Laboratory Safety Inspection Procedure and Checklist

Purpose: To anticipate, recognize, evaluate and control potentially hazardous conditions in the university's teaching and research laboratories.

Code Compliance:

- 29 Code of Federal Regulations 1910.1200 - Hazard Communication Standard
- 29 Code of Federal Regulations 1910.1450 - Standard for Laboratories Using Chemicals
- NFPA 45 - Standard on Fire Protection for Laboratories Using Chemicals
- NFPA 101 – Life Safety Code
- ANSI Z358.1 – Standard for Emergency Eyewash and Shower Equipment
- UPPS 04.05.15, 05.02f – Texas State University Hazard Communication Policy
- UPPS 04.05.15, 05.02c - Texas State University Safety Manual Section 10, Laboratory Safety section 10.1 D

Chemical Safety Inspection Report: The primary tool for accomplishing the stated purpose is the *Laboratory Inspection Checklist*, which will be completed by the Office of Environmental Health, Safety and Risk Management (EHS&RM), safety specialist(s) under the direction of the Director and Assistant Director of EHS&RM. This evaluation record contains 34 individual check points, and can be revised as needed or regulatory requirements dictate. The checklist is used to record data gathered during the inspection process or for data entry into the EHS&RM's electronic database, which is used to store the data, generate laboratory inspection reports, as well as any other statistical analysis reports.

Lab Inspection Frequency

1) All labs, current and future, known to be in existence by EHS&RM will be subject to a lab safety inspection at least once a year.

2) Frequency of inspections for each lab will be based on the presence or absence of high hazard chemicals. High hazard chemicals are defined as those that are found on EHS&RM's "Make No Entry" chemical spill response list. Presence or absence of high hazard chemicals will be determined by a review of each lab's most recent chemical inventory on file at EHS&RM office.

3) Labs will be inspected either:

- Quarterly – Labs that possess high hazard chemicals will be inspected every three months.

- Semi-annual – Labs that do not possess high hazard chemicals will be inspected every six months.

- Annual – Labs that have been recognized as a "Rising Star Lab" for two consecutive inspections will be eligible to be inspected once a year.

4) A change in lab inspection frequency may occur due to:

- Review of most recent chemical inventory.

- Discovery of new chemicals during an inspection.

- Being recognized as a "Rising Star Lab".

5) For new labs the frequency of inspections will be determined through the "Lab Check-In" procedure conducted by EHS&RM staff.

Lab Inspection Notification

1) Each lab Principle Investigator (PI) will be notified by e-mail one week before the month that inspections are to take place.

2) E-mail message will include the following information:

- An invitation to set an appointment for the PI or lab representative to attend the inspection.

- Information detailing what the inspector will be looking for.

- Information as to how safety issues are reported to the PI and how, if needed, enforcement action will take place.

3) If PI does not reply to notification within 2 working days, inspection will take place at a time chosen by the inspector.

4) If no response to notification is received. It is acknowledged that the PI understands that an inspector will be in the lab conducting the inspection at a time of the inspector's convenience.

Lab Inspection Procedure

1) An inspector, before entering a lab will have:

- A green lab coat with other personal protective equipment (PPE) available for use should the conditions require (i.e. gloves, safety glasses, etc…).

- Shirt or lab coat with markings identifying the inspector as a member of EHS&RM.

- Laptop computer with CodePal inspection software (or other electronic device(s) and software), or hardcopy of laboratory inspection sheet.

- Copy of Inspection Notification email.

- Texas State University ID badge/card

- Business cards

- Supply of safety signs, stickers, etc…

2) During the inspection, inspector will enter data into checklist found on inspection software or checklist hardcopy. Completed inspections will be saved on CodePal server and/or Lab Safety folder located on EHS&RM S Drive.

Lab Inspection Checklist

1) See appendix A. at end of document.

Lab Inspection Results Notification

1) Notification of inspection results with infractions will be sent to the PI via e-mail within 5 business days from the date of inspection, ***this time frame may vary as needed*.**

2) If a lab has an infraction the e-mail sent to the PI will have an attached inspection report detailing the circumstances of the infraction and the action (as well as time frame) that needs to be taken to correct the issue.

