



THE UNIVERSITY OF  
TENNESSEE  
HEALTH SCIENCE CENTER

Office of Research Safety Affairs  
3 N. Dunlap Street,  
Memphis, TN 38163

## Standard Operating Procedure:

### *Hazardous Drugs*

*(e.g., cyclophosphamide, tamoxifen, cisplatin, BrdU, etc.)*

NIOSH has classified certain pharmaceutical compounds as *hazardous drugs* based on their associated health hazards and risk posed to researchers and healthcare providers that handle these materials. Hazardous drugs, including cyclophosphamide, tamoxifen, BrdU, cisplatin and others are identified in the NIOSH [List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings, 2016](#).

#### Chemical Classifications:

|                                |   |  |
|--------------------------------|---|--|
| CAS Number:                    | <i>Various – depending on compound</i>  |  |
| Hazards:                       | <i>Reproductive toxicity, mutagen, carcinogen, irritant, corrosive and others</i> |  |
| Molecular Formula:             | <i>Various – Review SDS for specific compound</i>                                 |  |
| Form (physical state):         | <i>Various – Review SDS for specific compound</i>                                 |  |
| Color and Physical Appearance: | <i>Various – depending on compound</i>  |  |

#### Brief Safety Overview:

- Hazard Classification:
  - *Reproductive hazard*
  - *Mutagen*
  - *Carcinogen*
  - *Irritant*
  - *Corrosive to tissue*
  - *Environmental toxicity*
- Prior to handling training must be provided by the Principal Investigator or senior researcher. This must include a review of health hazards, concentration of materials to be handled, safe handling practices, exposure response procedures and waste disposal practices. The Principal Investigator is responsible for training employees using the material. General guidelines and handling recommendation are provided below.
- Employees should be trained initially and then annually thereafter. Their knowledge, competence and practices should be evaluated and documented.

**Minimum Protective Clothing:**

- *Nitrile gloves. Chemo-resistant gloves and double gloving practices are recommended*
- *Lab coat*
- *Safety glasses*

**Minimum Protective Equipment:**

- *Ventilated enclosure (e.g., fume hood or biosafety cabinet)*

**Handling Instructions****Training and Work Practices**

- *Open shipments containing hazardous drugs within a ventilated enclosure such as a fume hood or biosafety cabinet. Inner containers may have broken during shipping.*
- *Allocate a designated area or areas within the lab where these materials will be stored and handled. Inform personnel of these locations and of the potential presence of trace contamination in these areas.*
- *Perform all manipulations within a ventilated enclosure. Re-suspending into solution or transferring with pipette or syringe may generate aerosols to which individuals may be exposed or which may contaminate surfaces.*
- *Wear nitrile gloves (chem-resistant recommended and double glove recommended), lab coat and eye protection when handled hazardous drugs.*
- *Decontaminate surfaces after handling hazardous drugs. A 10% bleach solution or other suitable decontaminant must be used. Ethanol is not a suitable decontaminant.*
- *Collect empty containers, tips and tubes as hazardous waste. Place a [hazardous waste label](#) on the container and fill it in. Submit for pickup and disposal as hazardous waste by emailing [labsafety@uthsc.edu](mailto:labsafety@uthsc.edu).*

**Storage**

- *Review the Safety Data Sheet (SDS) to determine appropriate storage considerations and incompatible materials.*
- *Determine designated area to be used for the storage of hazardous drugs.*
- *Periodically decontaminate the storage location.*

**Waste disposal:**

- *(Collect empty containers, tips and tubes as hazardous waste. Place a [hazardous waste label](#) on the container and fill it in. Submit for pickup and disposal as hazardous waste by emailing [labsafety@uthsc.edu](mailto:labsafety@uthsc.edu).*

## **Emergency Procedures**

### **Spills or fires**

- **Small Spills:**
  - *Wear PPE including double gloves, lab coat, eye protection and a face shield.*
  - *Small spill should be absorbed using absorbent powder, paper towels, or other absorbant material.*
  - *Avoid creating dust*
  - *Pickup absorbent using tongs or other tools – especially if broken glass is present.*
  - *Collect spill cleanup materials as hazardous waste.*
  - *Decontaminate the area following instructions in the SDS. This may include using soap and water and then decontaminating with a 10% bleach solution.*
- **Large Spills:**
  - *Notify laboratory personnel of the spill.*
  - *Leave the area*
  - *Contact the UTHSC Spill Response Team at 901-448-4444. Be prepared to provide the following information:*
    - *Your name*
    - *Location of the spill*
    - *Type of material and approximate quantity spilled*
    - *Call back phone number*

### **Exposure Response**

- *Review Exposure Response instruction in SDS prior to handling this compound.*

*The most common response actions are described below.*

- *Skin: Remove all contaminated clothing immediately. Wash with water and soap. Rinse thoroughly.*
- *Eyes: Rinse under water for 15 minutes then seek medical treatment.*
- *Inhalation: Move to fresh air.*
- *Ingestion: Seek medical treatment.*