**UH Guideline for Chemotherapy and**

**Other Hazardous Drugs**

**– Executive Summary**

The Occupational Safety & Health Administration's (OSHA) Laboratory Standard (29 CFR 1910.1450 (e) (3) (viii), requires that provisions be made for employee protection for work with Particularly Hazardous Substances (PHS). These include select carcinogens, reproductive toxins, acutely toxic substances and reactive/explosive chemicals as well as Standard Operating Procedures (SOP) relevant to safety and health considerations to be followed when laboratory work involves the use of particularly hazardous chemicals.

The UH Chemical Hygiene Plan defines work practices and procedures in order to protect students, laboratory workers, researchers, and supervisors at the University of Houston (UH) from the health and physical hazards associated with the use of hazardous chemicals. The Chemical Hygiene Plan is consistent with the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) standard entitled "Occupational Exposures to Hazardous Chemicals in Laboratories" (Code of Federal Regulations, 29 CFR 1910.1450) and the Texas Hazard Communication Act (Chapter 502 of the Texas Health and Safety Code).

The purpose of the Guidelines in Chemical Hygiene Plan is to describe safe handling for various chemical hazard classes and some commonly-used chemicals, to ensure that all laboratory personnel are adequately trained and familiar with PHS chemical/physical properties, health hazard information and toxicity data before their use. Procedures for containment, storage, and waste management shall be described in detail in the lab-specific SOP.

The Principle Investigator or Designee must ensure that these and other precautions designed to minimize risk of exposure to these substances are taken. The guidelines were created by the Department of Environmental Health and Safety with the goal of complying with 29 CFR 1910.1450 (e)(3)(i) and educating the campus community on the safe use of the PHS.

The Department of Environmental Health and Safety (EHS) has also established the Standard Operating Procedure (SOP) system to facilitate the creation of SOPs within the UH community. The information provided is intended to be accurate and helpful, but it should not be considered exhaustive. The provided document(s) are not comprehensive in nature and should not be considered complete until the PI completes all relevant sections. The template is provided as a tool, which can be used by the Principal Investigator (PI) to create an SOP specific to the processes present in their lab.

**UH Guideline for Chemotherapy and**

**Other Hazardous Drugs**

## **Introduction**

The National Institute for Occupational Safety and Health (NIOSH) has defined hazardous drugs as those that exhibit one or more of the following six characteristics in humans or animals:

* + Carcinogenicity
  + Teratogenicity or other developmental toxicity
  + Reproductive toxicity
  + Organ toxicity at low doses
  + Genotoxicity
  + Structure and toxicity profiles of new drugs that mimic existing drugs determined hazardous by the above criteria

NIOSH recommends that all hazardous drugs be handled safely and has published guidelines in its [*2004 NIOSH Alert: Preventing Occupational Exposures to Antineoplastic and Other Hazardous Drugs in Health Care Settings*.](https://www.cdc.gov/niosh/docs/2004-165/pdfs/2004-165.pdf?id=10.26616/NIOSHPUB2004165) This applies primarily to workers in health care settings, but also applies to those who work with hazardous drugs in research laboratories, which is the focus in this document. Hazardous drugs include those used for cancer chemotherapy, antiviral drugs, hormones, some bioengineered drugs, and other miscellaneous drugs. See [*NIOSH sample listing of major hazardous drugs (2016, or most recent edition)*](https://www.cdc.gov/niosh/docs/2016-161/pdfs/2016-161.pdf?id=10.26616/NIOSHPUB2016161)*, the majority of which are chemotherapy drugs.*

The nature of chemotherapy drugs (cancer chemotherapeutic drugs, antineoplastic agents, or cytotoxic drugs) makes them harmful to healthy cells and tissues as well as to cancerous cells. For cancer patients with a life-threatening disease, treatment with these agents can be beneficial. However, for researchers and workers who are exposed to chemotherapy drugs as part of their work, precautions must be taken to eliminate or reduce the potential for exposure as much as possible. Chronic effects that have been identified in patients given these drugs include, cancer, infertility, miscarriage, birth defects, damage to the liver and kidney, bone marrow, the lungs and heart, and hearing impairment. Acute effects may include headache, nausea, irritation of eyes, skin and mucous membranes, allergic reactions, and skin rash. Employees inadvertently exposed may have similar effects. The risk varies with the specific drug and its concentration, and with the frequency and duration of exposure. Other hazardous drugs may produce comparable effects.

