NC State University
Supervisor's Safety Self Assessment Checklist

This checklist is a tool to aid the supervisor and his/her employees in identifying those activities and conditions that need attention to achieve and maintain a safe work environment. This format was developed by the CALS Safety Committee (our thanks!) from the original EH&S checklist and has been adopted for University use.

Completion of this assessment fulfills the annual requirement for an inspection or self assessment as specified on the certification page of the Safety Plan. During the assessment process, note comments and reminders in the *Comment or Corrective Action Needed* column as necessary. When the appropriate action has been taken, note this in the *Date Completed* column.

Keep this checklist with your safety plan. It will allow for quick reference to identify actions not completed and will serve as an educational tool and useful reference for both staff and students.

Contact Ken_Kretchman@ncsu.edu with any questions or suggestions regarding this checklist.

College _____ **Department** _____

Building _____ **Room(s)** _____

Person Performing Inspection _____

Responsible Supervisor or Faculty Member _____

Signature _____ **Inspection Date** _____

Safety Self Assessment Checklist

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Reference Materials

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
A. OVERVIEW OF SUPERVISOR SAFETY RESPONSIBILITIES FOR THEIR EMPLOYEES				
1. Supervisors may review their safety responsibilities and NC State Safety and Health requirements by visiting the website for the NC State Environmental Health and Safety Center (EH & SC) home page. Follow link http://www2.ncsu.edu/ncsu/ehs/www99/right/super/index.html Supervisors can get additional information about specific safety and health concerns by scrolling through the EH & SC directory of services http://www2.ncsu.edu/ehs/www99/right/directory/index.html	• NC State policy • References many OSHA regulations **e.g.** • CFR1910.1200 Hazard communication • CFR1910.38 Employee emergency plans and fire prevention plan	Follow link provided.		
2. New employees, whether temporary or permanent, must receive appropriate safety training and orientation at the start of employment and before completing certain tasks. Employees should receive area specific orientation and training within the first day or two of hire and before starting certain tasks. Follow the link to view a generalized new employee safety orientation sheet. Note that the form directs each supervisor to tailor the form to fit the individual work place. http://www.ncsu.edu/ehs/www99/right/safeplan/newemplo.pdf	• NC State policy • References many OSHA regulations • CFR1910.38 Employee emergency plans and fire prevention plans	Provide appropriate orientation and training at the beginning of employment.		
3. All employees who either work with chemicals or routinely access areas where chemicals are used must attend general hazard communication training offered through the EH & SC. Hazard communication training is required for all permanent and temporary employees exposed to chemicals while completing their tasks. New permanent employees receive this training as part of the new employee safety training conducted at the EH&SC. Temporary employees exposed to chemicals must also receive this training. Current NC state employees who transfer into a position that results in potential exposure to chemicals must also attend the training. Contact Jonathan Borntrager at 5-5214 or Jonathan_borntrager@ncsu.edu or follow the link http://www.ncsu.edu/ehs/hazcom/hazcom.htm Employees covered by a safety plan must receive annual training. Training must be documented.	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Initial, general, hazard communication training provided by the EH & SC. For Labs with a safety plan, must provide initial and annual area-specific training. Employees exposed to chemicals but are not covered by a safety plan must receive initial hazard communication training.		
4. Supervisors should ensure that all permanent and temporary employees receive all necessary, periodic safety training updates. Supervisors should provide or arrange for the necessary safety training for each task before an employee begins that task. Safety should be incorporated into the on-the-job training so that it becomes part of the standard operating procedure. Supervisor responsibilities are listed and explained at http://www2.ncsu.edu/ncsu/ehs/www99/right/super/index.html.	• CFR1910.38 Employee emergency plans and fire prevention plans • CFR1926.21 Safety Training • CFR 1926.20 Accident prevention programs	Training is specific for each task and may be required only once, annually or some other specified time period.		

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5. Training is required for anyone who transports and ships or receives any quantity of hazardous chemicals or hazardous materials. Personnel who ship or transport chemicals must be certified. Contact Todd Becker at 515.2895 or Todd_Becker@ncsu.edu.	• DOT HM 181	Initial and repeat at least every 2 years.		
6. Safety training records should be retained by the PI and by departments at a central location. Employees may have their own copies or may request to see file copies at any time. Safety training records and copies of all safety certifications should be maintained in a departmental file.	• CFR1910.38 Employee emergency plans and fire prevention plans • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • As required by specific standards	Be aware and comply.		
7. Employees should be aware that they can report unsafe conditions anonymously. Emergency Dial 911 Although employees should inform their supervisors of unsafe conditions in their workplace, there may be occasions where this may cause the employee discomfort. Employees should understand that they are protected under the OSHA act against the unlikely event of reprisal or intimidating supervisory actions due to reporting of unsafe conditions. If, for any reason, employees are uncomfortable reporting unsafe conditions through normal channels, ***Employees may call the Safety Hotline anonymously at 515.5445.*** The safety hotline can also be accessed at http://www.ncsu.edu/ehs/hotline.htm	• CFR1977 Discrimination against employees under OSHA Act of 1970. • §95-196. Employee rights. • § 95-136. Inspections.	Contact NC State safety hotline at 515.5445.		
8. Employees are directly involved in workplace safety inspections/observations, accident investigations, and near misses. Employees should be involved in safety inspections, accident investigations, and near misses. They may provide insight through experience with the work area and processes. The act of completing these exercises is educational because it brings to mind other activities and process that may benefit from a review. Employees involved in an accident or near miss are required to complete the appropriate forms located at http://ncsu.edu/ehs/accident.htm.	• NCSU Safety Policy	Be aware and comply.		
9. Conduct and retain documentation of a protective equipment assessment for all work areas (Protective Equipment section, HSM). OSHA requires a written assessment of the need for protective equipment to be completed for the work area. Persons required to compile safety plans will complete this form on-line. Detailed information is available in the "Personal Protective Equipment" section of the Health and Safety Manual, located at http://www.ncsu.edu/ehs/www99/right/handsMan/worker/ppe/index.html. It may be necessary to separate the protective equipment assessment for field versus lab work.	• CFR1910 (Subpart I) • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • CFR 1910.1200 Hazard communication	A hazard assessment must be conducted for all work areas, not just those work areas that require a safety plan.		

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10. Appropriate safety equipment required for a given work area must be worn consistently. Protective equipment identified as necessary for the work area must be worn. Focus on the consistent use of safety glasses as a priority action item if *any* eye hazards are present in your work area, then add other components identified as necessary. Casual visitors must be provided equipment if they must across an "area" identified as requiring safety equipment, for instance, safety glasses. Follow link to http://www2.ncsu.edu/ehs/www99/right/handsMan/worker/ppe/index.html	• CFR 1910.132 - 139 (subpart I)	Employers must provide required PPE to employees.		
11. A current safety plan must be present and readily available in each location where hazardous processes are conducted and where hazardous materials or equipment are used. All sites with hazardous chemicals, biological agents or physical hazards must have an approved Safety Plan. A printed copy will be posted in the respective area. The plan must be the current version. The plans are updated annually with notification going to the responsible party 30 days before the expiration date. An annual plan update is required. Please contact Bruce Macdonald at 515.6858 or Bruce_Macdonald@ncsu.edu if you have questions about the status of your safety plan. http://www.ncsu.edu/ehs/safetyplan/index.html	• CFR 1910.1450 Occupational exposure to hazardous chemicals in laboratories • CFR 1910.38 Employee emergency pans and fire prevention plans	Update safety plan annually.		
B. GENERAL HOUSEKEEPING AND FACILITY MAINTENANCE				
12. Applicable warning signs and up-to-date names of responsible persons to contact in case of emergency must be posted at the entrance to any workspace. All laboratories and other designated work areas will have warning signs indicating the hazards in the area post on the main entrance door to the work area. Contact Bruce Macdonald at 515.6858 or mail to: Bruce_Macdonald@ncsu.edu if a sign is lacking, outdated or inaccurate. Signage should be updated to reflect current hazards.	• CFR1910.38 Employee emergency plans and fire prevention plans	Signage updated as needed.		
13. Specific hazards in work areas must be clearly identified with posted signs (e.g., eye hazard, high voltage hazard, hearing protection required). Proper signs are important to indicate work area hazards. Contact Mike Smith at 515.5213 or mail to: mtsmith@ncsu.edu	• CFR 1910. 1910.145 Specifications for accident prevention signs and tags	Be aware and comply		
14. The appropriate emergency telephone number(s) should be posted at permanently located phones and conveniently located or accessible for cellular phones. Call 911 from campus landline phones for fastest response. Campus calls from a cell phone should be made to 515.3333 for quickest response. The appropriate emergency phone number should be readily visible at each phone. High visibility stickers are available through Public Safety for campus use. Areas other than main campus should contact the nearest fire department or law enforcement office and request this information. If the building or specific location of the caller is not tied into the 911 system, give specific verbal directions to the emergency dispatcher.	• CFR1910.38 Employee emergency plans and fire prevention plans • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Update information as needed.		

