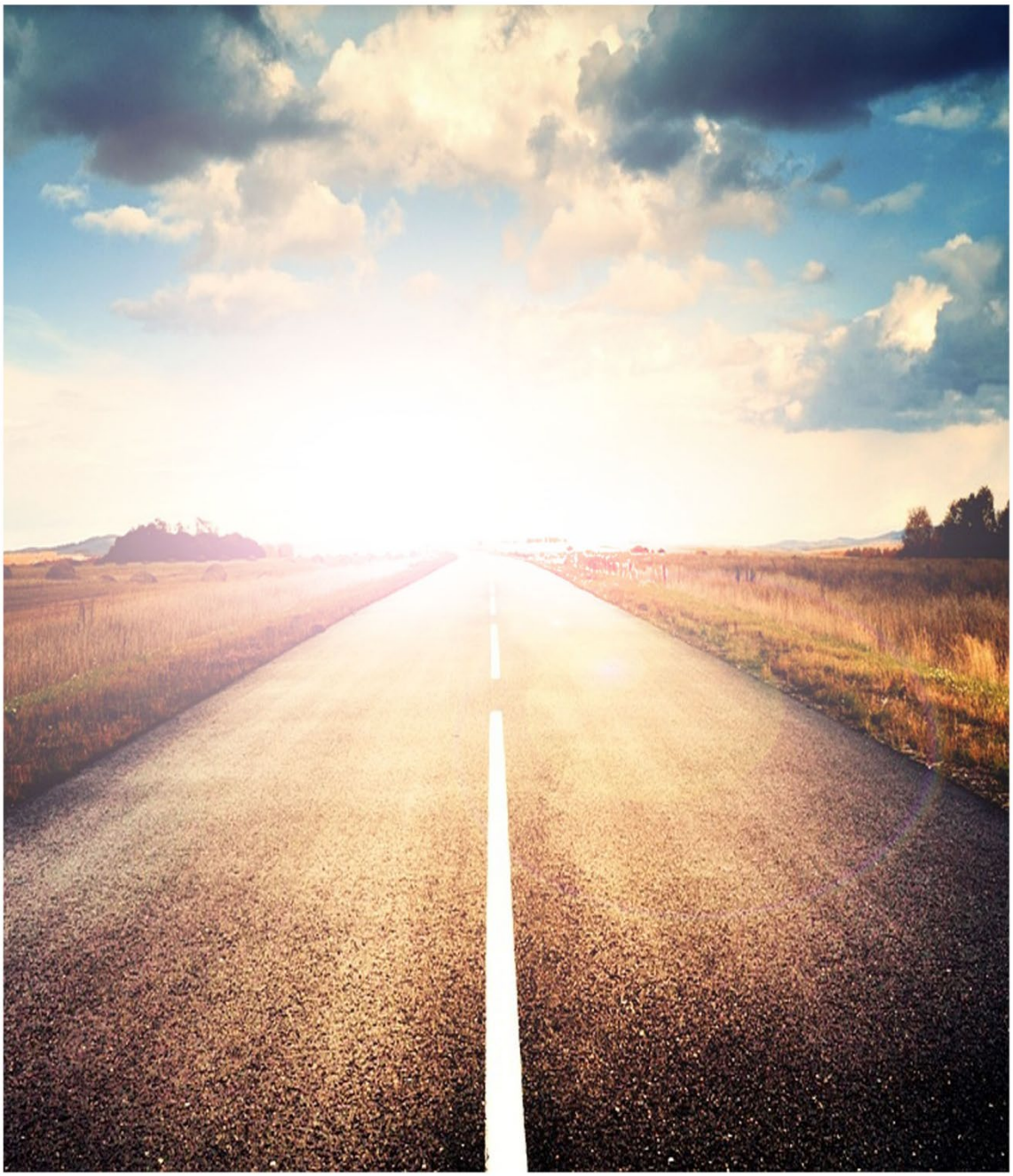
UHSP-39 Hazardous waste



1. Objective

The University of Leicester will do all that is reasonably practicable to ensure that hazardous waste produced through its activities is appropriately segregated and disposed of. By doing so, the University complies with the requirements of the following legislation:

