



College of Chemistry, Health and Safety Program

Explanation of the Safety Self-Inspection Checklist for Laboratories

041707/mck

One form per lab

SAFETY INFORMATION AND TRAINING

1. The Chemical Hygiene Plan is found in Section 5 of the College of Chemistry Health and Safety Manual. All researchers should be aware of the contents of the plan. Each lab group must also assign various safety responsibilities under the plan. The written Injury and Illness Prevention Program (IIPP) is found in section 3 of the College of Chemistry Health and Safety Manual. The College and Campus Emergency Response Plans are available in the pink section of the Who Does It! All researchers must be knowledgeable of the information in these safety plans.
2. SOPs should be developed for non-routine lab procedures. There is a Campus Fact Sheet in Section 7 of the College of Chemistry Health and Safety Manual that provides more information about laboratory SOPs.
3. Inventories must be updated annually. They must be submitted to Campus EH&S using the 4D Client Chemical Inventory (CI) database.
Call CCHASP (3-0526) if you are unfamiliar with how to submit an inventory using the CI system.
4. Self explanatory.

GENERAL SAFETY AND HOUSEKEEPING

5. The rectangular, 8.5 X11 yellow door sign issued by Campus EH&S. It contains the following information: Occupants' names; office, home and emergency telephone numbers; listing of hazards in the lab and a "Safety Glasses Required" notice.
6. Signs and labels as appropriate for hazards in labs (i.e. radioactive materials, biohazards, carcinogens, lasers, strong magnetic fields, hot and cold surfaces, high voltage, etc).
7. Each lab sink and cup sink must have a blue "No Hazardous Chemicals" label. Fume hoods require a "Cal-Commitment to Clean Air" label. All labels are available from CCHASP (3-0648).
8. Clean areas are limited to areas identified by the occupants where chemicals are not used or stored.
9. Self explanatory.
10. The minimum clearance for work and exit aisles is 36 inches.
11. Self explanatory.
12. Self explanatory.
13. Self explanatory.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

14. Safety eyewear must meet ANSI Z87-1989 standard.
15. See Chemical Hygiene Plan (Section 5 of the College of Chemistry Health and Safety Manual) for details.
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DO NOT wear contaminated gloves in hallways or open/close doors with contaminated or possibly contaminated gloves. Wear a clean outer glove if you must wear gloves in the hallways. A glove compatibility chart is provided in Section 8 of the manual.
17. Before using PPE, check to see if they are clean and free of defects. Proper storage means away from heat sources, chemical and dust exposure.

FUME HOODS

18. The Ventilation Inspection Results sticker indicates the acceptable (minimum of 100 linear feet per minute) face velocity checked by Campus EH&S.
19. Self explanatory.
20. Self explanatory.
21. Self explanatory.
22. When not in use, all volatile material containers must be capped or covered to avoid vaporization.
This includes containers in and under the fume hood.
23. Self explanatory.

VENTILATION

24. Self explanatory.
25. Self explanatory.
26. Negative pressure should be checked periodically by cracking open the main lab door and holding a Kimwipe up to the gap. Kimwipe should blow into the lab.
27. Self explanatory

SEISMIC HAZARD PREVENTION

28. Shelves, file cabinets, heavy research equipment, etc. must be braced to a wall and/or floor. The College Shops should be contacted to brace furniture and equipment.
29. Self explanatory.
30. Heavy objects (i.e. those that can cause bodily harm upon falling) should be stored on or near the floor. Must maintain at least 24" clearance between overhead items and ceiling.

ELECTRICAL

31. A plug strip with a circuit breaker may be used for temporary set-ups.
32. Self explanatory.
33. Do not operate equipment with frayed, brittle, or taped electrical cords.
34. 3-prong plugs are used for powering all electrical equipment.
35. All switches, junction boxes, or electrical outlets require covers.

LABORATORY EQUIPMENT

36. Self explanatory (especially pulleys on vacuum pumps).
37. Disconnects are shut-off switches for different power sources.
38. Contact CCHASP (3-0648) for more information
39. Self explanatory.
40. College policy states that Rotovaps must be used with oil-less or recirculating bath pumps for low boiling point solvents. An efficient dry ice trap must also be used. Please review the College policy in Section 2 of the College of Chemistry Health and Safety Manual. Contact CCHASP (3-0648) for more information.

