



Healthcare facilities like hospitals, pharmacies, doctor offices, and laboratory clinics must manage many kinds of waste unique to their industry. Chemotherapy agents are one form of waste these types of facilities can produce. The requirements and recommendations for disposal may vary because of the specific characteristics of the

## Are chemotherapy wastes hazardous wastes?

There are two types of hazardous wastes, characteristic wastes and listed wastes.

**Characteristic wastes** demonstrate at least one of the following characteristics:



- Flammability
- Corrosivity
- Reactivity
- Toxicity



To identify hazardous characteristics, it is recommended to have a hazardous waste determination performed on the waste. For more information, please see the KY Hazardous Waste Generator Handbook at <http://dca.ky.gov/DCA%20Resource%20Document%20Library/Generator%20Handbook.pdf>.

**Listed wastes** are known to be hazardous. Listed wastes include spent materials (F- and K-listed wastes) and commercial chemical products (U- and P-listed wastes). Several chemotherapy drugs are listed wastes. For the full lists, please see <https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes#listed>.

## What are the types of chemotherapy wastes?

There are two categories of chemotherapy wastes—trace chemotherapy wastes and bulk chemotherapy wastes.

**Trace chemotherapy wastes** are materials that have come into contact with or may contain only a residual amount of a chemotherapy agent. This includes empty drug bottles or IV bags, as well as gloves and other PPE (Personal Protective Equipment) used during administering chemotherapy drugs. To be considered a trace chemotherapy waste, the item or container must be "RCRA empty". Generally, to be considered RCRA empty no more than 3% by weight of the total capacity of the container can remain (40 CFR 261.7) For more information, please see our Evaluating Pharmaceutical Waste factsheet at: <http://dca.ky.gov/DCA%20Resource%20Document%20Library/PharmWasteBusinessEval.pdf>.

**Bulk chemotherapy wastes** are materials that have been saturated with chemotherapy agents or are over 3% hazardous material by weight. This might include materials used to clean spills, IV bags that are not empty, or PPE that is soaked in these drugs.



Examples of items that can be considered trace wastes.



Example of a chemotherapy agent spill kit, which can be bulk waste once used.

# Chemotherapy Waste Disposal

## Recommended Disposal Options

Potential chemotherapy wastes should first be reviewed for unused, expired, or discontinued drugs. These can often be donated to facilities participating in cancer drug takeback or reuse programs. Some manufacturers may accept unused and/or unopened chemotherapy drugs, or they may be brought to a reverse distributor. Check with your provider to see what options are available. Chemotherapy drugs that can no longer be used, returned, or donated are considered waste.

### Nonhazardous & trace chemotherapy wastes

- All “soft” chemotherapy wastes (contaminated gloves, gowns, etc.) should be placed in rigid plastic containers labeled as “trace chemotherapy waste”.
- It has become an industry standard to use bright yellow containers for this type of waste.
- For sharps contaminated with chemotherapy drugs, it is recommended to use a sharps container dedicated to chemotherapy drugs only, and handle it as infectious medical waste.
- Once properly contained, these wastes can be sent to a medical waste disposal company, or an incinerator approved to take the waste.

**Note:** Due to liability concerns relating to biohazardous or infectious characteristics, it is recommended to handle all potential trace chemotherapy wastes in this manner.



A hazardous waste container used for bulk

### Bulk chemotherapy wastes

- Bulk chemotherapy wastes containing characteristic or listed hazardous waste must be managed as hazardous waste.
- This generally means disposing in a black hazardous waste container for pickup by a hazardous waste disposal company.
- It is recommended to handle nonhazardous bulk chemotherapy waste as trace chemotherapy waste, to increase safety and decrease liability concerns.

**Note:** Be sure to separate the different wastes; if different wastes are mixed together, the whole batch must be treated as the waste that has the most stringent requirements.

The information in this document is offered only as general guidance. It is not a substitute for reading and understanding Kentucky's statutes and regulations governing the applicability and issuance of environmental permits. Specific requirements may vary with location. ECAP is not authorized to relieve any person from any requirement of federal regulations or Kentucky law through this document.

