

LOCAL ARRANGEMENTS FOR WASTE DISPOSAL (BEGBROKE SITE)

The Chemical Safety Advisor is your point of contact for enquiries regarding waste disposal at Begbroke. She is not based at Begbroke on a full-time basis (although she does visit the site frequently) and can be contacted by e-mail (chemicals@materials.ox.ac.uk) or by telephone (83337).

A summary of disposal routes is to be found at the back of this document (and near to the entrance/exit doors of laboratories). Under NO account leave waste of any type at Stores.

WASTE CHEMICALS

Some waste chemicals at the Begbroke site may be disposed of via the drains (the Department has a license to do this) providing they are water-soluble and are not “heavy metal” salts or organic materials, and are **well diluted**. All chemicals that cannot be disposed of in this way (and that includes most of the common solvents) have to be disposed of through the University Safety Office and its licensed Contractor. Policy Statement S5/11 states, “As producers of waste, individuals within departments have certain legal responsibilities relating to its disposal. They have a ‘Duty of Care’ to ensure that the waste is segregated at source (DO NOT MIX non-hazardous waste with hazardous waste), is properly packaged, containers are correctly labelled, and it is safe for transport”.

The Department operates a scheme for the onward disposal of all unwanted and waste chemicals at its main site.

To use this service, members of the Department should:

- 1) Ensure that wastes are packaged safely by:
 - Using suitable containers that are compatible with the waste that you put in it. **Please see guidelines below for selecting suitable containers.**
 - Ensuring the containers are not damaged and not leaking liquids or vapours.
 - Not overfilling the containers above the maximum line, or $\frac{3}{4}$ of the container if no maximum line is shown. This allows for expansion.
 - Ensure the containers’ exterior are clean and free of chemicals.
 - The containers must also be fully and correctly labelled (see S5/11). Pre-printed chemical-resistant labels are available (free of charge) from Stores.
 - No liquid wastes in containers over 10L, no solid wastes in containers over 10Kg

Any waste presented at the chemical waste store not conforming to the conditions stated above will be rejected.

Guideline for selecting suitable containers for chemical wastes:

Chemicals may be sent for disposal in their original containers.
 UN marked containers may be reused, provided they have been visually checked to ensure that there is no sign of damage, and that their materials are compatible with the chemicals you intend to put in it. Also thoroughly clean and dry the containers to ensure they do not contain residues of incompatible materials).

If you need to purchase containers for specific type of waste, or if it is absolutely necessary to collect wastes in containers of $\geq 10\text{L}$ or 10Kg capacity, please contact the Chemical Safety Advisor (chemicals@materials.ox.ac.uk) for advice to ensure they comply with UN standards. UN approved containers carry the UN mark.

- For hydrofluoric acid, use Teflon or high density polyethylene (HDPE).
DO NOT use glass, because HF attacks glass.
- For perchloric acid, use glass.
- For solvents, use HDPE (high density polyethylene).
- For aqueous acids and alkalis, HDPE are also suitable.
- For solid wastes, use plastic containers designed for hazardous solid wastes.
- All containers for liquid wastes must be screw caps.
- All containers for solid wastes must have removable lids.

2) Complete the waste disposal form on the Department's web page <http://www.materials.ox.ac.uk/local/documents.html?panel=7#SafetyForms> Please pay attention to the instructions on the form to ensure all required information are provided. **Incorrectly completed disposal form will be returned to the sender.**

3) Send the completed waste form to the Chemical Safety Advisor by email (chemicals@materials.ox.ac.uk); she will schedule a time for you to bring the wastes to the chemical building (behind the Hirsch Building) on a Tuesday morning. On NO account leave chemical waste at the stores.

CLEANSING CHEMICALS/PRODUCTS

Unused cleaning products displaying a hazard warning pictogram are considered hazardous waste and must be disposed of using the waste form, i.e. via the Chemical Safety Advisor. Empty containers should be thoroughly rinsed and warning labels removed and then disposed of in the domestic waste stream.

PAINTS AND VARNISHES

Solvent based paints and varnishes must be disposed of as hazardous waste. Water based paints may be disposed of as non-hazardous waste.