GAS CYLINDERS

41. Toxic gases must be approved for purchase by Campus EH&S. Ventilation controls are required; gas monitoring and other controls are sometimes required. Refer to the Toxic Gas Program Fact Sheet in Section 7 of the College of Chemistry Health and Safety Manual for more information.
42. Secure cylinders using chains in two locations. Do not use straps or "C" clamps. Contact the College Shops to install gas cylinder supports in your lab.
43. Self explanatory.
44. Keep oxidizing gases separate from flammable gases (20 ft separation if possible).
45. The College Shops can help ground cylinders.
46. For example, do not use tygon tubing to deliver H₂ gas to your experiment.
47. Compressed gas cylinders must be included in the 4D Client Chemical Inventory database.
48. Compressed oxygen cylinder safety posters and training were developed when the "house" oxygen was discontinued. Contact the CCHASP office at 3-0648 for training and postings related to its use.

FIRE PREVENTION AND RESPONSE

49. Self explanatory
50. Fire extinguisher training is given to all new graduate students. All other researchers may not necessarily be trained and should not use a fire extinguisher until training is completed.
51. Maintain a clearance (36 in) around all sides of each fire extinguisher
52. Check to make sure inspection tags are on each extinguisher. Check tags to verify the last inspection date.
53. Self explanatory. If you discover an unmounted fire extinguisher, call College Physical Plant (2-5231)
54. Self explanatory.
55. Self explanatory
56. Paper, boxes, rags, etc., are considered combustibles.
57. Approved items are bicycles and chairs that do not block egress.

EMERGENCY EYEWASH/SHOWERS

58. Self explanatory. You should be able to walk to the nearest eyewash in 10 seconds from anywhere in the lab!
59. Always maintain a 36 in clearance around all sides of the eyewash/shower unit.
60. The Chemical Hygiene Plan for your lab indicates who is responsible for inspecting eyewashes. Check the Green and White tags to insure that inspections are occurring each month.
61. The campus tests showers. Check the inspection tag to verify the last inspection date.

CHEMICAL SPILL RESPONSE AND PREPAREDNESS

62. Consult "Wastewater Slug Discharge Prevention and Emergency Notification" fact sheet in section 7 of the College of Chemistry Health and Safety Manual.
63. Chemical stores (791 Tan) sells spill clean-up material. It is wise to keep small spill kits inside the labs, ready to use.

WASTE MANAGEMENT

64. Drain disposal guidelines are available in section 6 of the College of Chemistry Health and Safety Manual
65. Classify waste as: Contaminated Lab Debris; Halogenated; Non-Halogenated; Medical/Biohazard; Radioactive; Sharps; etc. Use labeled containers provided. For Solvent and Liquid Waste: Complete the container information (i.e. room number; PI/Supervisor name; chemical name of constituents; approximate percentage of each constituent and pH).
66. Keep bottles capped when not in use and keep all liquids in secondary containment trays, even in hoods.
67. Other provisions apply. Consult with Campus EH&S (2-3073) to ensure radioactive waste is handled appropriately.
68. Consult "Using Autoclaves Safely" fact sheet in section 7 of the College of Chemistry Health and Safety Manual for more information.
69. Many provisions apply (i.e. BUA instructions for handling and disposal). Consult Campus EH&S at 2-3073 and section 6 of the College of Chemistry Health and Safety Manual for more information.
70. Sharps containers may be purchased from 791 Tan Hall. Make sure to deface the biohazard label if the sharps are only chemically contaminated. Label those as Contaminated Lab Debris.
71. Self explanatory.
72. Each flammable storage cabinet in your lab cannot contain more than 60 gal total.
73. Glass containers shall exceed one (1) gallon in capacity.
All other containers (including safety cans) shall not exceed two (2) gallons in capacity.
Partially filled containers are counted as full containers.
74. Consult the Chemical Hygiene Plan (Section 5 of the College of Chemistry Health and Safety Manual) for chemical segregation guidelines.
75. Chemical storage areas include: Drawers, cabinets, shelves, refrigerators, freezers, etc.
76. Labeling must contain, at least, the CAS or Common name of the material and an indication of hazard.
77. Clean area labels available from CCHASP (3-0648).
78. No food or beverage is to be stored in chemical storage refrigerators. Refrigerator labels available from CCHASP (3-0648). Flammable chemicals should ONLY be stored in flammable rated refrigerators.
79. Date containers when they arrive in the lab AND when they are first opened. Manage containers according to "Guidelines for the Safe Handling of Peroxidizable Chemicals" in section 7 of the College of Chemistry Health and Safety Manual.
80. Acid baths and base baths are located away from sinks, hood sinks, and floor drains. Secondary containment is provided.