In a research laboratory setting, researchers may be exposed to chemotherapy or other hazardous drugs by inhalation of the agent powder or the aerosol produced during preparation, administration, or cleanup activities. Skin exposure with agents may occur during preparation or administration of the agent, contact with contaminated work surfaces, clothing, and equipment, or by needle-stick incidents. Exposure risks can be greatly reduced by: (1) making sure that engineering controls such as fume hoods, exhausted biological safety cabinets (BSC) and other exhausted enclosures are used, and (2) using proper procedures and protective equipment for handling chemotherapy and other hazardous drugs.

Principal Investigators (PIs) are required to assess the exposure hazards of their work with chemotherapy and other hazardous drugs, to determine the appropriate precautions and controls to be taken. The assessment includes, at a minimum, the types, forms and volumes of hazardous drugs used, the procedures performed, engineering controls, personal protective equipment (PPE), decontamination and cleaning procedures, spill response, waste handling and emergency procedures in case of possible exposure or other emergency. EHS will assist PIs as needed in their exposure hazard assessment. PIs must provide lab personnel laboratory-specific chemical training, for the specific agents they are working with. The hazardous chemical training must include, but is not limited to, the health and physical hazards of the agents, signs and symptoms associated with exposure, appropriate work practices, PPE, work technique and emergency procedures in case of spill or possible exposure. Review of the safety data sheet/material safety data sheet (SDS/MSDS) information is required and practice with less hazardous materials is recommended prior to work with the PHS agents.

“Chemotherapy drugs” are also referred to in this document as antineoplastic agents, chemotherapeutic drugs, chemo, and agents.

## **Purpose and Scope**

This guideline presents general information on how to handle Chemotherapy and Other Hazardous Drugs safely. All UH Laboratory Personnel who work in labs containing Chemotherapy and Other Hazardous Drugs must familiarize themselves with this document. A copy of the signature page, the last page of this document, must be kept by the Principal Investigator (PI) and/or Designee acknowledging that Laboratory Personnel have read the document and are aware of the unique dangers and precautions that must be taken when handling Chemotherapy and Other Hazardous Drugs.

**Overview of Hazards**

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) designates Chemotherapy and Other Hazardous Drugswith carcinogenicity by one or more of the following H codes:

* **H350** May cause cancer
* **H351** Suspected of causing cancer

Select carcinogens that include the following GHS classifications are considered as **Particularly Hazardous Substances (PHS)**.

Any substance that meets at least one of the following criteria:

* GHS Carcinogenicity Category 1A or 1B or;
* Regulated by OSHA as a carcinogen or;
* Listed under the category, "known to be carcinogens," in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) or;
* Listed under Group 1 ("carcinogenic to humans") by the International Agency for Research on Cancer (IARC) Monographs or;
* Listed in either Group 2A or 2B by IARC or under the category "reasonably anticipated to be carcinogens" by NTP, and causes statistically significant tumor incidence in experimental animals in accordance with any of the following criteria:
  1. After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m3

or

* 1. After repeated skin application of less than 300 mg/kg of body weight, per week or
  2. After oral dosages of less than 50 mg/kg of body weight per day

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) designates Chemotherapy and Other Hazardous Drugswith reproductive toxicity by one or more of the following H codes:

* **H340** May cause genetic defects
* **H341** Suspected of causing genetic defects
* **H360** May damage fertility or the unborn child
* **H361** Suspected of damaging fertility or the unborn child
* **H362** May cause harm to breast-fed children

Reproductive toxins that include the following GHS classifications are considered as Particularly Hazardous Substances (PHS).