MATERIALS WITH RESIDUAL CHEMICAL CONTAMINATION

Materials considered hazardous for disposal are determined by the proportion of hazardous material to non-hazardous material present, known as the hazardous waste threshold limit. This threshold level varies from 0.1% to 25% w/w depending on the hazardous property of the substance present. As this type of waste is likely to contain mixtures of substances, it is easier to use the worst case, lower threshold of 0.1% to assess whether it may be hazardous. **So if a material cannot be cleaned, but contains only minimal residual contamination, that is if there is less than 0.1% w/w of the contaminate on the material, this waste is not considered hazardous.**

Examples include:

- Gloves and paper towels. These items may be disposed via the non-hazardous waste route (the normal bins/general waste skip).
- Where glass or plastic tubes, pipettes, or pipette tips have been emptied, then the threshold level is very unlikely to be exceeded and this material may be disposed of as non-hazardous waste as described below for empty glass and empty *plastic containers*.

If it is suspected that the threshold level will be exceeded, contact the Chemical Safety Advisor (chemicals@materials.ox.ac.uk).

DISPOSAL OF GLASS WASTE

1) Empty glass chemical bottles (non-pyrex)

University regulations governing the disposal of empty, glass chemical bottles are covered by Policy Statement S5/11. The regulations prohibit the disposal of empty glass bottles that have contained chemicals via the “domestic” waste, i.e. our normal waste bins.

To comply with regulations, **all bottles must be thoroughly washed out** and their tops removed **BEFORE disposal** (clean bottle tops may be placed in the normal waste bins) and their labels removed/defaced. The clean glass bottles can then be disposed in the recycling wheelie bin to the rear of the Hirsch Building.

2) Empty non-recyclable glass (laboratory glassware made of pyrex/borosilicate)

Cardboard boxes for the disposal of glass waste, for example laboratory glassware etc are available from Stores. The boxes should be lined with a plastic bag (also available from stores). All glass must be clean or cleaned prior to being placed in the boxes. When the box is ready for disposal, they must be sealed (with gaffer tape) and clearly marked as containing glass. The taped up box can then be disposed in the general waste skip (to the rear of the Hirsch Building). There is no need to use ‘sharps bins’ for this waste as it is not considered ‘clinical or hazardous wastes’.

3) Contaminated glass

These should be considered as hazardous waste. There should be very little of it, because end users must clean out all glassware or bottles in the manner described above. In exceptional circumstances where contaminated glassware cannot be cleaned and disposed via the general waste stream, contact the Chemical Safety Advisor (chemicals@materials.ox.ac.uk) for advice. Please note that if the waste material is broken or otherwise has sharp or jagged edges, it is your responsibility to ensure that it is packaged safely and labelled correctly with full details of what is contained within the packaging and what the contaminant(s) is/are. Inappropriately packaged and/or labelled contaminated glass will not be accepted for disposal.

EMPTY PLASTIC CHEMICAL BOTTLES

Plastic containers that have open necks, e.g. solvent bottles, may be washed out, remove/deface the labels and disposed of via the non-hazardous waste route (the normal bins/waste skip). Containers that cannot be washed out, e.g. hydrofluoric acid bottles **MUST** be treated as hazardous waste and disposed of as such via the Chemical Safety Advisor. Containers that remain stubbornly dirty or contaminated must also be disposed of as hazardous waste.

SHARPS BINS

Yellow sharps bins are available from Stores and should only be used for:

- Small contaminated glass shards that cannot be cleaned
- Syringe needles (as well as the syringe body)
- Razor blades and scalpel blades

No other bins should be used for this type of waste.

All (yellow) sharps bins are to be regarded as hazardous waste. As such they must be disposed of via a specialist contractor. **Under no circumstances** must sharps bins be disposed of with general department waste. Please contact the Chemical Safety Advisor (chemicals@materials.ox.ac.uk) who will arrange for the disposal of the sharps bins. Obtain a replacement bin from the Materials Stores.

WASTE OIL

To dispose of waste oil, rags and paper that are heavily contaminated with oil please contact Trevor Knibbs (83711) who will arrange for you to bring your oil to the waste oil store. If there is any swarf in the rags or paper you must tell Trevor Knibbs. Trevor does not operate a collection service.