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15. Emergency evacuation routes must be kept clear of obstructions. Evacuation routes should be posted and must be kept clear. The main exit routes within your work area should have a minimum clearance of 36 inches. Larger clearances are typically required for building exit corridors. Also, adequate space 36 inches should be maintained around fixed equipment for maintenance access.	• NFPA 101-1970, Life safety code • DOI • NC Fire/Building code	Each PI should ensure that their property does not obstruct evacuation routes.		
16. Food and drinks must be kept out of the work areas unless they are part of a research project. Food and drink must be kept out of work areas that require a safety plan unless the food and or drink is involved directly in research on food.	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Inform all personnel.		
17. Regular self inspections of all work areas should be performed at least annually. Corrective actions and deficiencies should be documented. Retain a copy of your completed safety self assessment checklist. If you have a safety plan, keep the self-inspection with your plan in your work area. You should refer to it when future inspections are performed. This inspection is recommended at least annually. Follow link to http://www.ncsu.edu/ehs/www99/right/super/NCSUSafetySelfAssesment.pdf	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories) • § 95-136. Inspections. • § 95-143. Inspections.	Inspect documentation.		
18. Corrective actions should be requested through the proper channels or corrected in-house if possible to resolve unsafe conditions. Keep track of, and follow up on, corrective action requests that you submit.	• DOI • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Annual inspections have been conducted and are documented.		
19. All items on shelves must have a minimum clearance of 18 inches from sprinkler heads, heating pipes, and lighting fixtures. This requirement applies to rooms with sprinklers. It is important to maintain at least a 24-inch clearance from stored items to ceiling to prevent reduction of sprinkler water discharge coverage and to avoid overheating (fire) due to material storage next to hot surfaces. The 24-inch clearance is in all directions.	• NFPA • NC Fire Code	Be aware and comply.		
20. The work area must be kept free of unnecessary clutter. Good housekeeping should be practiced in labs and work areas. Unused materials and equipment should be stored properly or discarded as necessary. Chemical wastes should be disposed of promptly and work surfaces should be free of chemical residues.	• CFR1910.22 walking working surfaces • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • DOI	Be aware and comply.		

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21. Fire extinguishers must be readily accessible and unobstructed. Employees should know where all the fire extinguishers in their work area are located. Extinguisher locations must not be obstructed with storage of other objects. Only persons who have been trained in the use of fire extinguishers may use them. Contact the Fire Protection Division of Public Safety if you wish to receive fire extinguisher training. If you are using materials, which require special extinguishing agents (e.g. flammable metal powders) you can contact Fire Protection to request a suitable extinguisher for your work area. Contact: bill_stevenson@ncsu.edu or firesafetyhelp@gw.ncsu.edu for questions or assistance. Fire extinguisher training is available through NC State's Department of Public Safety- Fire Protection Division. Call 515.2568 to schedule training. A brief summary of what to do in case of a fire is available at http://www2.ncsu.edu/ncsu/public_safety/Protection/EmergencyProcedures.html#fires	• CFR1910.157 Portable fire extinguishers • NFPA 10 • NC Fire Code (510.1) • NC Building Code (402.15)	Initial and annual training. Path to fire extinguishers must be unobstructed.		
22. Modifications to buildings are performed only by authorized employees or companies contracted through NC State facilities maintenance organizations. Modifications to facilities include painting, adding electrical fixtures, cable, exhaust ventilation equipment, or other applications where building materials may be disturbed; including scraping or sanding painted surfaces. Modifications must be completed by authorized facilities personnel or by contractors working under the facilities maintenance organizations. Risks associated with unauthorized work include potential exposure to lead or asbestos, although this covers safety risks from any modification that is not done according to accepted codes and regulations. Generate a building modification request or work order for all modifications. A directory of services provided by Facilities Operations is available at http://www.ncsu.edu/policies/finance/facilities/REG07.25.1.php	• DOI • CFR1910.1001 Toxic and hazardous substances - asbestos • 1910.1025 Toxic and hazardous substances - lead	See building liaison or department office to initiate work order.		
C. MEDICAL SURVEILLANCE, FIRST AID AND MEDICAL EMERGENCIES				
23. Personnel must have access to first aid kits. Each work area should contain a readily accessible first aid kit. Supervisors with multiple labs located adjacent to each other may choose to use one kit, rather than stock one in each lab. All employees should be advised of its location and the minimum contents required. Someone should be assigned responsibility for periodic (quarterly) review of the contents. This person should also be notified when supplies are expended to refill the kit. If you need additional assistance, contact Bruce Macdonald at 515.6858 or mailto:Bruce_Macdonald@ncsu.edu A suggested list of appropriate Safety kit contents is located at http://www2.ncsu.edu/ehs/www99/right/handsMan/firstaid/firstaid.html	• CFR1910.38 Employee emergency plans and fire prevention plans • CFR1910.151 First aid kits.	Lab kits: check initially and quarterly. Vehicle kits: Check quarterly and prior to each expedition.		

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24. Personnel must have access to emergency assistance anywhere within the United States. All personnel located on campus should contact 911 in the event of an emergency from a landline phone. Contacting 515.3333 for on-campus emergencies calls made on a cell phone will bring a faster response than dialing 911. Personnel who work away from main campus should know the appropriate emergency number to call no matter where they are located.	• CFR1910.38 Employee emergency plans and fire prevention plans • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Training must include procedures and appropriate emergency contact information for each work area.		
25. Employees must report all accidents and near misses to their supervisor. Instruct employees to report all work related accidents and near misses promptly. Employees need to report accidents and near misses so that appropriate corrective action can be taken to prevent future accidents in the workspace. For more information, see Accident Reporting Forms at http://www2.ncsu.edu/ncsu/ehs/www99/left/forms/index.html 1. Emergency treatment: Dial 911 to request an ambulance for anyone severely injured in any capacity while on main campus. Public Safety will contact EMS for transport and will report to the scene to provide additional assistance. 2. Non-emergency treatment is available at several locations in Wake County. The supervisor needs to call one of the numbers listed to see who can accommodate the injured or ill employee. Employees working outside of Wake County need to carry the list of Key Risk Clinics with them. A list of Key Risk clinics in other counties is available from Margot Henion at 515.4319 or Email: Margot_Henion@ncsu.edu Note: EPA, SPA, Temporary employees, and Undergraduate employees receiving a paycheck must follow this procedure. Graduate students and Post Docs can either go to Student Health Services or to a designated health care provider 3. After hours, weekends and holidays, for non-emergency treatment contact Public Safety at 911. A quick reference guide of Workers Compensation benefits is located at http://www7.acs.ncsu.edu/benefits/cont_bens/workers_comp.pdf	• CFR 1910.104 Recording and Reporting Occupational Injuries and Illnesses • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Report all accidents and near-misses Accident documentation training is available.		
26. Employers have identified what, if any, medical examinations are required for employees who work in this area (Medical Surveillance section, HSM) Supervisors should review the "Medical Surveillance" section of the Health and Safety Manual to determine if exams may be required for their employees. For instance, respirator used is subject to medical approval. Other medical exams may be required for the use of specific chemicals. Employees must undergo medical evaluation to perform diving operations. Follow the link to http://www2.ncsu.edu/ncsu/ehs/www99/right/handsMan/worker/med.html Exposure and medical records will be maintained at Student Health Services for 30 years beyond the termination date for employees. Employees may send a written request for a copy of their records to: Student Health Services; ATTN: Medical Records; Campus Box 7304;Raleigh, NC 27695	• CFR 1910 subpart Z • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • NC State policy	Be aware and comply.		

