Arrangements for Waste from Laboratories.

Introduction
Different types of waste are produced within laboratories. This document gives guidance on the routes that are available within the Royal Free for the disposal of waste.

Waste, which may consist of hazardous chemicals or micro-organisms, comes under the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (1). This means that the disposal process must be assessed and suitable precautions used. If existing waste disposal systems do not provide adequate protection, then additional measures need to be employed and the assessment documented. Other legislation requires that waste be disposed of by specific routes and receive the required treatment.

There is some overlap between the use of autoclave and yellow bags. Essentially the HSE advise that culture dishes and other infected waste should be autoclaved before the waste is taken off site (2&3). (Any waste from Containment level 3 laboratories must be autoclaved before sending for incineration.) Yellow bags are generally used for patient related samples and are incinerated off site. Autoclave bags are not designed for transportation of waste for incineration and therefore after autoclaving need to be inserted into yellow bags for final disposal.

Waste containing transmissible spongiform encephalopathy agents (e.g. BSE & CJD) requires special treatment. Please check reference 4.

Yellow Bags

Yes.
- Gloves.
- Contaminated material e.g. packaging.
- Low hazard chemicals in small amounts.
- Clinical waste e.g. patient samples.

No
- Sharps.
- Chemicals classified as toxic, carcinogenic, mutagenic, toxic to reproduction, corrosive etc.
- Microbiological waste (unless previously inactivated). E.g. cell cultures containing ACDP hazard group 2 or greater. Patient samples known or likely to contain hazard group 3 or 4 biological agents.
- Genetically modified material unless inactivated using a verified route.
**Autoclave bags - clear plastic**

**Yes**
- Patient samples
- Microbiological and Cell cultures.
- Potentially infected or contaminated material.
- Genetically modified material

**No**
- Sharps, (This includes loose pipette tips – see footnote).
- Chemicals classified as toxic, carcinogenic, mutagenic, toxic to reproduction, corrosive etc. (e.g. Ethidium bromide).

**Note:**
Pipette tips must be packed in a robust container.

**Black bags**

**Yes**
- Packaging material.
- Hand towels.
- Paper.
- Empty containers – plastic (as long as they are not contaminated).

**No**
- Anything contaminated.
- Chemicals in general.
- Batteries.

**Sharps Boxes**

**Yes**
- Needles.
- Scalpels.
- Razor blades.
- Pipette tips. (If not microbiologically contaminated).
- Glass vials.

**No**
- Liquids in general.
- Chemicals in general.
- Gloves.
- Packaging.
Chemical waste officer

**Yes**
- All hazardous chemicals.

**No**
- Infectious substances.
- Radioactive substances.

Orange bags

- Glass (rinsed if container used for hazardous substances).

Sink

**Yes**
- Dilute solutions not containing heavy metal salts.
- Low quantities of water-soluble / miscible organic chemicals (e.g. alcohol).
- Neutral pH.

**No**
- Heavy metals.
- Flammable substances.
- Solvents.
- Organic chemicals in general (see above for exception).
- Strong acids or alkalis.
- Oxidising agents e.g. Histoclear.
- Alkaline metals e.g. sodium and potassium.
- Microbiological material (unless disinfected).
- Genetically modified material (unless de-activated) by means of a verified route.

Recycling

**Paper**
- Rowland Hill Street (opposite entrance).
- Fleet Road near Lawn Road junction.

**Batteries**
- Medical Electronics - Medical Physics (Ground Floor RFH).

**Glass**
- Lawn Road access road (at side of Staff Education & Development Centre).
Arrangements for Radioactive Waste from Laboratories

Definitions:

**IRR99:** A ‘radioactive substance’ means any substance which contains one or more radionuclides whose activity cannot be disregarded for the purposes of radiation protection.

**RSA93:** A ‘radioactive substance’ means a substance where the activity is greater than 0.4 Bq per gram.

Guidance:
Accumulation and disposal of radioactive waste is controlled under the Radioactive Substances Act 1993 as amended by the Environment Act 1995, and therefore must be handled in a controlled and auditable manner. Some simple summary guidance follows describing the routes of disposal for various types of radioactive waste form the laboratory.

In such an event that there is uncertainty as to the method of disposal of waste, the Radiation Protection Supervisor should be contacted.

**Radioactive Solid Waste**
Should be disposed of in ORANGE WAX bags and sent to the radioactive waste store, which is controlled by the Radiation Protection Group. These bags should be clearly labelled. This type of waste includes that remaining after experiments, and other such waste that might have been contaminated with radioactivity such as gloves and paperwork.

**Radioactive Organic Liquid Waste**
Should be disposed of in a well sealed vile and put into an ORANGE WAX bag and clearly labelled with the contents, particularly with the word SCINTILLANT, and including the isotope present and the estimated activity at the time of sealing the bag. This type of waste should NEVER be disposed of down a sink, and should not be bagged with solid waste.

**Radioactive Aqueous Liquid Waste**
Should be disposed of down a DESIGNATED SINK i.e. one which is clearly marked for the disposal of radioactive liquid waste. This type of waste should NEVER be disposed of down an unmarked sink designed for normal use.
Radioactive Contaminated Syringes

Should be disposed of in a YELLOW sharps bin that is labelled identifying the contents as radioactive and are surrounded by lead shielding. This type of waste should NOT be disposed of into a sharps bin not labelled as suitable for radioactive waste.

Unwanted Radioactive Sources

Please call the Radiation Protection Group on extension 3759

References


Also
Royal Free Infection Control Manual, available on Freenet (Medical School http://freenet.rfc.ac.uk/ICManual.htm).

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