

APPENDIX C-2

LABORATORY SAFETY INSPECTION CHECKLIST

As part of EH&S's laboratory safety survey program, we have compiled a list of the most common safety problems. This is not a list of every possible hazard, but can be utilized as a guideline to conduct your own safety surveys. If you have any questions please contact EH&S at ext. 5702 or 5711.

Check if completed

Administrative

- ___ 1. Are safety training records (Lab Safety Training Checklist) maintained and available for review by employees, EH&S and outside agencies?

- ___ 2. Is the Environmental Health and Safety Binder in a location known and accessible to all (binder is maintained by the department Safety Coordinator)?

- ___ 3. Are employees aware of how to access Material Safety Data Sheets (MSDSs) and an updated inventory sheet of hazardous materials used in the workplace?

- ___ 4. Is there a Safety Bulletin Board established with the following displayed (in a language(s) understood by all employees)?
 - the Cal/OSHA poster, "Safety and Health Protection on the Job"
 - Hazard Reporting forms
 - Cal/OSHA "Notice to Employees" ("Standards for Protection against Radiation" in departments using radioactive materials)
 - Other safety material/information

- ___ 5. Are safety inspection reports and corrections maintained and available for review by employees, EH&S and outside agencies?

General Safety Concerns

- ___ 1. Has an emergency information sign been posted outside the lab, indicating the hazards within and the responsible person?

- ___ 2. Are rooms and cabinets containing regulated hazardous substances, such as biohazards and radioactive materials, posted with warning/caution signs?

- ___ 3. Are exits and aisles free of obstructions in case of emergency?

- ___ 4. Do work areas have adequate ventilation and illumination?
- ___ 5. Are fire extinguishers maintained annually (tag indicates last date serviced)? Is the area in front of fire extinguishers or electrical panels free of obstructions?
- ___ 6. Are food and beverages kept out of work areas and out of laboratory refrigerators ?
- ___ 7. Are spill kits/cleanup materials provided?
- ___ 8. Is the appropriate personal protective equipment required for the lab available and worn?
 - Safety glasses/goggles
 - Gloves
 - Lab coats
 - Aprons
 - No open-toed footwear
 - Face shield
- ___ 9. Are lab doors locked in the absence of any personnel?

Laboratory Equipment

- ___ 1. Are the eyewash and emergency shower stations properly maintained (see tag) and free of any obstructions which would prevent ready access?
- ___ 2. Have chemical fume hoods been tested within the year (check sticker)?
 - Is air flow indicator present?
 - Is storage within the hood minimized and are containers kept sealed?
 - Is the front sash lowered to the appropriate level when hood is in use?
- ___ 3. Are biological safety cabinets certified annually or when moved (check sticker) and are they the proper types for the work being conducted?
 - Are signs posted on the entry door to laboratories when a cabinet is in use so as to minimize changes in air flow?
- ___ 4. Is non-ionizing radiation equipment, such as lasers, microwaves, and ultraviolet light sources, properly posted and shielded?

- ___ 5. If compressed gas cabinets are used, are they in working order?
- ___ 6. Are compressed gas cylinders protected from external heat sources and stored in well protected, well-vented, and dry locations away from highly combustible materials?
- Are tanks dated (less than five years old) and properly labeled?
 - Are incompatible gases stored separately?
 - Are surplus cylinders kept at a minimum and not stored in the lab?
 - Are cylinders stored so that they will not be damaged by falling objects nor subject to tampering by unauthorized persons?
 - Are cylinders secured upright with welded chains and brackets bolted to a wall, bench or other secure object (no C-clamps)?
 - Are protective caps in place while cylinders are not in use?
- ___ 7. Do refrigerators/freezers for storing flammable liquids have a manufacturer's or U/L certification of explosion proof? Are they marked with "No Food" labels?

Are office refrigerators marked "Food Only/No Chemicals?"

- ___ 8. Has the manufacturer been contacted with regard to any modifications made to the safety features on laboratory equipment?
- ___ 9. Is the location of manuals /instructions for each piece of equipment known?

