

Waste Procedure – UCL Chemical Engineering

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1. Scope

This document details the waste streams available in the UCL Department of Chemical Engineering, what to use them for, and how to dispose of the waste. This information is summed up in a table at the end.

2. Waste Streams

2.1. General Advice

Sharps, including metal scalpels, needles, and broken glass, cannot be put into any waste receptacles with just plastic liners. These sharps can pierce the linings causing harm to lab users and cleaners. Sharp items may only be placed in:

- Sharps Bins – For contaminated sharps
- Broken Glass Bins – For non-contaminated sharps

Glass bottles must be decontaminated before putting in the glass recycling bin. This consists of rinsing out the bottle multiple times with water and removing all labels and non-recyclable parts e.g. plastic caps.

Waste receptacles for solvents must be labelled correctly. Bottles which have previously contained other chemicals must be re-labelled accordingly by striking through or removing the labels and rinsing them out three times with water before use.

Incompatible solvents must not be mixed and flammable solvents require red tin cans. Incompatible solvents must be segregated into:

- Chlorinated and non-chlorinated containers.
- Organic and inorganic containers.
- Acid and base containers.

If items cannot be bought on grants, replacements for all items can be bought using the project code for research disallowed costs (560843). A separate document has been sent to Area Safety Representatives detailing appropriate waste containers to buy.

2.2. General Waste Bin

General bins have black tops and the clear blue linings. The cleaners dispose of these daily. Waste that cannot be recycled may be used in this bin. This bin must not be used for lab contaminated waste, including gloves. Examples of types of waste to put in this bin are:

- Polystyrene
- Some plastics
- Some metals

2.3. Recycling Bin

The general recycling bins can be identified by their green tops and clear transparent bin linings. The cleaners dispose of these daily. Only non-contaminated waste that can be recycled may be put in these bins. Lab waste or any other contaminated items may not be put in these bins. Example items for this bin are:

- Cardboard
- Metal
- Certain non-flexible plastics

Note some recycling stations also have a facility for food composting. These are mostly located in kitchens.

2.4. Hazardous Waste

The Hazardous Waste Bins are used for all lab-contaminated waste. It is disposed of by lab users in the yellow bins outside the Darwin building (obtain the key from the DSO). Sharps such as needles and scalpels may not be put in this bin. Small amounts of waste solids may be put in this bin using a secondary container. For larger amounts of solids, use a hazardous waste request (see below). Examples of items to dispose in this bin are:

- Gloves
- Waste tissues
- Weighing boats

2.5. Sharps Bins

The sharps bin is a hard plastic yellow container and is used for all sharps. Other items such as tissues and gloves **must not** be put in this bin. When full the top must be fully closed, so care must be taken to not overfill. It may be disposed by lab users in the large yellow bins outside the Darwin building (obtain the key from the DSO). Examples of items to dispose of in these bins are:

- Scalpel heads
- Syringe needles
- Contaminated broken glass

2.6. Broken Glass Bins

Glass bins are white cardboard boxes and are used for non-contaminated glass broken only. Other sharps may not be put in this bin. When full the top must be fully closed, care must be taken to not overfill, and it may be disposed by lab users next to the glass recycling bin outside the Darwin building. Examples of items to dispose of in this bin are:

- Clean broken glass vials
- Clean broken glass pipettes.
- Clean glass slides

2.7. Glass Recycling Bin

The glass recycling bin is located outside the Darwin Building. It is for used for bottles and containers that are empty and clean that may be recycled. In order to recycle a bottle you must:

- Rinse out the bottle three times to remove any residue in the bottle. Fume cupboards may be used to facilitate this.
- Remove all labels.
- Remove the plastic cap or any metal parts and throw these parts in the general waste bin.

2.8. Low Risk Infected Waste Bins

These bins are used for contaminated hard waste that could pierce the linings of the hazardous waste bin. Some labs in the department use them as a replacement for the hazardous waste bin as they produce very little hazardous waste. These are disposed by lab users in the large yellow bins outside the Darwin building (obtain the key from the DSO). Example types of waste:

- Plastic pipette tips
- Gas Chromatography vials
- Centrifuge tubes

2.9. Non-flammable Solvent Waste

Solvent Waste receptacles can either be plastic containers or bottles from the lab with their labels removed and relabelled to indicate the waste they contain. Once full the contents can be collected from the lab via smalls / bulk waste collection (see below).