3) In an effort to ensure that a PI has received the e-mail with the report, the delivery receipt and read receipt options of e-mail program (Microsoft Outlook) will be utilized

Correction of Lab Safety Issues

1) A lab that has an infraction will have 5 working days after receiving the inspection report to correct the infraction. If it is deemed to require more than five business days, progress must be shown towards correcting the issue or an action plan to resolve the issue must be submitted to EHS&RM.

2) If at any point the lab needs assistance with resolving an issue EHS&RM will provide assistance and any needed supplies as can be provided.

Enforcement Action of Uncorrected Safety Issues

1) If a lab has not corrected an issue or shown progress toward correction after 5 business days (from original notification) as noted by a re-inspection, the PI and the chairman of the department will be notified, ***this time frame may vary.*** **

2) If a lab has not corrected an issue or shown progress toward correction after 10 business days (from original notification) the director of EHS&RM will be notified for approval to forward the infraction report to the Dean.

3) If a lab has not corrected an issue or shown progress toward correction at 15 business days (from original notification) and approval was received by the director of EHS&RM, the Dean will be notified. The PI and the chairman of the department will also be notified.

4) If a lab has not corrected an issue or shown progress toward correction after 20 business days (from original notification) "The Indifference Clause" may be enacted by the director of EHS&RM.

** Depending on hazard risk, it is at the inspector's discretion to move an infraction forward in the enforcement process.

"The Indifference Clause"

1) With uncorrected issues EHS&RM reserves the right to isolate the hazards in the lab that have not been addressed after they have been reported to the PI., department chair, Dean, etc… These isolation measures must stay in place until such time as the safety deficiency has been corrected or a written remediation plan that is acceptable to the Director of EHS&RM and has been put into action.

2) If it is absolutely necessary for the lab to continue to operate in the presence of the identified hazard(s) then written authorization signed by the Dean or his/her designee must be displayed in the lab and a copy provided to EHS&RM. The authorization must identify the hazards so that personnel entering the lab will be aware of the unsafe conditions.

Immediately Dangerous to Life & Health

1) If the inspector deems a safety issue a risk of immediate danger to life, health or facilities (i.e. chemical containers in distress, unsecured gas cylinders, etc.), the inspector, if conducting inspection without PI, will attempt to contact the PI or associates to safely resolve the issue.

2) If the PI/associate cannot be found or issue requires specialized assistance, the inspector will contact EHS&RM as well as the Director of EHS&RM and work to secure the area until assistance arrives.

Disputed Lab Safety Issues

1) If a PI disputes a safety issue and the dispute cannot be resolved though discussion with the inspector and/or the Director of EHS&RM along with chair of the department, the matter will be forwarded to the appropriate Texas State University safety committee for resolution.

"Rising Star" Lab Recognition Program

1) "Rising Star Labs", are labs that show a high level of management in not only chemical safety, but other aspects of safety (hazardous waste management, office safety, electrical safety, etc.).

2) To be recognized as a "Rising Star" laboratory a lab must:

- Pass lab safety inspection (semi-annual or quarterly) with no safety issues being reported.

- Be free of any other safety issues that are not covered by the inspection checklist (i.e. accumulation of boxes, broken/unused equipment, etc…).

- The lab inspector has the option to get the opinion of other EHS&RM staff as to whether a lab qualifies as a "Rising Star" lab.

3) Labs that are rated as "Rising Star" labs may be recognized/rewarded by:

- Having lab inspections occur only once a year.

- A marker/poster to be placed outside the main entrance of the lab.

- A certificate of acknowledgement from office of EHS&RM for each member of the lab involved with the managing that area

- Other means that may become available to EHS&RM (i.e. EHS&RM newsletter, university/department web page, etc.).

Definitions

Principle Investigator (PI): is the primary contact in charge of a laboratory/work area. PI is an individual considered to be a faculty member/professor.

Lab Manager/Lab Coordinator: is the primary contact in charge of a laboratory/work area(s). Lab Manager/Lab Coordinator may or may not be a faulty member/professor.

Appendix A: Laboratory Inspection Checklist

The checklist is based on observations made by the specialist during the day of the inspection and should not be relied upon as an exhaustive record of all possible risks or hazards that may exist or potential improvements that can be made. Any unsafe condition noted in a laboratory environment can and will be reported.