AEROSOL CANISTERS

Aerosol containers are classified as special waste, regardless of their original contents. All aerosol containers must be disposed of through the University's

hazardous waste procedures - please contact Mimi Nguyen. There is no need to complete a waste disposal form for these items.

BATTERIES

All batteries must be disposed of via the hazardous waste system. Contact the Chemical Safety Advisor chemicals@materials.ox.ac.uk for the disposal of batteries.

ELECTRICAL EQUIPMENT

The disposal of waste electrical and electronic equipment (WEEE) now comes under the WEEE regulations 2006 (see Policy Statement S5/11 Appendix 5 for details). It is no longer permissible to put WEEE into domestic waste bins even if it does not contain hazardous materials. Generally WEEE not containing hazardous materials must be returned to the manufacturer or a reputable waste contractor for recycling. Electrical equipment containing hazardous material, for example, rechargeable batteries, will continue to be dealt with by the Safety Office. If you have any piece of electrical/electronic equipment to get rid of, please consult Ashley Brown or Paul Warren for their advice prior to disposal.

FLUORESCENT TUBES

The only fluorescent light tubes you are likely to dispose of are those from the illuminated magnifying lenses found in some laboratories. Contact Tony Bailey (83701) for disposal of these small circular tubes, he can show you where the box for these items is kept.

COMPUTERS AND MONITORS

All computers and monitors should be disposed of via the IT section. Contact Paul Warren (73727) for advice.

FURTHER INFORMATION AND HELP

If you require any help or information, please contact the Chemical Safety Advisor, Mimi Nguyen chemicals@materials.ox.ac.uk or 83337, who will do her best to help. Shaun Boyce (83724) will be able to help you regarding what is and what is not allowed to be disposed of via the drains at Begbroke.

A copy of the following Begbroke Waste Disposal Instructions can be found near to the doors of each laboratory.

SUMMARY OF NEW WASTE DISPOSAL INSTRUCTIONS (BEGBROKE)

| Item | Disposal route |
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| Chemicals | Contact Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337) |
| Aerosols (whether full or empty) | Contact Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337) |
| Batteries (alkaline and NiCad only) and aerosols | Contact Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337) or the Stores Technician. |
| Domestic chemical containers with orange hazard sign e.g. bleach, toilet cleaner etc | Wash out container with water (remove/deface labels) and place in non-hazardous waste stream (normal waste bin/general waste skips). If the container cannot be washed out dispose of via the Chemical Safety Advisor (chemicals@materials.ox.ac.uk) |
| Solvent based paints, varnishes and "empty" tins | Via Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337) |
| Water based paints and "empty" tins | Via non-hazardous waste stream (skips) |
| Oily and paint impregnated rags | Contact Trevor Knibbs (83711). |
| Waste oil | Contact Trevor Knibbs (83711). |
| Fluorescent tubes | Contact Tony Bailey (83701) |
| Empty plastic chemical containers | <p>MUST BE CLEAN, remove/deface the labels then dispose in non-hazardous waste stream (general waste skip).</p> <p>EXCEPT Hydrofluoric acid. This must be treated as hazardous waste and be disposed of via the Chemical Safety Advisor</p> <p>Contact Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337)</p> |
| Empty glass reagent bottles (recyclable) | MUST BE CLEAN., remove/deface the labels, then dispose in recycling wheelie bin behind the Hirsch building. |
| Clean non-recyclable laboratory glassware (in cardboard boxes) | MUST BE CLEAN, and the cardboard box safely packaged, can dispose in the general waste skip |
| Contaminated glass waste | Contaminated glass must be treated as chemical waste. Via Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337) |
| Sharps bins | Via Mimi Nguyen (chemicals@materials.ox.ac.uk or 83337) |
| Fridges & freezers | See Safety Policy S5/11: Disposal of Refrigerators and Freezers |

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| Computers and monitors | Contact Paul Warren (73727). |
| Electrical equipment | Via Ashley Brown (ashley.brown@materials.ox.ac.uk). He will arrange their transfer to town and contact Les Chorley to ensure the equipment is taken off the Portable Appliance Testing and Equipment Register databases. |