The waste must be segregated from incompatible waste, for example:

- Chlorinated and non-chlorinated waste.
- Organic and inorganic waste.
- Acid and base waste.

2.10. Flammable Solvent Waste

All flammable solvents must be put into these cans. The solvents must be separated in different cans if they cannot be mixed, e.g. chlorinated and non-chlorinated waste. Once full they will need to be disposed of into the waste in the red cabinet outside the Darwin building. The lab user must arrange with the DSO when to visit the red cabinet to dispose of the contents of the solvent.

The waste must be segregated from incompatible waste, for example:

- Chlorinated and non-chlorinated waste.
- Organic and inorganic waste.
- Acid and base waste.

2.11. Lab Smalls and Bulk Waste

Lab Chemicals Containers which are not empty but are no longer required may be removed from the lab by arranging with Estates' contractors to take them for disposal. A MS Excel form must be filled in detailing the chemicals to be taken, the location of the chemicals, and the Work Number. Unknown chemicals will not be taken. For a copy of the most up to date collection template form, please contact the DSO.

The [Maintenance Service Request form](#) must be used to get the Work Number. Once the form is complete, Estates should email the Work Number for the job. This email must be replied to with the MS Excel form containing the list of chemicals to be disposed of (updated with the assigned Work Number).

Note only Staff (e.g. technical staff and PDRAs) can use this form. Please ask a Technical Staff member to place the request if you are unsure on how to do it.

