

Working Safely with Cytotoxic Compounds Guideline

Section 1 - Purpose and Objectives

(1) The aim of this Guideline is to provide information on the safe use of cytotoxic drugs at The University of Queensland (UQ).

Section 2 - Definitions, Terms, Acronyms

Term/Acronym	Definition
SDS	Safety Data Sheet
SOP	Standard Operating Procedures
PPE	Personal Protective Equipment

Section 3 - Guideline Scope/Coverage

(2) This Guideline applies to all University workers and students who use, store, handle, transport or dispose of cytotoxic compounds.

Section 4 - Guideline Statement

(3) Cytotoxic drugs are intended primarily for the treatment of cancer. They are known to be highly toxic to cells, principally through their action on cell reproduction. Many have proved to be carcinogens, mutagens or teratogens.

(4) These compounds may be restricted carcinogens (schedule 10) [Work Health and Safety Regulation 2011](#) and some will require health monitoring. Further information can be found in the Workplace Health and Safety Queensland [Guide for Handling Cytotoxic Drugs and Related Waste](#).

(5) Exposure standards for acceptable levels of exposure of workers do not exist for pharmaceutical products as they do for other hazardous substances. Therefore, control measures must be implemented to reduce exposure to levels 'as low as reasonably practicable'.

(6) The purpose of this Guideline is to give practical advice to prevent or minimise occupational exposure to cytotoxic drugs and related waste.

Section 5 - Safe Work Practices

Planning Parenthood and Pregnancy

(7) UQ workers or students who could become pregnant must be made aware of the potential teratogenic effect of cytotoxic compounds they are expected to work with (as described in the SDS).

(8) Workers or students who are pregnant, breast-feeding or planning parenthood and are involved in the preparation or administration of cytotoxic compounds must be informed of the reproductive risks and possible effects on foetal development. Staff or students required to perform these duties may elect to not do so and in such cases appropriate and suitable alternative duties must be provided.

Responsibilities

Supervisor

(9) The Supervisor has responsibility for overseeing the health and safety of workers and students in the workplace by ensuring that health and safety information is conveyed and that procedures for safe use of cytotoxic compounds are in place. The responsibilities for Supervisors in relation to cytotoxic compounds are as follows:

- a. Ensure that staff and students using cytotoxic compounds are familiar with and follow safe working procedures when using cytotoxic chemicals.
- b. Ensure work with cytotoxic compounds is carried out in a dedicated room (that is not used for any other purpose). These locations should be documented in case of contamination.
- c. Ensure safety equipment and engineering controls are available and functioning and that appropriate, clean PPE is available.
- d. Identify cytotoxic compounds on purchase requisitions.
- e. Maintain an inventory of all carcinogens in the work area and ensure SDSs are available.
- f. Review risk assessments to determine whether workers are following procedures and recommended work practices.
- g. Ensure information on cytotoxic and carcinogen usage is provided to all users via information, instruction and supervision.

(10) Training, information and instruction must be provided:

- a. At induction.
- b. Prior to commencement of duties, where cytotoxic compounds or related waste are handled.
- c. When new equipment or substances are introduced to the facility, or procedures change.
- d. On an ongoing basis with two yearly review.

(11) 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.

Workers and Students

(12) Workers and students must 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:

- a. Conduct a risk assessment for use of cytotoxic compounds.
- b. Prior to commencing work with cytotoxic compounds, plan activities, including signage, waste disposal, storage, decontamination, spill cleanup procedures.
- c. Attend required health and safety training.
- d. Participate in health surveillance, when required.
- e. Ensure work with cytotoxic compounds is undertaken in the designated room/s, with clear signage, using a dedicated cytotoxic safety cabinet.
- f. Use personal protective equipment correctly, as directed by Supervisor, Facility Manager, Safety Coordinator,

SOP and/or risk assessment.