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27. Health Recommendation Forms (HRF) are maintained in departmental files. If medical exams are conducted on employees, their supervisors receive a health recommendation form (HRF) from the physician. An HRF states if there are, or are not, restrictions on an employee to perform a task. No additional information is available to the supervisor. Under no circumstances can a supervisor gain access to an employee's confidential medical information. Detailed results of exams are provided to the employee only. The HRF needs to be maintained in the employee's department personnel record. Medical evaluations are often subject to periodic updates. Keep track of when an employee needs to either re-submit a form or be re-scheduled for an examination. Employees must be informed annually that they may have access to both their occupational exposure and medical records. For additional information, contact Roger Lewis at 515.6862 or mailto:Roger_Lewis@ncsu.edu	• CFR 1910.1020 Access to employee exposure and medical records)	Maintain HRFs. Provide annual training on employee access to medical and exposure records.		
28. If noise levels make ordinary speech difficult, contact the EH & SC. Employees exposed to high noise levels are automatically included in the NC State hearing conservation program. However, employees may be disturbed by noise levels that are below the legal limit. Employees are encouraged to discuss ways of reducing their exposure to irritating and harmful noise levels by contacting Roger Lewis at 515.6862 or mailto:Roger_Lewis@ncsu.edu. Additional information is available at http://www2.ncsu.edu/ncsu/ehs/www99/right/handsMan/worker/hearing.html	• CFR 1910.95 Occupational noise exposure	Annual training and audiometric screening. Request noise level readings. Sufficiently high noise levels trigger monitoring program.		
29. Respirator use must be approved by the EH&SC. In most cases, employee training and a medical exam will be required prior to respirator use. http://www2.ncsu.edu/ehs/www99/right/handsMan/worker/resp/resp.html Contact Roger Lewis at 515.6862 or mailto:Roger_Lewis@ncsu.edu if you have or think you need a respirator and are not currently on the NC State respirator program.	• CFR 1910.134 Respiratory protection	Initial and annual respiratory training is required for most respirators.		
30. Respirator use must be pre-approved by the EH & SC. Respirator use must be pre- approved by EH&S in order to meet OSHA requirements. Respirator users must receive annual training on respirator fitting and use. Respirator users are required to have a medical exam or questionnaire review. Please see this site for additional information: http://www2.ncsu.edu/ehs/www99/right/handsMan/worker/resp/resp.html	• CFR 1910.134 Respiratory protection	Initial and annual respiratory training is required. Medical exam required.		
31. Dust masks may be approved for use in some areas. Tasks completed in non-hazardous, dusty areas may be performed using dust masks with a N-95 rating. While use of the dust mask does not require a medical examination, all employees who wish to use dust masks must contact Roger Lewis at 515.6862 or mailto:Roger_Lewis@ncsu.edu	• CFR 1910.134 Respiratory protection	No medical exam required prior to use. Contact Roger Lewis before using.		

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32. Employees who come in physical contact with any animal species (e.g., insects, fish, mammals, birds), their bedding, or holding areas must receive appropriate training. Training requirements are species specific. For further information about IACUC and AALAC requirements contact Judy Lassiter at 515.7507 or mailto:iacuc@ncsu.edu Employee participation in the medical surveillance program for animal handlers is based on the number of contact hours and type of contact. Employees may become sensitive to airborne dander or secretions from various animals. Employees should inform their employer if any new allergies develop. For more information about the NC State Animal Contact Program, please refer to: http://www.ncsu.edu/ehs/www99/right/handsMan/animal/animal.html	• IACUC • AALAC • NC State Medical Surveillance Policy • NCSU Animal Contact Program	Provide necessary training and medical surveillance.		
D. ELECTRICAL SAFETY FOR OFFICE, LAB AND FIELD EMPLOYEES				
33. All persons who perform inspections, service, or maintenance on machinery and equipment must be protected from the unexpected startup or release of stored energy. Persons who perform inspection, service, or maintenance on energized equipment ("Hot Work") require specific training according to OSHA and NFPA 70-E standards. If you have the need to perform this type of work, please contact John Turek at 515-6871 or Email: John_Turek@ncsu.edu for additional information. Otherwise, this work should be left to a contractor, equipment vendor, or other NCSU trained employee(s). See the "Electrical Safety" section of the Health and Safety Manual for further information.	CFR 1910.147 Control of Hazardous Energy (Lockout Tagout) • NFPA 70-E Standard for Electrical Safety in the Workplace	Be aware and comply.		
34. Do not alter ground prong for line cord. Check equipment that was originally equipped with a three pronged line cord plug to assure that the ground prong has not been broken or removed.	• CFR 1910.304(f)(5)(v) • CFR 1910.334(a)(3)	Inspect cords before use		
35. All electrical cords must be free of fraying and in good condition. Electrical cords should not show separation (pulling away of the wire from the plug), fraying, or other breakdown of the insulation. Avoid splicing cords. Worn cords present both shock and fire hazards.	CFR 1910.334(a)(2)(ii) CFR 1926.416(e)(i)	Inspect cords before each use.		
36. Minimize the use of extension cords. Equipment used in labs or other work areas should be permanently wired. OSHA regulations limit use of extension cords to 90 days of continuous use. Fused, multi-outlet strips are considered to be extension cords but they are still preferable to the standard extension cords that offer no protections. Where additional outlets are needed, use fused multi-outlet strips with circuit protection in lieu of extension cords. Whenever possible, run cords along walls and off floors. Cords may not be run through floors, walls or ceilings to other rooms for any reason. If a room does not have an electrical outlet, contact Facilities Operations to submit a maintenance work request.	CFR 1910.305(g)(1)(iii)(A) Flexible Cords and Cables CFR 1910.305(a)(2) Temporary Wiring CFR 1910.303(b)(2) Listed and Labeled Equipment Used as Intended	Be aware and comply.		

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37. Electrical cords that span floors and walkways must be properly protected and covered to prevent tripping. Cords should only be placed on the floor as a last resort. Tape the cords down or place bridging over the cords to minimize tripping hazards.	CFR 1910.305(a)(2)(iii)(G) Protected CRF 1910.22 Walking and Working Surfaces	Be aware and comply.		
38. Cover plates must be securely in place on all receptacles and switches. Receptacles should be covered and equipment plates should be in place before use.	• • CFR 1910.333 General Safety-Related Work Practices	Be aware and comply.		
39. Electrical equipment (particularly high voltage equipment and coupling surfaces such as laser tables) must be properly grounded. It is very important that high voltage equipment is properly grounded. For example, metal tables housing high voltage equipment, such as lasers, should be grounded. Equipment plates should always be in place before equipment is operated. Obtain the necessary assistance to perform a careful inspection.	CFR 1910.302(b)(1) Electrical Installations CFR 1926.404 Wiring Design and Protection	Be aware and comply		
E. HAZARDOUS EQUIPMENT AND MATERIALS				
40. A review is required prior to start-up of potentially hazardous equipment and processes. Examples of hazardous equipment and process include work with nanoparticles or nanofibers, semiconductor equipment, class 3b and 4 lasers, pressure vessels, and non-standard lab equipment using hazardous gases or high volume chemicals. Additional information may be obtained by calling Ken Kretchman 515.6860 or mailto:Ken_Kretchman@ncsu.edu or by reviewing information at http://www2.ncsu.edu/ncsu/ehs/www99/right/handsMan/worker/hazrev.html	• CFR CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Contact the EH & SC for assistance in conducting a hazard review. Initial review only unless the process or equipment changes.		
41. Plans for all pressure vessels (greater than 15 psig) to be built, procured, or obtained through donation, must be reviewed by EH&S. All pressure vessels (greater than 15 psig) need to have their design reviewed at the earliest possible time (prior to construction, purchase or acceptance of a donation) by the EHSC. This does not apply to gas cylinders or facilities equipment managed by Facilities Operations such as boilers or heat exchangers. Contact John Turek at 515-6871 or Email John_Turek@ncsu.edu	• § 95-69.18. Inspection certificates required	Be aware and comply.		
42. Equipment that generates significant electric or magnetic field must be reported to EH&S. Contact Bill Crocker at 515.8658 or mailto:Bill_Crocker@ncsu.edu if you have equipment that may generate high electric or magnetic fields. Examples of equipment which should be reported include steady (dc) magnets that could generate fields above 5G, induction heaters, diathermy equipment, plasma processing equipment, radio frequency (rf) sealers and heaters, other rf gear capable of radiating over 1W between 3kHz and 300 Ghz or emitting over 100W, equipment that operates above 2.5 Kv without electric field shielding, or equipment operating above 100A.	• CFR 1910.97 Non-ionizing radiation	Contact EH &PS Initial Operator Training.		