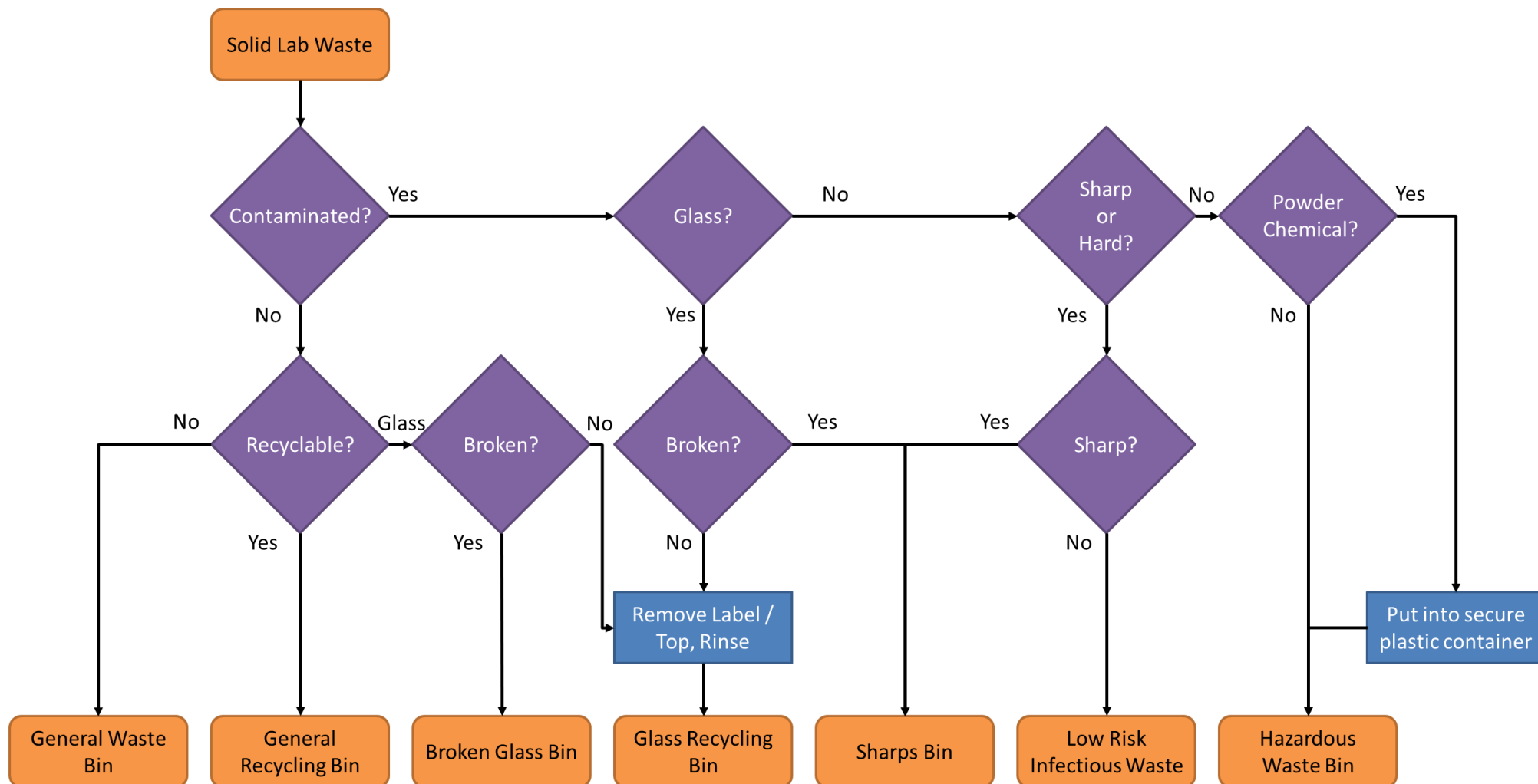
2.12. Large Waste Collection

If a large amount of non-hazardous waste is created, then a request can be made for the UCL cleaners to remove the waste. For example, if there has been an instrument delivery on a pallet, the amount of waste produced could not be put in a normal bin, and would need a designated collection.

To request a large waste collect, please use the [Maintenance Service Request form](#), specifying the location of the waste and how much waste there is. Once the work order has been confirmed, it is good practice to reply with a picture of the waste and to label the waste with the work number.





Note only Staff (e.g. technical staff and PDRAs) can use this form. Please ask a Technical Staff member to place the request if you are unsure on how to do it.

3. Flow Chart for Solid Waste







4. Tables of Waste Containers

4.1. Recycling

Waste Bin / Disposal Method	Identified By	Used for	Example
General Bins / Cleaners	Black Top Blue Linings	Non-contaminated waste: e.g. polystyrene, non-recyclable plastic and metal.	
Recycle Bins / Cleaners	Green Top Transparent Linings	Non-contaminated recyclable waste: e.g. waste paper, packaging.	
Glass Recycling Bin / Lab users in green bin outside Darwin building	Green Top Glass recycling label	Empty decontaminated bottles. Bottle must be rinsed at least three times with water and non-recyclable items removed (e.g. labels and caps).	
Broken Glass Bin / Lab users in green bin outside Darwin building	White Cardboard Box	Non-contaminated Broken Glass only. No tissues, gloves, etc.	

4.2. Contaminated Lab Waste

Waste Bin / Disposal Method	Identified By	Used for	Example
Hazardous Waste / Lab users in yellow bin outside Darwin building Key from DSO	Yellow Linings	Contaminated waste: e.g. gloves, tissues, weighing boats. Put small amounts of solids in secondary container, e.g. plastic bottle, before disposal. Large amounts of solids require a bulk waste removal.	
Sharps Bins / Lab users in yellow bin outside Darwin building Key from DSO	Hard Plastic Yellow Bin	All sharps: e.g. syringe needles, scalpel heads, contaminated broken glass.	
Low Risk Infected Waste Bin / Lab users in yellow bin outside Darwin building Key from DSO	Small Yellow Box	Hard contaminated waste: e.g. GC vials, pipette tips, centrifuge tubes.	
Solvent Waste / Lab users using the Maintenance Service Request form .	Labelled bottle or drum Segregated from incompatible waste: e.g. chlorinated and non-chlorinated, acid and base, organic and inorganic, etc.	All non-flammable liquid waste: e.g. Chloro-solvents, Hydrocarbons, etc.	
Flammable Solvent Waste / Lab users with DSO in red cabinet outside Darwin building	Red metal can Segregated from incompatible waste: e.g. chlorinated and non-chlorinated, acid and base, organic and inorganic, etc..	Flammable waste solvent: Methanol / Ethanol, Benzene, Pentane, Ethers, etc.	