Guideline for cytotoxic compounds and related waste

1. Overview
The aim of this guideline is to create an awareness of the hazards associated with handling cytotoxic compounds and related waste and to discuss how their exposure can be safely managed at the University. This guideline has been approved by the University OH&S Council and should be read in conjunction with the Workplace Health and Safety Queensland (WHSQ) Guide for handling cytotoxic drugs and related waste, Australian Standards for Laboratories (AS2243:1-10) and other documents identified within these guidelines.

2. Requirements for working with cytotoxic compounds
2.1. Documentation, The following documents have been referenced in the compilation of this guideline:-


2.2. Risk Assessment
The University Risk Assessment Database shall be used to conduct a risk assessment of all cytotoxic compounds and procedures that use cytotoxic compounds. As a minimum requirement, the risk assessment shall consider:

- The acute toxic properties
- The chronic carcinogenic properties
- The allergenic and sensitisation properties
- The teratogenic and mutagenic properties
- The potential routes of exposure
- The duration of exposure
- The quantities handled and the specific process

2.3. Standard Operating Procedures (from the WHSQ guide)
A standard operating procedure (SOP) is a set of instructions or steps to be followed to complete a job safely and in accordance with legal, operational and company or institutional requirements. SOPs should be written for any process an individual or group performs.

The WHSQ guide provides a range of SOPs on a number of issues relating to the use and handling of cytotoxic drugs and related waste. It is intended that users of the guide consider the information provided, and select or adapt the procedures or control measures to develop their own SOPs, which are specific to the particular workplace or workplace activity. SOPs are provided at the end of each chapter, and a full list of all general and chapter specific SOPs appears in appendix 10.

Effective use of SOPs involve:
- development of safe work procedures and SOPs in relation to implemented control measures.
- management, supervision and worker responsibilities may need to be clearly defined in the work procedures
• communication to inform workers and others about the procedures to be implemented. It is important to clearly communicate the reasons for any changes
• providing training and instruction for workers, supervisors and others in relation to the procedures
• providing adequate supervision to verify that SOPs are being used correctly
• maintenance of SOPs to ensure their ongoing effectiveness.

2.4. Information, Instruction and Training
The University of Queensland must provide information, instruction and training to all staff and students who handle cytotoxic compounds and related waste. The training should be undertaken:
• At induction
• Prior to commencement of duties where cytotoxic compounds or related waste are involved
• When new equipment or substances are introduced, or procedures change
• On an ongoing basis with two yearly review
Only staff and students who have received appropriate training, and have attained the required level of proficiency will be permitted to handle cytotoxic compounds and related waste.

2.5. Planning parenthood and pregnancy
Where a workplace has staff or students who could become pregnant the risk assessment (as per 2.2 above) shall consider the teratogenic hazard of cytotoxic compounds. Staff or students who are pregnant, breast-feeding or planning parenthood and are involved in the preparation or administration of cytotoxic compounds and related waste must be informed of the reproduction risks and possible effects of foetal development. Staff or students required to perform these duties may elect to not do so. In such cases appropriate and suitable alternative duties must be provided.
2.6. Spill Management
Spills of cytotoxic compounds must be dealt with immediately as they present a high risk of exposure. Spills may occur wherever cytotoxic compounds are handled, stored, transported or disposed. People in the immediate vicinity of a spill should be alerted immediately and told to stay clear. Local spill procedures must be developed for all cytotoxic compounds. If the spill is large or uncontained call UQ Security immediately on 336 53333.

2.7. Use of Laminar flow cytotoxic drug safety cabinets (cytotoxic safety cabinet)
Where there is a possibility of generating aerosols, airborne particles or vapours from cytotoxic compounds a cytotoxic safety cabinet shall be used. A class II bio-safety cabinet is not a suitable alternative to a cytotoxic safety cabinet. This is to ensure the protection of all personnel, including P&F staff, cleaning staff and external contractors. Where the risk assessment indicates a very low likelihood of any aerosol, airborne particle or vapour being liberated a cytotoxic safety cabinet is not required. Examples of where a cytotoxic safety cabinet is not required include; subcutaneous injections into human patients (e.g. University Health Service – arthritis treatment), subcutaneous injections into animals (e.g. SVS small animal clinic – chemotherapy treatment for cats and dogs).

All areas where cytotoxic compounds and related waste are in use shall be clearly labelled and exclusively used for this purpose. Laboratory benches, Class II bio-safety cabinets, Laminar flow cabinets and preparation rooms utilised for very low risk compounds shall not be used for any other purpose. Laboratory managers should use purple signage and placarding to be consistent with waste branding.

Where cytotoxic safety cabinets are used for low OH&S risk activities and not intended for use in humans, they shall be located in a room that is exclusively used for work on cytotoxic compounds. Where cytotoxic drugs are being
manufactured or manipulated for use in humans a cytotoxic safety cabinet shall be used. This cabinet shall be located in Class 350 cleanroom in accordance with Australian Standard 2639 – 1994, Laminar flow cytotoxic drug safety cabinets – Installation and use. As above these facilities shall be exclusively used for cytotoxic compounds.

2.8. Waste
The University of Queensland Environmental Management System (EMS) shall be followed for all cytotoxic waste. Information is available from [http://www.pf.uq.edu.au/ems.html](http://www.pf.uq.edu.au/ems.html). All cytotoxic waste streams have purple branding and must only be handled by trained competent persons.

2.9 Additional information

3. Responsibilities
3.1. Supervisor
The supervisor has responsibility for overseeing the health and safety of people in the workplace by ensuring that health and safety information is conveyed and that procedures for safe usage of cytotoxic compounds are in place. The responsibilities for supervisors in relation to cytotoxic compounds are as follows:

- Ensure that staff and students in work areas are familiar with and follow safe working procedures when using cytotoxics;
- Ensure protective equipment is available and functional;
- Identify cytotoxic compounds on purchase requisitions;
- Maintain an inventory of all carcinogens in the work area and ensure MSDS’s are available;
- Review risk assessments to determine whether workers are following procedures and recommended work practices;
• Ensure information on cytotoxic and carcinogen usage is provided to all users via information, training and supervision.

3.2. Individual User
Individual users of cytotoxic compounds are required to comply with occupational health and safety legislation and ensure that their own health and safety and others is not placed at risk. The following responsibilities are inherent requirements of working with cytotoxic compounds:
• Conduct a risk assessment of the risks associated with the use of the cytotoxic compounds with consideration given to the acute, chronic, sensitisation, mutagenic and teratogenic properties, it’s physical and chemical properties, potential route(s) of exposure, duration of exposure, quantities handled and the specific process involved;
• Prior to commencing work with the compound; plan activities, including risk assessment, signage, waste disposal, storage, decontamination;
• Attend required health and safety training;
• Participate in medical surveillance when required;
• Use protective equipment where risk assessment requires;
• Report any occupational health and safety problems to the supervisor or Occupational Health and Safety Unit.