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43. Contact the EH & SC before making significant modifications to highly hazardous materials or processes. Hazard reviews should be repeated before significant changes are made to processes where hazardous gases and chemicals are used. Contact Ken Kretchman at 515-6860 or mailto:Ken_Kretchman@ncsu.edu	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		
44. Certain equipment needs safety review / approval prior to purchase. Prior to purchase of radiation producing devices, gas monitors, gas effluent scrubbers or treatment systems, gas storage cabinets, respirators, or fume hoods, the appropriate EH&S contact point listed in http://www2.ncsu.edu/ehs/www99/right/handsMan/worker/forms/equip4.pdf must be contacted prior to purchase to assure the appropriate equipment is procured and the necessary safeguards are in place prior to use. For additional information, please contact Ken Kretchman at 515.6860 or mailto:ken_kretchman@ncsu.edu	• NC State Policy	Be aware and comply.		
45. Certain equipment needs safety review prior to setup and use. To help assure that appropriate equipment layout, engineering controls, and safety training is received, the appropriate EH&S contact point listed in http://www2.ncsu.edu/ehs/www99/right/handsMan/worker/forms/equip4.pdf should be contacted either before purchase or before layout and setup of class 3B or 4 lasers, biological safety cabinets, robotic equipment, semiconductor equipment, pressure vessels, NMR equipment, dielectric heaters, induction heaters, RF generators, diathermy units, and microwave heaters (excluding microwave units). For additional information, please contact Ken Kretchman at 515.6860 or mailto:ken_kretchman@ncsu.edu	• NC State Policy	Be aware and comply.		
46. Shields must be in place on equipment that presents an implosion risk (e.g., glass vacuum gauges). Glassware under vacuum poses the risk of implosion. Glass vacuum gauges are one example. Adequate shielding should be installed around such equipment.	• NFPA 45	Be aware and comply.		
47. Any machine part, function, or process that may cause injury must be safeguarded. One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Where the operation of a machine or accidental contact with it can injure the operator or others in the vicinity, the hazard must be either eliminated or controlled. Guards removed for maintenance need to be replaced prior to startup.	• CFR 1910.212 General • CFR 1910.215 Abrasive Wheel • CFR 1910.216 Mills CFR 1910.217 Mechanical Power Presses CFR 1910.218 Forging Machines CFR 1910.219 Mechanical Power Transmission CFR 1910.262 Textiles	Be aware and comply.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
F. GENERAL WORK ACTIVITIES COVERED BY SPECIFIC OSHA STANDARDS				
48. Employees must be trained to safely isolate and remove all residual stored energy (e.g., electrical, pneumatic, charged gas lines) before performing maintenance or service on machines and equipment. This information needs to be understood by all university personnel who perform maintenance, including lab and field personnel. Lockout / tagout procedures are required when maintenance and service work must be done on machines and equipment. Cord and plug equipment can be simply unplugged as long as the plug end remains under the control of, and visible to, the person conducting maintenance and service. OSHA requires lockout / tagout training for persons who service and maintain machines and equipment. Even those who work in an area where lockout/tagout procedures are in effect must receive training. OSHA also mandates that periodic inspections be conducted. A one page fact sheet is available at	• CFR 1910.147 The control of hazardous energy (lockout/ tagout)	Initial training and retraining as necessary. Training must be certified.		
49. Permit-required confined spaces (e.g., tanks, vessels, storage bins, silos) must be cataloged and identified with a label. Specific procedures are needed for entry into permit-required confined spaces. Confined spaces are spaces that are large enough to enter, are not designed for continuous occupancy, and have a restricted means to exit. All confined spaces must be catalogued in a single database for NC State. If you have any confined spaces, or would like additional information, contact Bill Crocker at 515.8658 or mailto:Bill_Crocker@ncsu.edu	• CFR1910.146 Permit-required confined spaces	Initial training for entering permit-required confined spaces. Initial training for use of monitoring equipment. Recommend refresher training Label permit-required confined spaces.		
50. Employees who work on ladders, cherry pickers, scaffolding, etc., or who perform elevated work that is greater than 6 feet above a lower work surface (measured foot to surface) must be been properly trained. Refer to the Fall Protection section of the EH&S Health and Safety Manual to determine if special training and work practices may be necessary. Link to http://www2.ncsu.edu/ehs/www99/right/handsMan/workplace/fall.html select workplace safety/ then select fall protection. Contact John Turek at 515-6871 or Email John_Turek@ncsu.edu	The following regulations all relate to fall protection • CFR 1910.23 Guarding Floor and Wall Openings • CFR 1910.132 PPE General • CFR 1910.269 (g)(2) Fall Protection – Power Generation • CFR 1926.500 Fall Protection • CFR 1910.66 Powered platforms for building maintenance • CFR1926.500 Fall Protection	Initial training and retrain as needed.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
51. All hoists, cranes, and associated equipment must be inspected (Hoist and Crane Safety section, HSM). Hoists must be inspected before each use even if they are not used every day. Hoists operated occasionally must receive a periodic inspection. Crane operators need specialized training prior to use. See the Hoist and Crane section of the safety manual for additional information. http://www2.ncsu.edu/ncsu/ehs/www99/right/handsMan/workplace/hoist.html Contact John Turek at 515-6871 or Email John_Turek@ncsu.edu	• CFR1910.179 Overhead and gantry cranes • CFR 19126.550 Cranes and Derricks	Periodic hoist inspections. Maintain records of the inspections. Initial training.		
52. Employees who operate forklifts, manlifts, or other powered vehicles have received appropriate training. Employees must receive specific classroom and on the job training before they can operate a forklift. Contact John Turek at 515-6871 or Email John_Turek@ncsu.edu	• CFR1910.178 Powered industrial trucks	Initial training and every 3 years.		
G. CHEMICAL USE				
53. Air sampling or special controls may be needed for some chemicals you use. Check your chemical inventory against the list of OSHA regulated chemicals and conditions listed in the Exposure Prevention and Assessment Section at http://www2.ncsu.edu/ehs/www99/right/handsMan/worker/expoprev.html For information concerning lab operations contact Mahdi Fahim at 513.1282 or mailto:Mahdi_Fahim@ncsu.edu. For information concerning non-laboratory operations contact Roger Lewis at 515.6862 or mailto:Roger_Lewis@ncsu.edu	• CFR1910.1000 Air contaminants • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Initial and annual training.		
54. Material Safety Data Sheets (MSDS) are to be available to all persons on all shifts where ever hazardous chemicals are in use. MSDSs for all chemicals used may be made available either via the Internet or stored as hardcopies in a notebook. Electronic copies of MSDSs are available for many chemicals. A database of MSDSs in a common format is accessible from NC State IP addresses at: http://www2.ncsu.edu/ncsu/ehs/MSDS.htm . MSDS must be readily available to all workers on all shifts. Store MSDSs in alphabetical order by the commonly accepted name of the product. This may be the trade name, the common name or an acronym. Develop a table of contents for your MSDSs. Place the trade name of the product in the first column, the Manufacturer's name in the second column, the date of the MSDS in the third column and location of the product in the fourth. For assistance contact Ken Kretchman at 515.6860 or mailto:Ken_Kretchman@ncsu.edu	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Initial hazard communication training. Current MSDSs must be readily available for each product.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
55. All fume hoods, laminar flow chemical hoods, biological safety cabinets or other enclosed workstations must be inspected annually. Exhausted workstations should be inspected every twelve months for proper airflow. An inspection sticker is placed on each workspace at the time it is inspected that indicates both the airflow rating and the date the unit was inspected. Hoods that were inspected more than twelve previous or that lack an inspection sticker entirely should be brought to the attention of EHSC: • Fume hoods and laminar flow chemical hoods to Kyle Bowen at 515.4190 or mailto:Chemical_Hood_Program@ncsu.edu • Biological safety cabinets to Bruce MacDonald at 515-6858 or mailto:Bruce_Macdonald@ncsu.edu Additional information is available at **http://www2.ncsu.edu/ehs/www99/right/handsMan/lab/exhmpg2.html**	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Annual inspection of by the EH & SC and a contractor		
56. Workstations equipped with their own air exhaust are designed to work best with the sash opened 18 inches or less. Studies conducted at MIT and by other researchers have found that the position of the hood sash is the key factor in effective hood performance. Even with adequate air velocities, hoods with sashes raised to full height were not found to be protective. Sashes should be used with an opening no greater than 18 inches. At higher sash heights, University hoods often will not supply adequate airflow (you may hear an audible alarm at this increased height to indicate this problem). Do not block the air flow. Observe the "Recommended Chemical Hood Use Procedures" on our webpage at http://www.ncsu.edu/ehs/hood/chemicalhood.htm. Other fume hood requirements are available at http://www2.ncsu.edu/ehs/www99/right/handsMan/lab/exhmpg2.html	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		
57. Chemical quantities and container sizes (including gas cylinders) in the work area should be limited to the amount necessary for current operations. Stockpiled chemicals and gas cylinders can increase the magnitude of a chemical incident. Stockpiling can also lead to improper storage practices such as floor storage of hazardous chemicals and unnecessary disposal costs if more material is ordered than needed. As a general rule, chemical quantities should not exceed the amount needed for a few months, less if practical. Containers that are larger than one gallon (or 4 liters) should only be used where large quantities of material are needed at a given time. Otherwise, smaller containers are easier to handle and present a smaller spill if mishandled. Hazardous gas cylinders should be sized to last no more than one year. New employees must take hazard communication training offered through the EH & SC. Follow the link http://www.ncsu.edu/ehs/hazcom/hazcom.htm Area specific information regarding the physical and health hazards associated with the chemicals used will be addressed by the supervisor. For more information, contact Mahdi Fahim at 513-1282 or mailto: Mahdi_Fahim@ncsu.edu	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		
58. Labeling for secondary containers should be the responsibility of the person who actually fills the secondary container. In addition to the name and hazards of the	• CFR1910.1200 Hazard communication	Be aware and comply.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
product, it is important for that same individual to initial and date the container. All containers must be labeled with at least the name and hazard class (e.g., acetone, flammable). Containers with unknown contents are considered a serious safety issue. The Principle Investigator is responsible for all costs incurred for product analysis and disposal of unlabeled containers. Original manufacturer's container labels must not be obscured while the material is in storage or use. For additional information contact Mahdi Fahim at 513-1282 or Mahdi_Fahim@ncsu.edu.	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories			
59. All poisons such as potassium or sodium cyanide and special hazard materials such as perchloric acid must be stored in a secured area and only used with supervisor's specific authorization Store poisonous compounds such as potassium or sodium cyanide in a locked enclosure when not in immediate use. Poisons and other highly hazardous chemicals should be handled by persons specifically pre-authorized by their supervisors. Perchloric acid should be used only if a suitable substitute is not available. It must be used in a hood pre-approved for this purpose (this is usually a specially constructed water wash down fume hood). Purchase 60% or lower concentrations of perchloric acid Contact Mahdi Fahim at 513-1282 or mailto: Mahdi_Fahim@ncsu.edu for more information.	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • NFPA 45	Initial and annual hazard communication training. Must be addressed in the safety plan.		
60. Incompatible chemicals (flammables and oxidizers, acids and bases, etc) must be stored separately. Flammable liquids should be stored separate from oxidizers such as nitric and sulfuric acids and hydrogen peroxide. Acids should be separated from bases. Perchloric acid should be diluted, if possible, prior to storage. Annual hazard communication training is required. Storage compatibility information is available in the *ACS* hand book, *Safety in Academic Chemistry Labs* or contact Bruce Macdonald at 515.6858 or mailto: Mahdi_Fahim@ncsu.edu New employees must take hazard communication training offered through the EH & SC. Follow the link http://www.ncsu.edu/ehs/hazcom/hazcom.htm	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • NFPA 45 • CFR1910.1200 Hazard communication	Store products as required. Initial and annual training.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
61. Chemicals that may become more hazardous with age (e.g., ethers and other peroxide forming chemicals) must be dated upon receipt and disposed before their expiration date. All chemicals that become more hazardous with age should be dated upon receipt and once opened. Sealed containers need to be disposed of before their recommended expiration date. Opened containers shall not be kept beyond 12 months after opening In specific cases, chemicals may need to be tested for peroxide formation before use. For more information on the dangers of aging chemicals consult our "Danger: Peroxidizable Chemicals" webpage at: http://www.ncsu.edu/ehs/www99/right/handsMan/lab/Peroxide.pdf. Just a few of the common lab materials that fall into this category include ether, isopropyl ether, and tetrahydrofuran. Refer to the MSDS for information on storage compatibility. Secondary containment trays provide an effective barrier in the event of a spill or leak. New employees must take hazard communication training offered through the EH & SC. Dangers associated with chemical aging should be covered in you group's annual hazard communication training. For more information you may contact Mahdi Fahim at 513-1282 or mailto: Mahdi_Fahim@ncsu.edu	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • NFPA 45 • CFR1910.1200 Hazard communication	Be aware and comply. Initial and annual hazard communication training.		
62. Large quantities of flammable liquids must be stored in approved safety cans or cabinets. Flammable liquids that are not in current use should be stored in approved flammable storage cabinets. Limited quantities of flammable liquids (pint container or less) may be stored in non-breakable plastic bottles on lab bench shelving. Use a chemical hood when dispensing flammable liquids. For more information about storing flammable materials, contact Mahdi Fahim at 513-1282 or mailto:Mahdi_Fahim@ncsu.edu New employees must take hazard communication training offered through the EH & SC. Follow the link http://www.ncsu.edu/ehs/hazcom/hazcom.htm. Chemical compatibility should be covered in you group's annual hazard communication training.	• CFR 1910.106 Flammable liquids • CFR 1910.1200 Hazard communication • NFPA 45	Be aware and comply.		
63. Chemicals should not be stored on the floor. Floor storage of chemicals should be avoided. Where complete elimination is not possible (e.g., 5 gallon waste collection containers), emphasis must be placed on keeping containers away from lab doors and exit pathways and use of secondary containment (tray under container). Secondary containment trays provide an effective barrier in the event of a spill or leak.	• NFPA Life Safety Code 101 • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		
64. Chemicals that require refrigeration must be stored in non-sparking chemical storage refrigerators. Standard residential refrigerators are not appropriate for storing flammable chemicals. However, it is neither cost effective nor necessary to purchase an explosion-proof refrigerator unless it will be used in an explosion-proof area. A flammable liquids storage refrigerator will suffice.	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		

