



Title: EXPOSURE/USE OF CARCINOGENS IN THE LAB

Principle:

It is the intent of the laboratory to reduce employee and environmental exposures to chemical carcinogens used in the lab to the lowest practical level. It is the responsibility of each technician, technologist, or supervisor to identify carcinogens or potential carcinogens in the work place, to comply with all environmental regulations concerning their use, to ensure carcino-medical attention in the event of an incident involving the ingestion, inhalation, or inoculation of one of these chemicals. It is the responsibility of the employee to comply with safety policies and procedures, to report unsafe working conditions, and to report any accident involving one of these chemicals.

Overview:

It is the policy of the University of Colorado Denver that all employees will follow good safety practices when working with any laboratory substances, even with those that pose no known significant hazards. These good safety practices include minimizing exposure by wearing a laboratory coat or apron, wearing eye and hand protection, and working in an exhaust hood whenever hazardous materials are present.

Carcinogens:

A carcinogen is defined as any substance, or combination or mixture of substances, which causes an increased incidence of benign and/or malignant neoplasms, or a substantial decrease in the latency period between exposure and onset of neoplasms in humans as the result of any oral, respiratory or dental exposure, or any other exposure which results in the induction of tumors at a site other than the site of administration.

Regulated Carcinogens:

The use of regulated carcinogenic materials is discouraged. If use is required in a laboratory procedure, the safety practices and procedures must be established before the chemical is purchased.

Non-Regulated Carcinogens:

A potential carcinogen is one in which neoplasms are found in one or more experimental mammalian species or which are metabolized into one or more potent occupational carcinogens by mammals. Use of potential carcinogens is acceptable as long as the purchase of each is limited and the exposures are minimized as much as possible.

Safety Practices:

1. Lab coats must be worn when chemical carcinogens are used. The lab coats must be fully fastened and the sleeves rolled down. Lab coats worn for this purpose should not be worn outside of the laboratory area. Clothing overtly contaminated by chemical carcinogens should be removed immediately and placed in a plastic bag.
2. Disposable gloves must be worn when handling a chemical carcinogen.
3. Goggles should be worn whenever there is a potential for splashing or when stock quantities of chemical carcinogens are handled. Face shields should be available for use.

4. Mechanical pipetting devices must be used for all pipetting procedures: mouth pipetting is forbidden.
 5. No eating, drinking or smoking is permitted in any laboratory work area.
 6. All personnel must wash their hands and forearms immediately after completion of any procedure in which a chemical carcinogen is used and prior to leaving the lab. Following gross contact with carcinogenic material, thorough showering and clothes change is mandatory.
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7. Each entrance to a work area where chemical carcinogens are being used or stored should have a sign which states "Caution-Potential Cancer Hazard, Authorized Personnel Only." If the cancer hazards are used in a limited portion of a large work area, the sign may be posted in the limited work area.
 8. Access to chemical carcinogens should be limited to knowledgeable individuals. The work area should be designated so that casual contact by non-trained personnel is prohibited.
 9. All work surfaces on which chemical carcinogens are used should be covered with dry, absorbent, plastic-backed paper. The paper should be disposed of after each procedure is completed.
 10. Procedures involving volatile chemical carcinogens and those involving solid or liquid chemical carcinogens that may result in the generation of aerosols should only be conducted in a chemical fume hood, a Class I Biological Safety Cabinet, a glove box, or other suitable containment equipment.
 11. Vapors or aerosols produced by analytical instruments, when used with chemical carcinogens, should be captured through local exhaust ventilation at the site of production or be vented into a chemical fume hood or a Class I Biological Safety Cabinet.
 12. Stock quantities of chemical carcinogens should be stored in a designated cabinet. The cabinet should be labeled with a sign that says "Caution-Potential Cancer Hazard." An inventory of amounts of stock carcinogens should be placed in the chemical inventory list of the lab. All containers which contain chemical carcinogens should have a label attached which says, "Caution-Potential Cancer Hazard"
 13. Working quantities of chemical carcinogens in the work area should be kept to a minimum.
 14. Stock or working quantities of chemical carcinogen that are moved from one site to another must be transported in a durable outer container or carrier. Contaminated materials should be placed in a closed plastic bag.
 15. Decontamination and disposal and spill procedures should be done in accordance with all regulatory guidelines. Appropriate procedures should be identified in the chemical inventory listing and in each method write-up where chemical carcinogens are used.

Written by: Heather Currens, SCT (ASCP), 12/11/2007

Updated by: Gail Zander, CT (ASCP), 8/18/12

References: GEN.76300

Approval of Procedure:

Medical Director Signature: *m. Gail Zander, MD*

Date: *8/29/12*