* GHS Category 1A or 1B for reproductive toxicity

It is the Principal Investigator’s responsibility to ensure lab/activity-specific procedures and/or processes are taken into account when using the Chemical Class SOP. Please, review the SDS of any chemical before use.

## **Hazard Controls**

The following controls should be considered BEFORE working with Chemotherapy and Other Hazardous Drugs:

# Plan and Preparation for Use

* + Develop a written laboratory SOP specific to the chemotherapy or hazardous drugs being used.
  + Provide and document hazardous chemical training and specific agent SOP training, to personnel working with chemotherapy/hazardous drugs and all others authorized or required to be in the laboratory or shared space during work with the agent(s). A sample training documentation form is on the last page of the SOP template.
  + Ensure the SDS of the agent is available to staff at all times.
  + Enter the agent(s) into the laboratory Chemical Inventory List.
  + Determine any special procedures and precautions needed for the agent(s) used. This may include precautions for work with volatile chemotherapy drugs. See ENGINEERING CONTROLS Section in this Guideline.
  + Select appropriate chemotherapy gloves that will be used with the specific agent(s). Determine any special procedures and precautions needed if working with agents that may readily permeate chemotherapy gloves. See PERSONAL PROTECTIVE EQUIPMENT Section in this Guideline.
  + Designate a laboratory workspace with a certified glove box, exhausted BSC or fume hood, or other approved containment for agent work. The laboratory facilities required may vary, based on the level of hazard posed by the specific agent and the procedures being performed.
  + Store chemotherapy and other hazardous drugs in an area labeled chemotherapeutic or hazardous drugs.
  + Purchase the smallest amount of agent feasible for the procedure, or purchase the agent in the premixed concentration required for use. If possible, do not work with chemotherapy/hazardous drugs in solid or powder form. If it is necessary to purchase it in powder or solid form, purchase pre-diluted or pre-weighed agent in the least quantity needed to perform the work.
  + Ensure supplies are available for agent waste handling and disposal, and for routine cleaning of surfaces.
  + Ensure spill cleanup supplies are appropriate for the specific agent(s), maintained in a clearly marked spill cleanup kit and readily available in the laboratory.

# Engineering Controls

* + Prepare agents in a BSC, fume hood, glove box or other approved containment which does not exhaust into the room. Do not use laminar flow hoods or cabinets for agent work. Consider the properties of the specific agent and procedures when selecting a containment device. Working with intact tablets or capsules is not required to be done in exhausted containment. However, if crushing tablets, perform work in exhausted containment.
  + Do not use a ventilated cabinet that recirculates air within the cabinet when working with volatile agents. Most agents are not volatile, but some are. The following agents have been reported in publications to be volatile under certain conditions:

Carmustine Ifosfamide

Cyclophosphamide Mechlorethamine (Mustargen)

Doxorubicin ThioTEPA

* + Ensure Safety Showers/Eye Washes (SS/EW) are nearby and in working order.

# Handling and Storage Precautions

SAFE USE PRACTICES (RECONSTITUTION & DILUTION)

* All agent preparation must be performed in a chemical fume hood, glove box, exhausted BSC or other approved containment.
* Perform preparations over plastic backed absorbent pads. Dispose of pads as chemotherapy waste after completion of tasks or immediately upon contamination.
* Transport agents only in secondary containment which is, labeled, leak/spill-proof, and non-breakable.
* Decontaminate surfaces by cleaning with detergent and water followed by thorough rinsing. The use of detergent is recommended because there is no single accepted method of chemical deactivation for all agents involved. 70% isopropyl alcohol may be used with the cleaner if the contamination is soluble only in alcohol.
* Clean work surfaces before and after each activity and at the end of the work shift. Establish periodic cleaning routines for all work surfaces and equipment that may become contaminated.
* Decontaminate the chemical fume hood, BSC or glove box, and other work surfaces before and after each task and at the end of the work shift.
* Decontaminate containers before they are removed from the fume hood, BSC, or glove box. Also decontaminate the exterior of the closed primary container and place it in a clean secondary container.
* Dispose of unused excess chemotherapy and hazardous drug in the proper waste container. See WASTE DISPOSAL Section in this Guideline. Submit request to EHS for waste pickup.
* Place all visibly contaminated disposable items, such as gloves, paper towels and absorbent pads, in a plastic bag while in the fume hood, BSC or other containment and then in the proper waste container. See WASTE DISPOSAL Section in this Guideline.
* When work is completed, remove gloves and wash hands with soap and water.