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65. All refrigerators and freezers used to store samples or chemicals should be labeled with a "No Food Storage" sign. All lab refrigerators should be marked "No Food Storage" as a reminder about the prohibition of storage and use of food in a chemical work area.	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		
66. Hazardous chemicals that are packaged in glass containers must be transported in bottle carriers. Bottle carriers are useful for preventing spillage and breakage of containers in transport through a doorway or other obstructed area. Rubber or plastic containers with handles are preferred. You may also transport these containers in their original packing material.	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • American Chemical Society (ACS) • NC State Policy	Be aware and comply.		
67. Store hazardous liquid chemicals below eye level. Hazardous liquids should be stored below eye level for ease of handling, spill prevention and to minimize the risk of leaking chemical contact with the eyes.	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Maintain appropriate storage practices.		
68. Maintain an ongoing inventory of hazardous chemicals. http://www.ncsu.edu/ehs/safetyplan/index.html It is important to maintain a current inventory of all chemicals present in the work area. These listings are referenced by emergency response organizations during incidents and also serve as a record of materials used in the lab. Although annual updates of chemical inventories are required, it is good practice to keep inventory updated throughout the year.	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • 40 CFR 355 et al Emergency Planning and Community Right-to-Know	Maintain a current inventory in your safety plan. Areas not covered by a safety plan must also maintain a current inventory.		
H. WASTE DISPOSAL				
69. Arrange for disposal of chemical and all other wastes or unwanted products through the EH & SC. With few exceptions, chemical and radioactive wastes must be disposed of through EH&SC's hazardous waste program. Subject wastes include chemicals, contaminated debris, and hazardous articles such as fluorescent tubes and rechargeable batteries. The program appears at www.ncsu.edu/ehs/waste.htm To register as a waste generator and file waste forms, follow the "Waste Submission Form" link on the waste program site. For additional information, contact Rob Pecarina at 515.6863 or mail to: Robert_Pecarina@ncsu.edu	• NC State Policy	Be aware and comply.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
70. Wastes must be stored in compatible containers. Waste containers must be free of damage and leak resistant, able to be closed securely (e.g., no beakers, flasks, corks, or rubber stoppers), constructed of an appropriate/compatible material for the product collected (e.g., no glass containers for hydrofluoric acid), not overfilled (leave at least 10% free space for expansion of liquids), kept free of exterior contamination, and kept closed except when adding or removing material. Containers should be capped and sealed for storage or transport. For additional information, contact Rob Pecarina at 515.6863 or mail to: Robert_Pecarina@ncsu.edu	• 29 CFR 1910.1200 Hazard communication • 29 CFR 1910.1450 Occupational exposure to hazardous chemicals in laboratories • EPA 40 CFR 262 Subpart C	Be aware and comply.		
71. Containment trays must be present in areas where waste containers are filled. Areas where wastes are placed in containers, or waste containers are stored, must have secondary containment. Suitable containment for less than 4-liter quantities is a shallow tray. For quantities up to 5 gallons (20 liters), a tray at least 1.5 inches deep may be suitable. Larger containers in laboratory settings (10-30-gallon drums) require secondary containment equivalent to about 10% of the drum's capacity. Containers in shops or other non-laboratory settings require 100% capacity of the largest container or 10% capacity of all containers, whichever is greater. For additional information, contact Rob Pecarina at 515.6863 or mail to: Robert_Pecarina@ncsu.edu	• CFR1910.1200 Hazard communication • CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories	Be aware and comply.		
72. Accumulation of chemical wastes must be minimized and limited to the laboratory or work area. Filled waste containers should be promptly reported for disposal by filing on-line waste forms. The waste holding area must be limited to the work area where the material is used or an adjacent room under the control of the Principal Investigator responsible for the waste. With few exceptions, waste accumulation is limited to 55 gallons total for the area. Waste collections are conducted weekly to assist labs and shops in minimizing waste inventories.	• CFR1910.1450 Occupational exposure to hazardous chemicals in laboratories • EPA 40 CFR 262 Subpart C	Monitor waste accumulation throughout the year.		
I. Compressed Gases				
73. All compressed gas cylinders must be ordered through Materials Support (key for communication of cylinder safety requirements, cylinder inventory, and safe delivery procedures). All compressed gas orders must be placed with Materials Support. Materials Support helps coordinate delivery through suppliers familiar with University requirements for delivery, receipt, and tracking. This also permits the cylinder to be placed on the University inventory (helps to reduce your chances of paying rental charges for forgotten cylinders), allows for proper review of key safety controls for hazardous gases, and allows for leak testing of high hazard gases at the EHSC prior to delivery. Forms for purchasing gas cylinders are located at http://www.fis.ncsu.edu/materialsmgmt/MaterialsSupport/Gas_CylinderMainPage.html Contact Ken Kretchman at 515.6860 or mailto:Ken_Kretchman@ncsu.edu	• CFR1910.101 Compressed gas • CFR1910 subpart M	Place orders with Central Stores.		