1. Unlocked Lab (Item of Concern): Lock laboratory doors when no one is present to secure hazardous materials and equipment.

2. Permanent Use of Extension Cords: Extension cords are for temporary use only (no more than 8 hours per day). Replace with fuse-protected power strip or permanent wiring. To have permanent wiring installed, submit request through Work Orders.

3. Extension cords/power strips connected in series: Extension cords and power strips should be plugged directly into wall receptacle, not “daisy-chained” or connected in a series.

4. Blocked sprinkler head: Remove all items stored within the 18” plane below the level of the sprinkler heads, throughout the room.

5. Missing/damaged ceiling tiles: Submit request for a Work Order through AiM system to replace missing/damaged ceiling tiles.

6. Food/drink in lab (Deficiency): Food and beverages may not be consumed, stored, or prepared in lab areas. Post a 'NO FOOD and DRINKS ALLOWED' sign on the door to the lab or inside the lab.

7. Food/drink in lab refrigerator/freezer: Food/beverages and chemicals may not be stored in the same refrigerator or freezer. Rather, store food and drink in an area outside of the lab.

8. Sharps are being disposed in sharps box.

9. Lab countertops are free of clutter i.e. chemicals, unused equipment, boxes, trash, etc…

10. Improperly secured gas cylinder: Properly secure compressed gas cylinder(s) with a device designed for such use. Ropes and bungee cords are not permitted for securing cylinders.

11. Gas cylinder missing safety cap: Apply safety cap to cylinders when not in use.

12. Vacuum pump missing guard: Replace the belt and pulley guard that is missing from the vacuum pump.

13. Clutter in fume hood: Fume hood should be clear of any clutter, including loose paper (paper towels, Kim wipes, notebook paper). Remove chemicals stored in fume hood and return them to chemical storage cabinets.

14. Fume hood sash left up: Pull fume hood sash down completely when the hood is unattended. Pull down to lowest working level when working in the hood.

15. Blocked emergency shower and or eyewash: Remove obstruction(s) blocking emergency shower to ensure clear access to this safety equipment.

16. When working with chemicals, lab workers are pressed properly and using adequate PPE.

17. There are no liquids being stored above eye level. Ok if approved step stool is present.

18. Chemicals on floor: Do not store chemicals directly on the floor. Rather, store them in approved cabinets or in secondary containers large enough to hold the entire contents of the bottle in case of a spill.

19. Excessive flammables outside of flammable cabinet: Store flammable chemicals in excess of 10 gallons in a flammable storage cabinet.

20. Flammables in household-style refrigerator/freezer: Flammable chemicals needing refrigeration must be kept in a Lab-safe refrigerator/freezer (that is, safe for flammable storage). Flammable chemicals may not be kept in a household style or commercial refrigerator/freezer or in a walk-in cooler.

21. Old non-time sensitive chemicals: Noted non-time sensitive chemicals older than 6 years in the lab. Periodically review chemical inventory. Dispose of old chemicals that are no longer used.

22. Peroxide forming chemicals out of date: Explosive peroxide forming chemicals and oxidants such as ethyl ether, tetrahydrofuran (THF), perchloric acid, cyclohexene, butadiene, isopropyl ether and dioxanes must be used within 1 year of purchase or 6 months after opening and must be disposed of before the expiration date. Tag these chemicals for disposal immediately if past these time constraints.

23. Peroxide forming chemicals have date received and date opened written on label.

24. Damaged chemical container: Repackage or dispose of chemicals in deteriorated containers.

25. Unsegregated chemicals: Segregate chemicals by hazard class (flammable, corrosive, oxidizer, reactive, toxic). Recommend using Globally Harmonized System pictographs on chemical containers to quickly identify the hazard class.

26. Broken glass box is not overfilled.

27. Labels on primary containers in good condition.

28. Secondary containers are properly labeled

29. Emergency contact sign is posted.

30. “Right to Know” sign is posted.

31. MSDS / SDS are present or sign stating where they may be found is posted.

32. General housekeeping, lab is free of clutter i.e. old equipment, empty boxes, etc…

33. Chemical Hygiene Plan and or Lab Safety Plan present.

34. Training records present (Hazard Communication, Hazardous Waste, etc…)