**PRECAUTIONS FOR AGENT ADMINISTRATION**

* Wear double gloves for all procedures involving administration of chemotherapy/hazardous drugs.
* Change gloves every 30 to 60 minutes or after each use, or immediately when torn, punctured, or contaminated.
* Wear protective gown with solid front. Change gowns every two to three hours or when contaminated.
* Utilize safe sharps procedures. Dispose of sharps in a yellow sharps container specific for chemotherapy or other hazardous drugs. The sharps container must be in the immediate vicinity of work and labeled as holding chemotherapy/hazardous drug items.
* In animal studies, restrain or anesthetize animals when possible before injecting chemotherapy/hazardous drugs.

# Personal Protective Equipment (PPE)

* + Wear disposable, powder-free chemotherapy gloves that are approved by the Food and Drug Administration (FDA) and have been tested for use with chemotherapy drugs. These gloves are also recommended for handling other hazardous drugs. Always use powder-free gloves. Glove powder contaminated with chemotherapy drugs can become airborne and may be subsequently inhaled. Also, powder residue will attach to supplies, work surfaces and the skin.
  + Wear two pairs of gloves for most activities working with hazardous drugs. A single pair of gloves should provide adequate protection when working with intact tablets or capsules.
  + When double gloving, place one glove under the gown cuff and one over. Change the outer glove immediately if contaminated. Change both gloves if an outer glove is torn, punctured, or overtly contaminated with the agent (as in a spill) and every hour during preparation. If there is a risk of permeation, change gloves every 30 minutes or less.
  + Other glove notes:
    - * Gloves must provide protection from any solvents used, in addition to the chemo/hazardous drug.
      * The lab should have several sizes of gloves available for best fit – not too tight to impede movement and not too loose to decrease dexterity.
    - Wear a protective gown or equivalent that is lint-free, non-permeable with a solid front, long sleeves, and tight-fitting elastic or knit cuffs. Wear long pants or long skirt, and fully closed shoes.
    - Wear safety glasses with side shields or goggles.
    - Wear face protection, such as a face shield, when splash/splatter is possible.
    - Disposing of contaminated PPE is described in the WASTE DISPOSAL Section in this Guideline.
    - Respiratory protection may be required if an airborne hazard is present, when work is done outside of approved containment or when cleaning up a spill. Surgical masks or dust masks do not provide adequate protection. For further information see EHS Respiratory Protection Program or contact the EHS occupational specialist at 713-743-5858.

# Waste Disposal

Manage chemotherapy and hazardous drug waste separately from other waste streams such as biohazardous waste. Never autoclave chemotherapy/hazardous drug waste since it can produce hazardous chemical vapors or aerosols, and autoclaving conditions may not be sufficient to deactivate chemotherapy/hazardous drug waste.

* Avoid having excess unused solution.
* Waste bottles of concentrated or dilute solutions of the chemical must be collected by EHS for proper disposal.
* Label with EHS “Unwanted Material” Waste label that states the name/type of chemical waste and PI name.
* Unwanted Material waste labels are available from the EHS website at the following link. <https://uh.edu/ehs/waste-management/labels/>
* Submit a waste request at the following link. <https://uh.edu/ehs/waste-management/>
* Grossly contaminated gloves, absorbent pads, and spill cleanup materials are hazardous waste and will be accumulated in a plastic bag and labeled as EHS Unwanted Material.

