



## GUIDELINES FOR USE OF INORGANIC ARSENIC

### SafetyNet #28

Inorganic arsenic is regulated as an occupational carcinogen by Cal/OSHA Title 8, Section 5214 of the California Code of Regulations and is listed as a Class II carcinogen by the UC Davis Chemical Safety Administrative Advisory Committee. A Carcinogen Use Authorization is needed prior to purchase or use. Application packets are available from EH&S. Application forms are also available on the EH&S web site at: [http://ehs.ucdavis.edu/ftpd/carcingn/carc\\_e.pdf](http://ehs.ucdavis.edu/ftpd/carcingn/carc_e.pdf).

- To use or store inorganic arsenic compounds regardless of amount, you must complete an application for Class II Chemical Carcinogen use and submit it to EH&S.
- EH&S will audit each location where inorganic arsenic is used upon receipt of the application and annually thereafter.
- Procedures approved by EH&S must be **posted** in each laboratory where inorganic arsenic is used. The suggested contents of a Safety Protocol are included as page three of this SafetyNet.

#### Housekeeping

- Work surfaces that may become contaminated with inorganic arsenic (such as weighing tables, counter tops, etc.) must be protected with absorbent paper.
- If absorbent paper becomes contaminated with inorganic arsenic, fold the paper from the outer edges into the middle, put it into a plastic bag, label the bag as arsenic-contaminated hazardous waste and contact EH&S for a hazardous waste pickup.
- To avoid airborne exposure, never use compressed air to blow inorganic arsenic off work surfaces and avoid dry sweeping and brushing. If particulate matter must be removed from a surface use a moist paper towel or wipe and treat the waste as above. Wear gloves during the cleanup.
- If large areas become contaminated with inorganic arsenic, contact EH&S, or in an emergency, contact the UC Davis Fire Department at **911**.

#### Maintenance

- The primary way to minimize exposure to inorganic arsenic is by using a chemical fume hood. Fume hoods are tested annually to assure proper air flow (100 feet per minute minimum face velocity). In addition, fume hood exhaust fans are serviced on a preventive maintenance plan at least annually.
- Records of fume hood face velocity measurements and exhaust fan preventive maintenance are available from O&M at 752-1655.
- If the fume hood fails, call O&M at 752-1655 immediately.

#### Emergency Procedures

- Immediately clean up all spills of inorganic arsenic. Wear a double layer of gloves, lab coat, and other body protection as required in the Chemical Carcinogen Safety Manual.
- With nonvolatile liquids (i.e., dilute aqueous solutions, tissue cultures):

1. Put on additional protection (gloves, lab coat, apron, disposable booties).
  2. Place the contaminated absorbent in double bags for disposal by EH&S.
  3. Decontaminate the spill area with wipes of a mildly acidic solution.
  4. Check for residual spillage (specify technique). Decontaminate again if necessary.
  5. Thoroughly wash the arms, hands, and face of exposed individuals.
- When a substance is a particulate:
    1. Isolate the area by barricading or other means so that the spill is not spread.
    2. Put on additional protection (gloves, lab coat, apron). If the spill is extensive, respirators and/or impermeable coveralls may be necessary. Contact EH&S (752-1493) for guidance and the UC Davis Fire Department for spill clean up at 911.
    3. Gradually push particles from outside of the spill area towards the center, using moist towels. Do Not Dry Sweep!!
    4. Pick up particulates by using moist towels or sponges. Place waste in double plastic bags. See SafetyNet #8, "Guidelines for Disposal of Chemical Waste" for more information.
    5. Additional wet-mopping or special vacuum may be necessary depending on the extent of the spill. Submit an on-line waste pick-up request at <http://ehs.ucdavis.edu> and click on the waste button or fax a waste pick-up request form to 752-2785.
    6. Decontaminate the spill area. Specify decontamination method.
    7. Check for residual spillage (specify technique). Decontaminate again if necessary.
    8. 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.**

- If inorganic arsenic contacts skin, wash the area thoroughly using soap and water. If arsenic trichloride contacts skin, wash the area thoroughly and contact Employee Health Services at 752-2330 to determine if medical examination is necessary.
- If spills of inorganic arsenic are extensive, contact the UC Davis Fire Department at **911**.
- Report all direct exposures to inorganic arsenic (direct skin or eye contact, ingestion, inhalation) to EH&S. EH&S will determine if notification of regulatory agencies is required.

### **Further Information**

Further information including copies of the Cal/OSHA Inorganic Arsenic standard is available you're your EH&S Safety Advisor, EH&S at 752-1493 or [ehsdesk@ucdavis.edu](mailto:ehsdesk@ucdavis.edu).

# Generic Arsenic Safety Protocol

Principle Investigator: \_\_\_\_\_ Office Phone: \_\_\_\_\_

Cell Phone: \_\_\_\_\_ Pager: \_\_\_\_\_

Home phone: \_\_\_\_\_

Other Personnel: \_\_\_\_\_ Office Phone: \_\_\_\_\_

Cell Phone: \_\_\_\_\_ Pager: \_\_\_\_\_

Home Phone: \_\_\_\_\_

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Chemical name: \_\_\_\_\_ Physical form: \_\_\_\_\_

Concentration: \_\_\_\_\_ Amount: \_\_\_\_\_

Storage: \_\_\_\_\_

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Personal protective equipment: \_\_\_\_\_

Restricted Work Locations: \_\_\_\_\_

Other Precautions: \_\_\_\_\_

Spill Procedures as listed in Safety Net #28 (attached).

Experiment Description: \_\_\_\_\_

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