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74. All persons using hazardous gases should be familiar with the requirements of the Compressed Gas Safety section of the Health and Safety Manual. Compressed gas users should be aware that extensive information on this subject is available at http://www2.ncsu.edu/ehs/www99/right/handsMan/compgas/compgas.html For additional information, contact Ken Kretchman at 515.6860 or mailto:Ken_Kretchman@ncsu.edu	• CFR1910.101 Compressed gas • CFR1910 subpart M • CFR1910.1200 Hazard communication	Initial and annual training.		
75. All hazardous gas cylinders must be leak- checked at installation and again upon removal from service. Always leak check hazardous gases, as a minimum, during installation and before removing the cylinder from your work area. Additional leak testing procedures are required for high hazard gases (based on gas type, building location, etc) and are communicated when gases are ordered through Materials Support. For assistance contact Ken Kretchman at 515.6860 or Ken_Kretchman@ncsu.edu	• CFR1910.101 Compressed gas • CFR1910 subpart M	Follow appropriate procedures.		
76. Gas cylinders must be secured in stands or with chains or straps and capped when not in use. Cylinders must be secured at all times with proper securing devices such as straps and clamps. The screw on cylinder caps must be in place at all times when a regulator is not connected to provide mechanical protection. Regulators must be removed and cylinder caps replaced prior to movement of compressed gas cylinders. (The torque on the valve assembly created by a cylinder falling and landing on the regulator assembly creates an increased risk of violent cylinder leakage).	• CFR1910.101 Compressed gas • CFR1910 subpart M	Maintain safe storage practices.		
77. Use flow-limiting orifices on flammable, toxic, and corrosive gases. Flow limiting orifices are devices that are inserted into gas cylinder valves that dramatically limit the maximum rate of escape from the cylinder while still providing adequate flow for the process or experiment. These orifices are required for flammable, pyrophoric, toxic, and corrosive gases and come in various sizes. These devices are requested to be placed in cylinder valves at the time the gas is ordered through Materials Support. http://www7.acs.ncsu.edu/materialsmgmt/FileWriter/default.htmThese are not required for acetylene, or for use with gases in welding, burning, or brazing.	• CFR1910.101 Compressed gas • CFR1910 subpart M	Order orifice and cylinders through Central Stores.		
78. Use pneumatic shutoff valves where necessary. Pneumatic shutoff valves are spring-loaded, air-operated valves which close when electrical power is lost. They are also used to automatically shut gas flow when exhaust ventilation is lost and can shut off gases remotely in the event of emergency. These valves are required to be used where highly toxic, toxic, corrosive, or pyrophoric gases are in use. They are not required for use on non-toxic, flammable gases used with analytical equipment if a flow restrictor is in place. They are not required for welding, burning, or brazing. Please contact Ken Kretchman at 515-6860 or Ken_Kretchman@ncsu.edu for questions or for a review of your gas installation.	• CFR1910.101 Compressed gas • CFR1910 subpart M	Order shutoff valves if necessary.		