# Exposure Procedures

*Provide First Aid Immediately*

* Inhalation: Move out of contaminated area. Get medical help.
* Sharps injury (needle stick and subcutaneous exposure): Scrub exposed area thoroughly for 15 minutes using warm water and sudsing soap.
* Skin exposure: Use the nearest safety shower for 15 minutes. Stay under the shower and remove clothing. Use a clean lab coat or spare clothing for cover-up.
* Eye exposure: Use the eye wash for 15 minutes while holding eyelids open.

*Get Help*

1. Call 911 on campus phone or 713-743-3333 or go to nearest Emergency Department to seek medical attention. Give details of exposure:

* Chemical name and concentration
* Amount of exposure
* Route of exposure (skin, eyes, respiratory)
* Time since exposure

1. Bring the SDS and SOP of the chemical to the Emergency Department.
2. Notify your supervisor as soon as possible for assistance.
3. Secure area before leaving. Lock doors and post signs to indicate spill if needed.

*Report Incident to Environmental Health and Safety*

1. Notify EHS immediately after providing first aid and/or getting help.
   1. During business hours (M-F/8-5) call 713-743-5858.
   2. After hours call 911 on campus phone or 713-743-3333 to be routed to EHS staff on call.
2. For all incidents and near misses, the involved person or supervisor should report to EHS at 713-743-5858.

# Spills and Emergency Procedures

Chemotherapy and other hazardous drug spills must be cleaned up as soon as possible by properly protected and trained personnel. All other persons must leave the area. Spill response procedures must be developed based on the hazardous agent present and potential spill or release conditions. Clean spills using contents of the chemotherapy/hazardous drug spill kit. Do not attempt to clean up any spill if not properly trained or without proper PPE. Evacuate the area and call 911 from campus line or UHPD 713-743-3333 for help. If the spill is out of control or if a person is injured, exposed, or suspected of being exposed, call 911 from campus line or UHPD 713-743-3333. See EXPOSURE PROCEDURES in this Guideline.

**Spills inside a BSC, fume hood, glove box or approved containment**

1. Personnel must wear a lab coat, safety goggles, two pairs of disposable chemotherapy gloves (or one pair of non-disposable nitrile or butyl gloves (minimum 10 mil thickness) or Silver Shield gloves), when cleaning up spills.
2. Liquids: Wipe up spilled liquids with absorbent pads.
3. Powders: Gently cover powder spill with wetted paper towels or absorbent pads to avoid raising dust and then wipe up.
4. Clean the spill area thoroughly with detergent solution followed by clean water.
5. If spill is extensive within the containment, clean all interior surfaces after completion of the spill cleanup.
6. Double bag all waste in plastic bags labeled with the contents. Submit request to EHS for waste pickup.

**Small Spills (less than 5 ml) outside of containment**

1. Personnel must wear a lab coat and protective gown with a solid front, safety goggles, shoe covers as needed and two pairs of disposable chemotherapy gloves (or one pair of non-disposable nitrile or butyl gloves (minimum 10 mil thickness) or Silver Shield gloves), when cleaning up spills.
2. Wear an N95 or equivalent respirator for either powder or liquid spills where airborne powder or aerosol is or has been generated. Spills of volatile agents require the use of an appropriate combination particulate/chemical cartridge-type respirator. Most chemotherapy drugs are not volatile, but some are. Assess the volatility of the agent. Please contact the EHS Respiratory Protection Program administrator to discuss respiratory protection or to enroll in the program. Program enrollment includes medical evaluation, training, and fit testing for an appropriate respirator. For information see EHS Respiratory Protection Program or call EHS at 713-743-5858.
3. Liquids: Wipe up spilled liquids with absorbent pads.
4. Powders: Gently cover powder spill with wetted paper towels or absorbent pads to avoid raising dust and then wipe up.
5. Clean the spill area thoroughly with detergent solution followed by clean water.
6. Double bag all waste in plastic bags labeled with the contents. Submit request to EHS for waste pickup.

