

UNIVERSITY OF ALASKA - FAIRBANKS

SUBJECT: Fire Safety in Campus Labs	Number: 1204
OBJECTIVE: To Provide Guidance on how to maintain a fire safe lab.	Adoption Date: Dec. 1998 Revision Dates:

I. FIRE PREVENTION

- * Be aware of ignition sources in lab area (open flames, heat, electrical equipment).
- * Purchase and store flammable reagents in the smallest quantities available.
- * Store flammable liquids that require refrigeration in explosion-proof refrigerators.
- * Store flammable liquids in appropriate safety cabinets and/or safety cans.
- * Do not store incompatible reagents together (e.g., acids with flammables). Lists of incompatible reagents can be found in several source books (for example, Handbook of Reactive Chemical Hazards).
- * Do not store ethers or conjugated dienes for extended periods of time as explosive peroxides could form. Date ethers when received and opened.
- * Make sure that all electrical cords are in good condition. All electrical outlets should be grounded and should accommodate a 3-pronged plug. Never remove the grounding prong or use an adapter to bypass the grounding on an electrical cord. Extension cords are for short term use only. Permanent installation of extension cords is not permitted.
- * Remain out of the area of a fire or personal injury unless it is your responsibility to meet the emergency responders. Meet responders from a safe location.

- * Be aware of the condition of fire extinguishers. Report any broken seals, damage, low gauge pressure or improper mounting to the Physical Plant at 474-7000. If the seal has been broken, assume that the fire extinguisher has been used and must be recharged. (NOTE: Do not use fire extinguishers unless you are trained and feel confident to do so.) Report ALL fires by phoning 911.
- * Automatic fire sprinklers must remain clear and unblocked to function properly. Do not store materials within 18" below the sprinkler head.

HOUSEKEEPING

- * Eliminate safety hazards by maintaining laboratory work areas in a good state of order.
- * Maintain at least two clear passages to laboratory exits.
- * Always keep tables, fume hoods, floors, aisles and desks clear of unnecessary material. Fume hoods are not chemical storage cabinets.
- * Wipe down bench tops and other laboratory surfaces after each use with an appropriate cleaning or disinfecting agent.
- * All equipment should be inspected before use.
- * Use borosilicate glassware for laboratory work. If dichromate/sulfuric acid glass cleaner is used in your laboratory, make sure that cleaning is confined to the fume hood as toxic chromyl chlorides are released from the dichromate/sulfuric acid solution.

Better yet, switch to a non-chromate cleaning solution. (i.e., No Chromix?) which will also minimize hazardous waste generation.
- * If experiments must be left unattended, place a note next to experimental apparatus indicating the chemicals involved, your name and a number where you can be reached in case of an emergency.
- * Keep the laboratory floor dry at all times. Immediately attend to spills of chemicals or water, and notify other lab workers of potential slipping hazards.
- * All machinery under repair or adjustment should be properly tagged

prior to servicing. All service work should be done by authorized personnel.

- * Sink traps and floor drains should be flushed and filled with water on a regular basis to prevent the escape of sewer gases or the release of chemical odors in the event of an emergency. Drains which will not be routinely used may be "topped" with 20 - 30 ml of mineral oil to prevent evaporation of water in the trap.
- * All compressed gas cylinders should be securely chained or clamped to a rack or fixed stationary piece of lab furniture. Mark empty cylinders, but use all safety precautions as if the cylinder were full.

EMERGENCY PROCEDURES

- * In the event of an emergency, remember one number: 911. By calling this number, all necessary emergency response departments can then be alerted to your needs.
- * Be familiar with the emergency evacuation plan.
- * Be sure the names and phone numbers of lab personnel to be contacted in an emergency are posted outside of the door.
- * Be familiar with the location, use and limitations of the following safety devices:
 - * safety shower
 - * eye wash station
 - * protective respiratory gear
 - * fume hood
 - * spill cleanup materials
 - * first aid kit
 - * fire alarm
 - * fire extinguisher
- * Clean up all small spills immediately. If a large chemical spill occurs, call the campus emergency phone number, 911. If the spill poses a hazard to individuals outside of the laboratory, follow the laboratory's emergency standard operating procedure. Stop current reactions or equipment if possible, activate the building fire alarm, exit the building, call 911 to report the emergency and stand by at a safe distance to provide information to emergency response personnel.
- * If volatile, flammable, or toxic materials spill, shut off flames and spark-producing equipment at once and evacuate.
- * In the event of fire or explosion, activate the building fire alarm, exit the building, call 911 to report the emergency and standby in a

safe location to meet emergency responders.

- * Do not cover windows of laboratory doors, except for special experimental requirements. This allows passers-by to notice if anyone is in need of emergency assistance.
- * Maintain a clear path to all safety equipment at all times.