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79. Transferring products from one gas cylinder to another is prohibited. Please contact EH&S for further information if you feel the need for cylinder to cylinder transfer so that other options can be explored. Contact Ken Kretchman at 515-6860 or Ken Kretchman@ncsu.edu	• Not illegal, but the EH & SC requires prior approval	Be aware and comply.		
J. Safety Showers and Eyewashes				
80. Safety showers and eyewashes must be located within a 10-second travel time wherever corrosive chemicals or gases are used. Areas where corrosive chemicals are used need to have ready access to eyewashes and showers. Eyewashes should be located in these areas and are ideally located to avoid passage through doors. An eyewash or eyewash/shower combination should be located within a ten-second travel distance of the chemical use area. Eyewash stations are strongly recommended in all areas where chemicals are used. For more information contact Mahdi Fahim at 513-1282 or mail to Mahdi_Fahim@ncsu.edu	• CFR1910.151 Medical Services and First Aid • NC State policy based on ANSI, Z358.1 • training incorporated into CFR1910.1200 and CFR1910.1450 • EPA WPS (w/in .25 mile)	Be aware and comply.		
81. Document weekly eyewash tests. Eyewashes must be tested (flow water) at least weekly by someone in the work area and documented. This testing should be documented on an eyewash test tag attached to the eyewash as a visible reminder for retesting. A log of eyewash testing is also acceptable. The test must be documented in a log with the date tested and the initial of the person who performed the test.	• CFR1910.151 Medical Services and First Aid	Be aware and comply.		
82. Safety showers must be tested every 6 months. A tag should be attached to each safety shower. If tagged, the shower should indicate the most recent test date. Facilities Operations is responsible for the testing.	• CFR1910.151 Medical Services and First Aid • NC State policy based on ANSI, Z358.1	Be aware and comply.		
K. Radiation Producing Equipment and Radioactive Materials				
83. The Radiation Safety Committee and Radiation Safety must approve all uses of radiation producing devices and radioactive materials. Each proposed use of radiation must be described in a protocol that must be reviewed and approved by the Radiation Safety Committee and the Radiation Safety Officer (or his/her designee) http://www.ncsu.edu/ehs/radsafety.htm For more information contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Obtain approval prior to beginning work. Complete certification process before disposing of material.		
84. All new employees, graduate students, and other lab staff must attend the appropriate training classes in order to use radioisotopes or radiation producing devices. All persons handling radioactive material, sources of ionizing radiation, or radiation producing devices are responsible for completing a worker registration form and for successfully completing applicable training courses, including refresher training. For more information: http://www.ncsu.edu/ehs/radiation/training.htm For more information, contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Initial training, then training every second year.		

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85. All radioisotope inventories must be kept current Each Principle Investigator is responsible for maintaining his/her own radioisotope inventory. http://www.ncsu.edu/ehs/radiation/forms/Rad_%20Safe_Manual_2005.pdf see Receipt, Inventory, Transfer section. For more information contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Report inventories quarterly.		
86. All radiation producing devices and general licensed devices must have safety postings and labels from the Radiation Safety Division. All radiation producing equipment and general licensed devices must contain a label from the Radiation Safety Division. This is to assure this equipment is part of the radiation safety inventory, thereby helping assure the equipment receives the required periodic inspections. For more information contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Inspect devices for appropriate labels, signs and notices.		
87. Radiation dosimetry badges must be worn routinely. If a radiation dosimetry badge has been issued to measure radiation exposure to particular radioactive materials or x-ray devices, these badges must be worn any time these materials/devices are used. For more information contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Be aware and comply.		
88. Lab surveys must be conducted monthly during usage of RAM. If radioactive materials are used, the user must conduct a monthly contamination survey. The survey must be conducted one time in each calendar month. For more information contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Conduct monthly survey.		
89. Work area(s) where radioactive materials are used must be clearly identified and labeled with signage and labeling tape. Signs, labels, and notices are required in areas where radioactive materials are used or stored or where radiation-producing equipment is located. Various types of signs, labels, and notices are required based on conditions. For more information contact Amy Orders at 515.5208 or Amy_Orders@ncsu.edu.	• 15A NCAC North Carolina Regulations for Protection against Radiation • NC State Radiation Safety Manual • NC State Radioactive materials license	Inspect work area for appropriate labels, signs and notices.		

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L. Biological Hazards				
90. The Biosafety Committee must approve all activities involving the use of Class 2/ 3 biohazardous agents. Class 4 and 5 agents are prohibited at NC State. . The Biosafety Committee must review projects using Class 2/3 agents prior to the project beginning. The committee review is to ensure that safety procedures and containment is appropriate for the level of organism being used. http://www2.ncsu.edu/ncsu/ehs/www99/left/bioSafe/index.html	• NC State Policy	Initial and annual training.		
91. Personnel working with Class 2/3 agents must have appropriately training and must understand the protocols. Personnel must understand the biohazard the agent represents, including modes of transmission and symptoms if exposed. **They must understand the use of a biosafety cabinet and BLS3 containment if used**. If further assistance is needed, contact Bruce Macdonald at 515.6858 or Bruce_Macdonald@ncsu.edu	• NC State Policy	Initial and annual training.		
92. All experiments involving recombinant DNA must be reviewed by the Institutional Biological Safety Committee (IBC) for compliance with NC State and NIH requirements for r-DNA work (unless specifically exempted) Recombinant DNA projects must be registered with the Institutional Biological Safety Committee (IBC). The chairman will determine if further review and approval is needed. Exempt experiments are listed on page 1 of the document at http://www2.ncsu.edu/ncsu/ehs/www99/left/bioSafe/forms/Forma1.pdf Contact Bruce Macdonald at 515.6858 or Bruce_Macdonald@ncsu.edu for additional information.	• NC State • NIH / CDC • IBC	Submit all research plans involving DNA to the Biosafety Officer.		
93. All work conducted using biohazardous agents in conjunction with lab animals must be pre-approved by IACUC. All work with animals must have prior approval by the Institutional Animal Care and Use Committee (IACUC) before the experiment begins. For more information go to http://www.ncsu.edu/iacuc/forms.html. Contact Judy Lassiter at 515.7507 or iacuc@ncsu.edu	• IACUC	Contact IACUC.		
94. All work conducted using biohazardous agents in human subjects must be pre-approved by the Institutional Review Board (IRB) for research involving human subjects. Any research involving human subjects must be reviewed and approved by the Institutional Review Board (IRB). See the IRB website at http://www.ncsu.edu/sparcs/irb/	• NC State Policy	Contact IRB.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
M. Laser Hazards				
95. All Class 3 and 4 laser applications must be reviewed by EH&SC. All Class 3b and 4 laser operations must be jointly reviewed by the University laser safety officer and the laser owner. This review helps assure that laser safety controls and procedures are adequate for the operation and are consistent with established laser safety standards. Check the manufacturers sticker to determine the hazard class for lasers whose rating is unsure. Contact Ken Kretchman at 515.6860 or Ken_Kretchman@ncsu.edu if you are not sure if the laser has been reviewed in its present location. http://www2.ncsu.edu:80/ehs/www99/right/handsMan/lasers/laser.html	• CFR1910.97 Non ionizing radiation	Be aware and comply.		
96. Lab personnel and visitors must be provided the appropriate eye protection for the wavelength(s) present. Proper laser eye protection (in good condition) is required for Class 3b and 4 lasers (and maybe be required for some class 3a lasers if the beam is concentrated through viewing optics). This eye protection should be available for donning prior to entering the potential hazard area of the laser operation. Special care needs to be taken where multiple wavelengths are encountered. Contact Ken Kretchman at 515.6860 or Ken_Kretchman@ncsu.edu	• CFR1910.97 Non ionizing radiation	Be aware and comply.		
97. All laser users and all other who may be in an area that contains a laser must attend the appropriate level of laser safety training. Persons who work with or around class 3b or 4 lasers require laser safety training. The word "around" is intended to include persons who routinely work in the same space as the laser and need to understand work practices, the use of protective equipment or other procedures to avoid injury. Review the training section of the EH&S home page or contact Ken Kretchman at 515.6860 or Ken_Kretchman@ncsu.edu if training is needed. Supervisors of laser users should review their internal laser safety procedures (should be part of their safety plan) with all new employees prior to their starting work.	• CFR1910.97 Non ionizing radiation	Initial and annual training. Covered in safety plan.		
98. All Class 3b and 4 lasers must be labeled with a 3 digit inventory number assigned by the EH&SC. All Class 3b and 4 lasers must have an inventory sticker from EH&S on the laser. This sticker has a three-digit number and instructions to contact the laser safety officer if the laser is relocated, ownership transferred, or is to be discarded. Please contact Bill Crocker at 515.8658 or bill_crocker@ncsu.edu if you have a laser that does not have an inventory sticker. This information is critical for keeping track of laser locations, owners, and training.	1910.97 Non ionizing radiation	Request an inventory number if the laser in your area is not labeled, and part of the NC State laser inventory.		
N. SECURITY OF HAZARDOUS MATERIALS				
99. Hazardous materials must be placed into a secured area immediately after receipt. For additional information, please contact Todd Becker at 515.2895 or Todd_Becker@ncsu.edu	• NC State Hazardous Materials Committee Recommendation • NC State Hazardous Materials Transportation Security Plan	Do not allow chemicals / biologicals to sit in an unsecured area, even temporarily.		

