

CHEMICAL CARCINOGENS: GUIDELINES FOR WRITING SAFETY PROTOCOLS SafetyNet #32

State Law and the UC Davis Policy and Procedure 290-65 require special use procedures for certain chemical carcinogens as described in the Chemical Carcinogen Safety Manual. As part of the campus chemical carcinogen safety program, users of Class II and III carcinogens must register with the Office of Environmental Health and Safety (EH&S). To register for carcinogen use and receive a Carcinogen Use Authorization (CUA) the principal investigator or projects supervisor shall submit:

- A completed application
- One or more safety protocols (in the format described below)
- An Animal Room Safety Information Form (if applicable).

The entrance to rooms where carcinogens are used or stored must be posted with signage indicating “Cancer Suspect Agent”, and have the safety protocols posted in the work area. The principle investigator or project supervisor is required to prepare this written safety protocol in consultation with EH&S, and shall include the following information:

- Name of principal investigator and/or project supervisor and their phone numbers.
- Names of all other personnel associated with the project and their phone numbers.
- Names, amounts, physical form, concentrations, and storage/use locations of the carcinogens involved.
- Proper precautions for handling during normal use, including personal protective equipment and location restrictions.
- Brief description of the experiment, including:
 - Concentrations of stock and working solutions.
 - Techniques and equipment to assure containment.
 - Emergency procedures including deactivation and/or decontamination.
 - Personal protective measures to be employed and/or equipment to be used.
 - Duration of the proposed project.
- Emergency procedures must be specified for spills. Consideration should include the following:
 - When volatile liquid or gaseous chemical carcinogens (e.g. ethylene amine, dibromochloropropane, vinyl chloride) are spilled in the fume hood or glove box:
 - a) Immediately put on additional layers of gloves and be sure the laboratory coat is buttoned and chemical splash goggles are securely in place. Wear disposable booties. Put on an apron if large amounts of liquid are present.
 - b) Contain the spill by absorbing it in towels, rags, or other materials. Place spill materials, towels, rags, or other materials in a double layer of plastic bags. Seal the bag and label with a hazardous waste label. Leave the bag of spill waste in

- the hood.
 - c) Decontaminate the spill area. Specify decontamination method.
 - d) Check for residual spillage (specify technique). Decontaminate again if necessary.
 - e) Thoroughly wash arms, hands, and face. As soon as possible, shower and wash hair if Class III carcinogens are spilled.
- When volatile liquid or gaseous chemical carcinogens (e.g. formalin, benzene) are spilled in the general room:
 - a) Evacuate the room.
 - b) Call the UCDHS Fire Department (911) and EH&S (530-752-1493), in that order, for assistance.
 - c) Do not re-enter the room until cleared by EH&S.
 - d) Shower if advised to do so by EH&S.
- With nonvolatile liquids (i.e., dilute aqueous solutions, tissue cultures):
 - a) Put on additional protection (gloves, lab coat, apron and disposable booties).
 - b) Place the contaminated absorbent in double bags for disposal by EH&S.
 - c) Decontaminate the spill area. Specify decontamination method.
 - d) Check for residual spillage (specify technique). Decontaminate again if necessary.
 - e) Thoroughly wash the arms, hands, and face of exposed individuals. Shower and wash if Class III carcinogens were spilled.
- When a substance is a particulate:
 - a) Isolate the area by barricading or other means so that the spill is not spread.
 - b) Put on additional protection (gloves, lab coat and apron). If the spill is extensive, respirators and/or impermeable coveralls may be necessary. Contact EH&S (752-1493) for guidance.
 - c) Gradually push particles from outside of the spill area towards the center, using moist towels. Do Not Dry Sweep!!
 - d) Pick up particulates by using moist towels or sponges. All carcinogen wastes must be managed and disposed as hazardous waste.
 - e) Additional wet-mopping or special vacuum may be necessary depending on the extent of the spill.
 - f) Decontaminate the spill area. Specify decontamination method.
 - g) Check for residual spillage (specify technique). Decontaminate again if necessary.
 - h) Thoroughly wash arms, hands, and face after cleanup. Shower and wash hair if Class III chemical carcinogens were spilled.

Note: In all cases, any used protective equipment, towels, wash water, etc. are considered contaminated hazardous waste. This must be double-bagged, labeled, and disposed of by EH&S as hazardous waste. See SafetyNet #8, "Guidelines for Disposal of Chemical Waste" for more information.

- If the research involves handling chemical carcinogens in syringes, emergency procedures for accidental inoculation must be specified. These procedures must include:
 1. Immediate thorough washing of the injection site.
 2. Reporting immediately to Employee Health Services or Cowell Student Health Center for medical evaluation. Follow-up if necessary.
- Researchers should contact Employee Health Services (530-752-2330) after **any** significant exposure to chemical carcinogens.

- Any emergency incident or exposure to a chemical carcinogen must be reported to EH&S or the UC Davis Fire Department immediately, and followed up by a written incident report to EH&S within ten days.

The Chemical Carcinogen Safety Manual, which includes the list of chemical carcinogens and required forms, is available on the EH&S website at: <http://www.ehs.ucdavis.edu/chem/carcmanl/index.cfm>. For additional information, contact your EH&S Safety Advisor, EH&S at 530-752-1493 or ehsdesk@ucdavis.edu.

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