.
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Safety Protocol documents are available	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Warning signs are posted	
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Record sheet is available with user names, amount used, amount stored	
Nanomaterials					
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	Engineering controls are present to manage dry nanomaterials from becoming airborne	
Compressed Gases					
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Gas cylinders are secured upright to a stable structure.	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	Gas cylinder valve protection cap is in place when not in use	