

Appendix E

CHEMICAL FUME HOODS

1.0 PURPOSE

To ensure proper operation and effectiveness of the fume hoods for testing and annual certification. Cal/OSHA General Industry Safety Order 5143(a)(5) requires mechanical ventilation systems to be tested after initial installation, alterations, or maintenance, *and at least annually*. The annual inspection records are required to be maintained for at least five years.

2.0 SCOPE

This procedure is applicable to all staff and faculty who use a laboratory fume hood at CSUEB.

3.0 RESPONSIBILITY

- 3.1 Department of Environmental Health and Safety (EHS)
 - 3.1.1 Develop, implement, revise, and enforce this procedure.
 - 3.1.2 Work with Facilities Management and Science department; coordinate annual fume hood certification.
- 3.2 Department of Facilities Management – Engineering
 - 3.2.1 Work with EHS and Science department; perform annual fume hood certifications.
 - 3.2.2 Submit service request to correct any deficiencies that cannot be corrected by minor system adjustment(s) during testing/inspection process.
 - 3.2.3 Document annual fume hood face velocity test and certification using campus standardized form. Provide copies of completed forms to EHS.
 - 3.2.4 Inform EHS and Science Dean's Office of any fume hoods that need to be taken out of service, and update timeline for repairs.
 - 3.2.5 Provide scheduled preventive maintenance for fume hoods.

- 3.2.6 Maintain maintenance and annual certification records for at least five (5) years.
- 3.2.7 Respond immediately to fume hood fan failures to protect building occupants from manifold backflow and to restore service to users.
- 3.2.8 Inspect indicator light panels daily to verify hoods are working before users arrive. Users normally arrive at 8:00 a.m.
- 3.3 University Police Department (UPD)
 - 3.3.1 Contact the Building Service Engineer using the existing Facilities Management call back procedures for after hours.
- 3.4 Applicable Departments with Users
 - 3.4.1 Contact EHS for any questions regarding this procedure.
 - 3.4.2 Understand and follow this procedure.
 - 3.4.3 Report any fan/fume hood failures during normal working hours (6:30am – 4:30pm) to Facilities Maintenance, ext. 5-4444.
 - 3.4.4 Report any fan failures during after hours (4:31pm – 6:29am) and on Saturday and Sunday to University Police.
 - University Police can be reached by dialing 5-3791 or 911 from any campus phone.

4.0 PROCEDURES

- 4.1 ONLY use perchloric acid in a fume hood approved for its use. The perchloric acid crystals may detonate in the hood ductwork. Contact Facilities Management and EHS for hoods approved for perchloric acid use.
- 4.2 For radioisotopes, usage must be approved by the campus Radiation Safety Officer (RSO). Contact EHS @ ext. 5-4138 for any questions.
- 4.3 Operate the hood at the proper sash height. Each hood has a rubber stopper or yellow arrows to indicate the working sash height.

- 4.4 Certain fume hoods must be operated during after hours (10:00 p.m. - 6:00 a.m.) at half the normal sash height. The hood fan speed is decreased for energy conservation purpose.
- 4.5 Do not use the hood as a storage cabinet. Keep materials to a minimum inside of hood. Allow at least 3 inches of space between containers or equipment. Only materials actively in use should be in the hood.
- 4.6 Do not place bulky equipment around the sidewalls of the hood. Bulky equipment should be placed towards the rear of the hood.
- 4.7 Raise large equipment at least 2 inches off work surface on legs.
- 4.8 Keep spark sources and electrical receptacles outside of hood.
- 4.9 Keep sash face clean and clear.
- 4.10 Do not block airfoils (lower front and the sides of the hood).
- 4.11 Set up work at least 4-6 inches behind the plane of the sash to avoid turbulence at the sash's edge.
- 4.12 Never put your head inside an operating fume hood.
- 4.13 Close sash when finished with hood work or when leaving experiments or chemicals unattended. This will allow a potential fire or explosion to be contained within the hood.
- 4.14 Flush water into the cup sink periodically. Dry traps can lead to odors over time.
- 4.15 Never dispose of chemicals in the cup sink.
- 4.16 **Immediately report any fume hood fan malfunction(s). The occupants of the room with the failed system are subjected to back flow from the fume hood exhaust manifold. The fume hood exhaust manifold backflow presents a potential toxic hazard exposure.**

If you have any questions regarding this procedure, contact EHS at 5-4138.