

Pharmaceutical and cytotoxic waste management

This information sheet explains the requirements in the Environmental Protection (Waste Management) Regulation 2000 for managing pharmaceutical and cytotoxic wastes.

Definitions

Cytotoxic drug means a drug known to have carcinogenic, mutagenic or teratogenic potential.

Cytotoxic waste means waste that is contaminated by a cytotoxic drug.

Pharmaceutical product means a restricted drug under the *Health (Drugs and Poisons) Regulation 1996*.

Pharmaceutical waste means waste arising from:

- pharmaceutical products that have passed their recommended shelf life;
- pharmaceutical products discarded due to off-specification batches or contaminated packaging;
- pharmaceutical products returned by patients or discarded by the public;
- pharmaceutical products no longer required by the public; and
- waste generated during the manufacture of pharmaceutical products.

Regulation means the *Environmental Protection (Waste Management) Regulation 2000*.

Related waste means waste that constitutes, or is contaminated with, chemicals, cytotoxic drugs, human body parts, pharmaceutical products or radioactive substances.

Restricted drug under the *Health Drugs and Poison Regulation 1996* means:

- an S4 substance other than solasodine; and
- alkaloids and alkaloidal glycosides of plants of the genus solanum for human therapeutic use.

Pharmaceutical waste

Pharmaceutical waste does not include empty capsules, empty bottles (containing no liquid) or uncontaminated wrapping (packaging boxes and empty blister packs) or pill cups that have been used to dispense patient medications. This waste may be disposed of as general waste. Ampoules should be disposed of as sharps waste.

High temperature incineration (ERA 76(e)) is currently the only option that can be used for the treatment of pharmaceutical waste. The incineration process renders the waste inactive and unrecognisable.

Antibiotics (i.e. S4 substances) must not be disposed to sewer or landfill to avoid unnecessary additional environmental exposure to the development of resistance forming organisms.

Intravenous solutions containing glucose, saline solutions, liquid food preparations and electrolytes may be disposed of to sewer (under a Trade Waste Agreement where applicable), with the IV bags and tubing then being able to be disposed of as general waste.

Figure 1 outlines the recommended disposal methods for pharmaceutical wastes and other products that people may take but which are not defined as pharmaceutical products under this Regulation.

Pharmaceutical waste may be stored for an extended period and removed as required, provided no environmental nuisance or risk is created through this storage.

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Cytotoxic waste

Cytotoxic drugs are substances used predominantly in chemotherapy and are capable of impairing, injuring or killing cells. They are the most hazardous of the pharmaceutical substances and must be handled using special precautions.

Cytotoxic material should not come into contact with normal living cells. Clinical manifestations of toxicity may not become evident for a period of time, as much as 10 years in some cases.

All waste generated as a result of the use of cytotoxic drugs should be handled in the same manner as the drugs themselves.

Cytotoxic waste must be disposed of into purple bags and containers, so that they are readily identifiable.

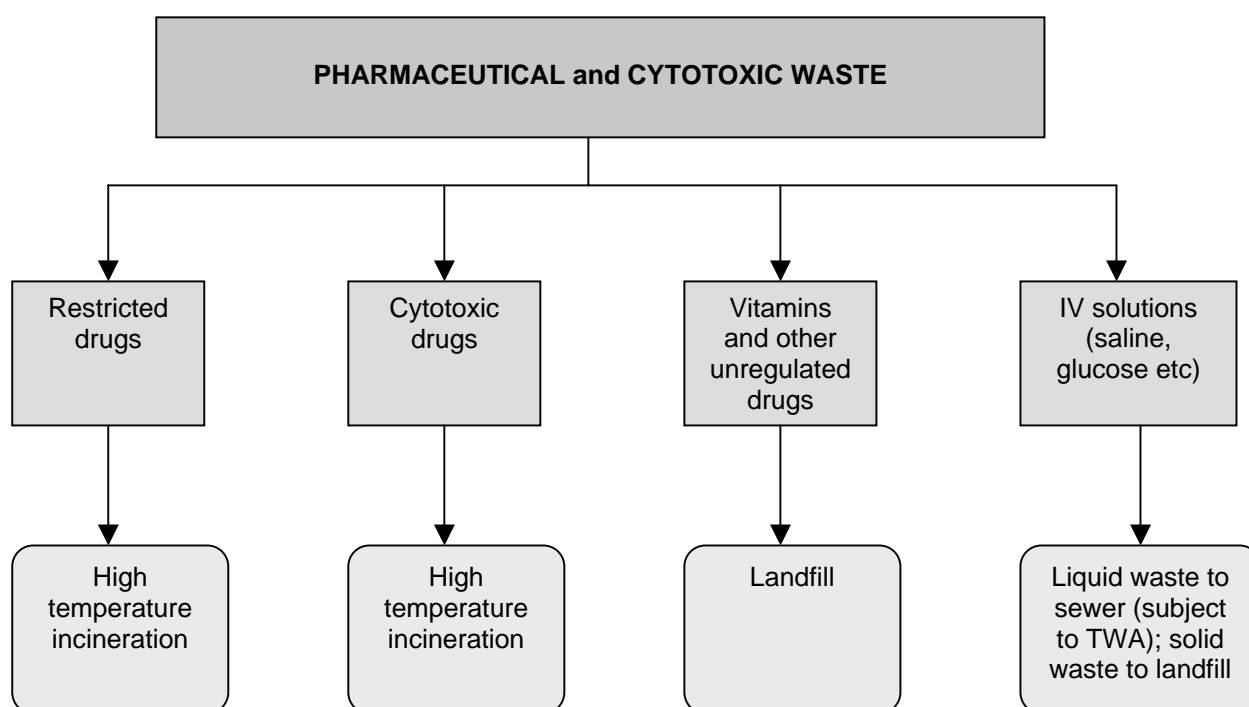
Cytotoxic waste may be stored for extended periods of time, provided all precautions are taken to ensure that there is no environmental nuisance or risk created through the storage of this material.

Unused or part-used pharmaceutical or cytotoxic drugs should be taken back to the pharmacy, hospital or veterinary clinic that dispensed the drugs if they have a “take-back” policy. Where possible, such a system should be used, to ensure that these drugs are managed appropriately to minimise risk to the environment and to human health.

Tubing and dressings generated in the home as a result of treatment with cytotoxic drugs are not clinical or related waste and therefore do not have to be treated before disposal to landfill. They may be disposed of into the household waste bin. However, they should be bagged first so that the waste is confined to this bag and cannot spread throughout the bin.

Sharps that are generated in the home must be disposed of into a rigid-walled, puncture resistant container. Containers full of sharps may also be placed into the household waste bin. However, people disposing of sharps in this manner should check with the local council, hospitals, pharmacies or home health care agencies to see whether they will “take back” containerised sharps. This system should be used in preference to disposal into the household bin.

Figure 1:
Decision flowchart for the segregation and treatment of pharmaceutical waste.



Further information

For copies of EPA supporting information, visit the website at www.epa.qld.gov.au.

Other information sheets in this series include:

- Clinical or related waste management
- Clinical or related waste storage
- Clinical or related waste treatment and disposal
- Defining clinical waste
- Determining whether waste is “clinical waste”
- Managing sanitary hygiene waste
- Waste management laws

Advice and support are available through a statewide network of regional and district EPA offices. Contact details are available on the above website and in the White Pages.

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