Hazardous Materials

- ___ 1. Are chemical containers properly labeled to identify original product names (or full chemical names), contents and hazards?
- ___ 2. Are chemicals stored according to hazard classification (acids, bases, flammable liquids, carcinogens, etc.) and are they seismically restrained?
- ___ 3. Are all containers of peroxide-forming chemicals dated upon receipt and disposed of within a year?
- ___ 4. Are flammable liquids stored in closed metal safety cans or cabinets whenever possible?
- Are flammable liquids always stored in cabinets when in excess of 10 gallons?

- Are flammable liquids stored away from sources of heat, ignition, electrical equipment or sources of static electricity, machinery with moving parts, and areas for mixing chemicals?

- Do flammable liquid storage cabinets not exceed thirty (30) gallons?

- ___ 5. Are the appropriate authorizations (ionizing radiation, biohazardous material) emergency procedures and other safety procedures posted in the labs?
- ___ 6. Is absorbent paper covering radioisotope work areas and is it marked with "caution radioactive material" tape? Is the absorbent paper in need of replacement (worn or thin)?
- ___ 7. Are lab personnel working in radionuclide work areas using body TLD badges/ring badges?

Hazardous Waste

- ___ 1. Is disposal of hazardous substances down the drain prevented?
- ___ 2. Is biohazardous waste decontaminated before disposal?
- ___ 3. Are the proper containers obtained and used for storing hazardous waste?
- ___ 4. Is all hazardous waste properly labeled (by the chemical name) and sealed?
 - Are the appropriate categories of chemical waste segregated?
 - Is liquid waste disposed in screwtop containers?
 - Are all constituents in mixtures identified, as well as their concentrations?
- ___ 5. Are all "sharps" disposed in puncture resistant, leak-resistant containers and taped or sealed tightly to preclude loss of contents?
- ___ 6. Are all radioactive waste solids, liquids, and scintillation vials segregated properly?
 - Is all dry solid radioactive waste placed in an EH&S-supplied container lined with a clear plastic bag?
 - Are liquids scintillation vials placed in vial trays for disposal?
 - Is lead separated from radioactive waste?

- Is aqueous waste separated from organic liquids?
- ___ 7. Do all personnel know how to have waste picked up?
- Are chemical and radioactive waste pickup forms available ?
- ___ 8. Are waste minimization procedures followed?
- ___ 9. Are lab personnel instructed to not dispose of chemicals by evaporation into a fume hood?

Seismic Safety

- ___ 1. Do shelves have lips or restraints to prevent chemical spillage?
- ___ 2. Are cabinets, bookshelves and furniture over 42 inches in height braced against walls to prevent their falling over in the event of an earthquake?
- ___ 3. Is overhead storage minimized and restrained?

Electrical Safety

- ___ 1. Are employees instructed not to use extension cords in place of permanent wiring?
- Are extension cords prevented from running through walls, ceiling or doors?
- ___ 2. Are extension cords, multiple outlet strips, or cube taps plugged directly into a wall outlet?
- ___ 3. Are extension cords 12' or less in length, 14-gauge (heavy duty) at a minimum, and servicing only one appliance or fixture?
- ___ 4. Are cord guards provided across an aisle or other passageway?
- ___ 5. Is electrical equipment inspected (with power off and unplugged) for frayed cords and damaged connections? Are these hazards reported and repaired by appropriate people?
- ___ 6. Is all electrical equipment grounded (three-prong plugs) or double insulated?
- Are 3-prong plugs only used for 3-prong receptacles, and never altered to fit into an outlet?
- ___ 7. Is the altering or removal of safety features of high voltage equipment prevented?

- ___ 8. Are all electrical boxes, panels and receptacles covered to protect against electrocution or shock?
- ___ 9. Is the multiple outlet strip cord 6' or less, and does the strip have a circuit breaker?
- ___ 10. Are control switches, circuit breakers and electrical panels free of obstructions?
- ___ 11. Are high voltage control panels and doors posted and closed with safety interlocks?