**Large spills (greater than 5 ml) outside of containment**

1. Evacuate all personnel from the laboratory and restrict access.
2. As soon as possible report the spill by notifying EHS (during business hours (M-F/8-5) 713-743-5858, outside business hours call 911 from campus line or UHPD 713-743-3333); explain that a spill has occurred, and that you need help managing the spill. Notify supervisor.
3. Be prepared to provide the following information:

• Name and phone number of a knowledgeable person that can be contacted

• Name of agent spilled, concentration and amount spilled, liquid or solid type spill

• Number of injured, if any

• Location of spill

1. If staff are trained, equipped with the proper PPE and are comfortable with cleaning up the spill, they may proceed to clean it up. Personnel must wear a lab coat and protective gown with solid front, safety goggles, shoe covers as needed, and two pairs of disposable chemotherapy gloves (or one pair of non-disposable nitrile or butyl gloves (minimum 10 mil thickness) or Silver Shield gloves), when cleaning up spills.
2. Wear a N95 or equivalent respirator when cleaning large spills. Spills of volatile agents require the use of an appropriate combination particulate/chemical cartridge-type respirator. Most chemotherapy agents are not volatile, but some are. Assess the volatility of the agent. Please contact EHS to discuss respiratory protection or to enroll in the program. Program enrollment includes medical evaluation, training, and fit testing for an appropriate respirator. For information call EHS at 713-743-5858.
3. Liquids: Wipe up spilled liquids with absorbent pads.
4. Powders: Gently cover powder spill with wetted paper towels or absorbent pads to avoid raising dust and then wipe up.
5. Clean the spill area thoroughly with detergent solution followed by clean water.
6. Double bag all waste in plastic bags labeled with the contents. Submit request to EHS for waste pickup.

Any spill incident requires the involved person or supervisor to complete and submit the Injury Forms within 24 hours (8 hours if serious injury or hospitalization) to Risk Management.

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| **Chemical Class: Chemotherapy and Other Hazardous Drugs – Chemical Name**  **STANDARD OPERATING PROCEDURES**  **Type of SOP: Hazardous Class Hazardous Chemical Process**  According to the Safety Data Sheets (SDS) for Chemical Name, special precautions must be taken when working with these chemicals. This Standard Operating Procedure (SOP) briefly describes the use of equipment and supplies maintained in the lab/facility, procedures that must be followed, and the responsibilities of personnel when working in these labs/facilities. The PI or the designee should **amend this SOP template by entering text in the highlighted yellow area to include specifics for your lab/facility. Also, add *NA* if there is no additional lab-specific information for the Section. Users shall** **not** conduct experiments, even pilot studies, which are not described in this approved SOP. It is essential that all personnel follow the appropriate procedures outlined in this SOP. **Please provide the SDS associated with these chemicals to all lab personnel who may be working with them.** |
| **PI Information**   |  |  |  |  | | --- | --- | --- | --- | | PI’s Name: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | PeopleSoft ID: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Department: | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Building/Room# | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **1. PI Responsibilities** |
| * Perform hazard assessments, develop/approve SOPs for the hazardous chemicals and procedures; * Provide laboratory-specific training to laboratory personnel on the use of hazardous chemicals and the procedures described in this SOP and retain training records and all documentation; * Implement and enforce rules and standards concerning health and safety for laboratories; * Ensure compliance of laboratory personnel with this SOP; * Ensure the availability and enforce the use of: appropriate Personal Protective Equipment, safety equipment, emergency equipment, Safety Data Sheets (SDSs), and relevant reference materials; * Remain cognizant of chemicals stored and used in laboratories and their associated hazards; * Dispose of chemicals no longer needed, by submitting an on-line waste pick up request to Environmental Health and Safety; * Provide SDS and Laboratory-specific SOP via email to [ehs@uh.edu](mailto:ehs@uh.edu) upon request. |
| **2. Chemical Information** |
| 1. List the chemical names and CAS numbers of Chemotherapy and Other Hazardous Drugs in your lab:  |  |  | | --- | --- | | **Chemical Names** | **CAS Numbers** | |  |  | |  |  | |  |  | |  |  | |

