

Current University Clinical Waste Disposal process

Sharps:

All contaminated sharps (needles, scalpel blades, small quantities of blood tubes, glass slides etc) must be placed in a yellow lidded sharps bin. This will need to be autoclaved before disposal if the sharps are contaminated with infectious agents or Genetically Modified Micro-organisms (GMMs). Otherwise, sharps bins should be labelled with lab number and department and placed directly in a 770 litre clinical waste wheelie bin.



Pipette tips:

These must not be placed directly into autoclave bags as they may break through the bag and scratch the skin or cause superficial puncture wounds. They should instead be placed in Disposafe jars or “sweetie” jars (or a suitable alternative):



These jars should then be autoclaved (if tips are contaminated with infectious or GM agents) before placing in yellow clinical waste bags for incineration.

Serological pipettes

These may be collected in autoclave bags (double-bagged where possible) that are held within a sturdy, stable container (e.g. below left), or contained within waterproof “rigid” containers (below centre). Pipettes should be autoclaved before being sent for disposal in yellow bags for incineration. Alternatively pipettes may be soaked in jars (below right), providing the pipettes are immersed, the disinfectant has been validated and the procedure is known to be effective. These should then be sent for incineration, placing them within a robust container for protection (e.g. a cardboard box) and placing them in yellow bags.



If autoclave bags should leak or split within a container, both container and contents must be autoclaved and disposed of, providing the outer container is sufficiently robust to withstand the autoclave process.

Other clinical waste items

All other clinical waste (petri dishes, gloves, other items contaminated with infectious or GM agents) must be placed in autoclave bags, autoclaved and placed in yellow bags for incineration.



Items that are visibly clinical waste, but do not contain or are not contaminated with infectious agents or GM micro-organisms may be disposed of directly into yellow bags and placed in the 770 litre yellow cart.

It is possible to obtain reusable holders for autoclave bags – these have been designed by the University of Bath and may be ordered by contacting Martin White – m.j.white@bath.ac.uk See below for information:

Holders for 41 x 61cm autoclave bags.



- Flat-pack
- Corrugated polypropylene with steel staples
- Withstands autoclaving at >130°C if contaminated (with bag in situ)
- Cut-out handholds
- Accepts standard medium autoclave bags (e.g. [Sterilin 509L/510L](#), [Guest B8617](#) and [SLS AUT1410](#))

Please note the holders are NOT supplied with lids or printed biohazard label

Cardboard boxes were OK.

For many years labs have successfully used the cardboard boxes marketed by Guest Medical. They no longer supply them.



Sterilin do supply a similar product (code S23B) for larger bags (61 x 81 cm – code 511) but the list price is nearly £100 for a pack of 10).



Wire bag holders are also available but these have some disadvantages.

For use in containment level 1 and 2 labs alternative suppliers of autoclave bag holders were sought but none could be found (you may know otherwise).

The new holder has been made to our own specification.

Rationale behind replacing the cardboard boxes;

- Biocontaminated disposable plasticware needs containment. Plastic (HDPE or PP) bags are available for this waste stream. Holders are needed to support them during filling.
- Cardboard bag holders can easily get dirty and shows signs of wear.
- Following contamination, autoclaving will make a cardboard holder unusable.
- Lab workers can't easily use the cardboard holder for carrying full bags to the autoclave.

Please note that we do not routinely autoclave full bags in these holders.

Advantages of the new design;

- Can be easily cleaned.
- Autoclavable up to at least 130°C following contamination.
- Can be used to carry full bags to the autoclave (bags can be closed and 2 holders carried in one hand).
- Inexpensive at an initial cost of £5 each for samples (excluding carriage).

Liquid waste

Liquid waste should be collected in autoclavable screw capped plastic pots (see below for examples of containers) for transfer to the autoclave, where they must be autoclaved on a liquids cycle and the contents then discharged to drain. Chemical disinfection is also permitted, providing the process is validated. Quantities of blood (more than a residue in a tube, for example) can be solidified in an appropriate container using Vernagel:



Vernagel must NOT be autoclaved, however, as it will combust under these conditions. Once solidified the container should be sealed and placed in a yellow bag for incineration.

Chemically contaminated waste plastics (e.g. from phenol chloroform extraction)

Eppendorfs contaminated as a result of phenol chloroform extraction can be disposed of by placing them in 2.5 litre lidded plastic containers (see below):



These should be classified as 'polypropylene and polystyrene tubes containing trace halogenated waste solvent'. The hazard class is H6 and the waste code is 15 02 02. These will be removed as part of the chemical waste collection by PHS. It should be noted that excess solvent should be disposed of through the "Halogenated Waste" solvent collection.

Non-infectious waste

Clean packaging, paper towels used after hand washing and other items that have **not been in contact** with infectious materials can be disposed of via the black bag route. It is important that materials that DO NOT NEED to go down the clinical waste route are segregated and dealt with appropriately.