NC STATE UNIVERSITY SUPERVISOR'S SAFETY SELF ASSESSMENT CHECKLIST	APPLICABLE STANDARD	ACTION FOR ITEM	COMMENT OR CORRECTIVE ACTION NEEDED	DATE COMPLETED
100. Access to labs is controlled. Lab doors are locked when unattended. For additional information, please contact Todd Becker at 515.2895 or Todd_Becker@ncsu.edu	• NC State Hazardous Materials Committee Recommendation • CDC / NIH – Biosafety in Microbiological and Biomedical Laboratories • NC State Hazardous Materials Transportation Security Plan	Lock Lab doors.		
101. Access to high hazard materials inside labs is controlled. See guidelines at http://www2.ncsu.edu/ncsu/ehs/www99/right/handsMan/worker/lab_security.htm For additional information, please contact Ken Kretchman at 515.6860 or ken_kretchman@ncsu.edu	• NC State Hazardous Materials and Radiation Safety Committees Recommendation • CDC / NIH – Biosafety in Microbiological and Biomedical Laboratories • NC State Radiation Safety Manual • American Patriot Act	Store poisons /select agents /radioactive materials under lock within lab.		
102. Personnel authorized for entry into areas where high hazard chemicals/biologicals are stored are identified with badges. See guidelines at http://www2.ncsu.edu/ncsu/ehs/www99/right/handsMan/worker/lab_security.htm For additional information, please contact Ken Kretchman at 515.6860 or ken_kretchman@ncsu.edu	• NC State Hazardous Materials Committee Recommendation • CDC / NIH – Biosafety in Microbiological and Biomedical Laboratories	Wear ID Badges.		
103. Use inventory control procedures for highly hazardous and radioactive materials. For additional information, please contact Ken Kretchman at 515.6860 or ken_kretchman@ncsu.edu; Amy Orders at 515-5208 or amy_orders@ncsu.edu	• NC State Hazardous Materials Committee Recommendation • CDC / NIH – Biosafety in Microbiological and Biomedical Laboratories • NC State Radiation Safety Manual and University Licenses	Reconcile inventory for both receipt and disposal of highly hazardous materials.		

List of Acronyms

§	North Carolina General Assembly Statutes
AALAC	Association for Assessment and Accreditation of Laboratory Animal Care
ACS	American Chemical Society
CDC	Centers for Disease Control
CFR	Code of Federal Regulations
DNA	Deoxyribonucleic Acid
DOI	North Carolina Department of Agriculture
EH & SC	Environmental Health and Safety Center
EPA	Exempt from the State of North Carolina Personnel Act
EPA	Environmental Protection Agency
HRF	Health Recommendation Form
HSM	Health Safety Manual
IACUC	Institutional Animal Care and Use Committee
IBC	Institutional Biosafety Committee
IRB	Institutional Review Board (for human subjects research)
MIT	Massachusetts Institute of Technology
MSDS	Material Safety Data Sheet
NC Star	North Carolina Department of Labor Program
NFPA	National fire Protection Association
NIH	National Institute of Health
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
r-DNA	Recombinant Deoxyribonucleic Acid
SPA	Covered by the State (of North Carolina) Personnel Act

NC State University Safety Self Assessment Checklist

LIST OF REGULATORY SITES

1. United States Environmental Protection Agency

   http://www.epa.gov/epahome/lawreg.htm

2. Federal Occupational Safety and Health Administration - Regulations

   http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=0

3. NC State University Safety and Health Manual

   http://www2.ncsu.edu/ehs/www99/right/handsMan/index.html

4. North Carolina General Statutes

   http://www.ncleg.net/Statutes/toc-1.html

5. NC General Statutes CHAPTER 95. Department of Labor and Labor Regulations.

   http://www.ncleg.net/statutes/statutes%5Fin%5Fhtml/chp0950.html

6. NC State Biosafety Manual

   http://www2.ncsu.edu/ehs/www99/right/handsMan/index.html (left column)

7. Radiation Safety

   http://www2.ncsu.edu/ehs/www99/right/handsMan/index.html (left column)

additional, useful links

8. Center for Disease Control (CDC):
   http://www.cdc.gov

9. National Institute for Occupational Safety and Health (NIOSH)
   http://www.cdc.gov.niosh

10. Laboratory safety information
    http://www2.umdnj.edu/eohssweb/aiha/administrative/design.htm

11. Glove protection and selection
    http://pubs.acs.org/hotartcl/chas/97/novdec/latex.html

12. Useful chemical health and safety links (note, some of the information at this link is for a fee)
    http://chas.cehs.siu.edu/links.htm

NC State University Supervisors Safety Self Assessment Checklist

Non-Emergency Key Risk Approved Clinics in Wake County

Cary Family Practice & Walk-In Clinic	
1151 SE Cary Parkway	(919) 858-8481
Suite 101	fax (919) 858-8426
Cary, NC 27511	
MacGregor Family Physicians	
121 Edinburg South	(919) 467-3730
Suite 100	fax (919) 460-1769
Cary, NC 27511	
MedFirst Medical Center & Urgent Care	
2731-B Capital Blvd.	(919) 878-4647
Raleigh, NC 27604	fax (919) 878-1541
Doctor's Urgent Care Centre	
801 Highway 70 West	801 Highway 70 West
Garner, NC 27529	Garner, NC 27529
Doctor's Urgent Care Centre	
4100 Wake Forest Road	(919) 872-3959
Raleigh, NC 27609	fax (919) 864-9762
Doctor's Urgent Care Centre	
3721 Lynn Road	(919) 788-0099
Suite 104	
Raleigh, NC 27613	
Doctor's Urgent Care Centre	
1110 Kildaire Farm Road	(919) 481-0277
Cary, NC 27511	fax (919) 864-9762
Blue Ridge Primary Care, PA	
3126 Blue Ridge Road	(919) 783-9600
Suite G-100	fax (919) 783-9675
Raleigh, NC 27612	

Waverly Place Primary Care, PA	
111 Advent Court	(919) 859-5650
Suite 150	fax (919) 859-5695
Raleigh, NC 27511	
Waverly Urgent Care, PLLC	
111 Advent Court	(919) 859-9510
Suite 150	fax (919) 859-9541
Raleigh, NC 27511	
Knightdale Primary Care, PA	
7124 Highway 64E	(919) 266-6211
Knightdale, NC 27545	fax (919) 266-7554
North Raleigh Primary Care, PA	
4905 Green Road	(919) 872-5411
Suite 100	fax (919) 872-5904
Raleigh, NC 27616	
Prestonwood Primary Care, Inc.	
1010 High House Road	(919) 481-1515
Suite 204	fax (919) 481-1148
Cary, NC 27513	
Rapid Response Urgent Care, Inc.	
220 Highway 70 West	(919) 779-7890
Garner, NC 27529	
Rapid Response Urgent Care, Inc.	
141 N. Main Street	(919) 577-8100
Fuquay Varina, NC 27526	fax (919) 577-8103
Wake Forest Urgent Care, PLLC	
2115-A South Main Street	(919) 570-2000
Wake Forest, NC 27587	fax (919) 570-2001