- g. Report any occupational health and safety problems to the Supervisor, Facility Manager, Safety Coordinator, or the Health, Safety and Wellness Division.
- h. Report all incidents via the online [UQ OHS Incident Reporting Database](#).

Cytotoxic Drug Safety Cabinets

(13) Where there is a possibility of generating aerosols, airborne particles or vapours from cytotoxic compounds, a dedicated cytotoxic drug safety cabinet (CDSC) must be used that meets the requirements of [AS 2252.5:2017 Controlled Environments - Cytotoxic Drug Safety Cabinets \(CDSC\) - Design, Construction, Installation, Testing and Use](#) (available via [Standards Databases through UQ Library](#)).

Note: a class II biological safety cabinet is not a suitable alternative to a CDSC.

(14) Where the risk assessment indicates a very low likelihood of any aerosol, airborne particle or vapour being liberated a CDSC may not be required. Examples of where a CDSC is not required include: subcutaneous injections into human patients; subcutaneous injections into animals.

(15) All areas where cytotoxic compounds and related waste are in use must be clearly labelled and exclusively used for this purpose. Laboratory benches, CDSC and preparation rooms must not be used for any other purpose. Laboratory managers should consider using purple signage and placarding to be consistent with waste branding.

(16) Where cytotoxic drugs are being manufactured or manipulated for use in humans, the CDSC must be located in a controlled environment complying with the relevant national regulatory authority Good Manufacturing Practice (GMP) requirements.

Risk Assessment

(17) The University Risk Management Database must be used to construct a risk assessment for cytotoxic compounds used in procedures carried out at UQ. The SDS associated with each chemical will have information which can be referred to in the risk assessment process. After a Risk Assessment has been carried out and if health monitoring is warranted, contact the Occupational Health Nurse Advisor.

(18) Risk assessment must include:

- a. The chronic carcinogenic, mutagenic and teratogenic effects.
- b. The allergenic and sensitisation properties.
- c. The potential routes of exposure.
- d. The duration of exposure.
- e. The quantities and concentrations handled in the specific process.
- f. Category of spills likely to occur (dependent on procedure, chemical type, quantity and location of the spill).
- g. Personal Protective Equipment appropriate to the chemical in use and the SOP.

Standard Operating Procedures

(19) 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. In accordance with Workplace Health and Safety Queensland, SOPs should be written for any process.

(20) Effective SOPs include:

- a. Development of safe work procedures in relation to implemented control measures.
- b. Management, supervision and worker responsibilities should be clearly defined in the work procedures.
- c. Inform workers and students about the procedures and clearly communicate the reasons for any changes.
- d. Required training and instruction for workers and students in relation to the procedures.
- e. Supervision to verify that SOPs are being used correctly.
- f. Monitoring ongoing effectiveness of procedures.

Spill Management

(21) Prior to using cytotoxic compounds, a spills category should be designated for the specific chemical (depending on how and where it is being used and the quantity being used) in case there is a spill. Local spill procedures must be developed for all cytotoxic compounds, and included in the SOP and/or risk assessment.

(22) Appropriate spill kits should be provided and be on hand in work areas where this work is done.

(23) Spills of cytotoxic compounds must be dealt with immediately as they present a high exposure risk. Spills may occur wherever cytotoxic compounds are handled, stored, transported or disposed.

(24) Workers and students in the vicinity of a spill should be alerted immediately and told to stay clear. If the spill is major or not contained, call UQ Security immediately on 336 53333 (St Lucia and Gatton) or your emergency contact coordinator.

Waste

(25) The University of Queensland [Environmental Management System](#) (EMS) must be followed for all cytotoxic waste. Information is available from the UQ [Properties and Facilities website](#).

(26) All cytotoxic waste streams have purple branding and must only be handled by trained competent persons.

Section 6 - Contacts for Additional Information

(27) Contact: Health, Safety and Wellness Division: hs@uq.edu.au

Status and Details

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