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| **3. Engineering Controls** |
| * Please review the Section [”Engineering Controls”](#_Engineering_Controls) in the UH Guideline for Chemotherapy and Other Hazardous Drugs.   Please list the locations of the emergency eye wash, safety shower and fume hood below.   |  |  | | --- | --- | | Type | Location (Building and Room Numbers) | | Fume Hood(s) |  | | Safety Shower(s) |  | | Glove Box (if applicable) |  | | Eyewash Station(s) |  | | Fire Extinguisher(s) |  | |

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| **4. Personal Protective Equipment (PPE)** |
| * Please review the Section [”PPE”](#_Personal_Protective_Equipment) in the UH Guideline for Chemotherapy and Other Hazardous Drugs.   **More lab-specific information regarding PPE to train users:** |

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| **5. & 6. Work Practice Controls (Preparation, Handling, Storage and Transport)** |
| * Please review the Section [“Plan and Preparation for Use” and “Handling & Storage Precautions](#_Handling_and_Storage)” in the UH Guideline for Chemotherapy and Other Hazardous Drugs.   **More lab-specific information regarding work practice to train users:** |

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| **7. Spill and Accident Procedures**  **[Specific cleaning and waste disposal procedures must be determined.]** |
| * Please review the Section[*“Spills & Emergency Procedures”*](#_Spills_and_Emergency)in the UH Guideline for Chemotherapy and Other Hazardous Drugs.   **More lab-specific information regarding spills and emergency procedures to train users:** |

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| **8. Exposure Procedures in Case of Emergency** |
| * Please review the Section [“*Exposure Procedures”*](#_Exposure_Procedures)in the UH Guideline for Chemotherapy and Other Hazardous Drugs.   **More lab-specific information regarding exposure procedures to train users:** |

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| **9. Waste Disposal** |
| * Please review the Section *“*[*Waste Disposal*](#_Waste_Disposal)*”* in the UH Guideline for Chemotherapy and Other Hazardous Drugs.   **More lab-specific information regarding waste disposal to train users:** |

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| **10. Lab-specific Protocol/Procedure** |
| This SOP must be customized for each lab using Chemotherapy and Other Hazardous Drugs. Use this section to describe or attach what is being done with the chemicals, including specific laboratory procedures and quantities used. |

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| --- | --- | --- |
| Particularly hazardous  substance involved? | X YES: | Blocks #11 to #13 are Mandatory |
| NO: | Blocks #11 to #13 are Optional. |
|  | | |
| **11. Approval Required** | | |
| All staff working with Chemotherapy and Other Hazardous Drugs must be trained on this SOP prior to starting work. They must also be trained on the Chemotherapy and Other Hazardous Drugs SDS, and it must be readily available in the laboratory. All training must be documented and maintained by the PI or their designee. | | |
| **12. Decontamination** | | |
| Please indicate the decontamination methods. | | |
| **13. Designated Area** | | |
| Please indicate the designated area for storing and handling the chemicals in this SOP. | | |
| PI’s Name: | Date: | |
| Signature: | | |

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| --- | --- | --- | --- | --- | --- |
| **[Laboratory Name]**  **Documentation of Training\***  **Standard Operating Procedure for Chemotherapy and Other Hazardous Drugs** | | | | | |
| *“I have read and understand this SOP. By signing below, I agree to fully adhere to its requirements.”* | | | | | |
| Last | First | PSID | Email | Signature | Date |
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\* This document, including the signature page with signatures by all involved personnel, shall be maintained by the Principal Investigator or Designee, and be submitted to EHS either electronically at ehs@uh.edu or hard copy upon request.