- The Health and Safety at Work etc. Act (1974)
- Environmental Permitting Regulations
- The Environmental Protection Act 1990
- The Controlled Waste Regulations 2012
- The Hazardous Waste Directive
- The Carriage of Dangerous Goods Regulations
- Clean Neighbourhoods and Environment Act 2005
- Environment Act 1995
- Environmental Civil Sanctions (England) Order 2010
- Environmental Protection Act 1990
- Environmental Protection (Duty of Care) Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- List of Wastes (England) Regulations 2005
- Packaging (Essential Requirements) Regulations 2003
- Producer Responsibility Obligations (Packaging Waste) Regulations 2007
- Waste Batteries and Accumulators Regulations 2009
- Waste Electrical and Electronic Equipment Regulations 2006
- Waste Management (England and Wales) Regulations 2006
- Trade Effluent (Prescribed Processes and Substances) Regulations 1989
- Environmental Permitting (England and Wales) Regulations 2010
- Control of Pollution (Applications, Appeals and Registers) Regulations 1996

2. Scope

This policy applies to the disposal of hazardous waste produced by the University. This included, but is not limited to

- Chemicals
- Biological materials
- Clinical waste
- Radioactive
- Asbestos
- Other types of waste

3. Responsibilities

The Executive Board must

- Provide appropriate support to ensure that these procedures are followed, including provision of adequate resources

Heads of Schools, Departments or Corporate Service Divisions must put in place arrangements in areas under their control to ensure that:

- Adequate resources are provided to allow compliance with this procedure
- All staff and postgraduate students who produce waste are aware of their responsibilities under this procedure

Principle investigators, supervisors and line managers must ensure that:

- Waste that is produced as part of work they are responsible for is segregated and disposed of appropriately
- appropriate supervision is provided and monitor compliance with this policy and local rules in place

Employees and students must:

- Segregate waste accordingly
- Dispose of waste promptly and not allow the waste to accumulate in offices, laboratories or other areas

Waste Officer will:

- Ensure that waste companies contracted by the University are licenced and competent to dispose of the waste generated by the University
- Retain documentation of all waste consignments for the required period of time

Building and Asbestos Asset Manager will:

- Ensure that waste companies contracted to dispose of asbestos waste are licenced and competent to dispose of the waste
- Retain documentation of all asbestos waste consignments for the required period of time

Radiation Safety Officer will:

- Liaise with the University Waste Officer to ensure that waste contractors are suitable for the collection of low level radioactive waste
- Ensure implementation of radiation rule Section L:16 pertaining to radioactive waste

The Director of Health and Safety Services must make arrangements to:

- Ensure a certificated Radioactive Waste Adviser is appointed
- Monitor compliance with this policy

4. Procedure

Biological and Clinical Waste

At the University of Leicester, clinical or healthcare waste is waste that has been generated through laboratory experiments, via clinics (for example blood sampling or vaccinations at the Percy Gee) or phlebotomy. This type of waste:

- may contain viable micro-organisms or toxins
- may be contaminated with a medicine or pharmaceutical agent
- is a sharp, bodily fluid, tissue or other biological material containing or contaminated with a dangerous substance. Animal by products and potentially soil could also fall into this category

Arrangements for disposal

Unless exemptions are granted by the Biological Safety Officer and Waste Officer, it is the University policy that all potentially infected material should be made safe before disposal.

The method of inactivation of waste must be included in the Hazardous Biological Agents assessment or in the Genetically Modified Organisms assessment and this should be followed. Where chemical inactivation has been specified, it is important to use the correct concentration of the disinfectant and treat for the required amount of time. Concentrations and contact times are organism specific and there should be validation data available. Once treated, any liquid waste can be disposed of via sinks, and solid waste should no longer be contaminated.

Biological waste can also be sterilised via autoclaving. The aim is to treat the waste at 121°C for 15 minutes to inactivate the waste. Only autoclaves validated for waste can be used. Bench top autoclaves are not suitable for this purpose.
Once biological waste has been sterilised, it may be treated as non-hazardous waste and disposed of via the domestic waste route. However, where additional hazards remain, such as sharps, blood, tissue samples, or when there are items that are deemed offensive, final disposal must be via incineration or deep landfill.

There is a contract in place to dispose of biological or clinical waste by incineration. It is important to segregate relevant material under the Human Tissue Act 2010, waste from human research and waste from non-human research as the audit trails differ. Clinical waste bags must be segregated from sharps and other rigid containers to prevent leakage. In addition, waste that is deemed infectious must be segregated from waste that is classified as non-hazardous.
Departments must follow the detailed procedures for the disposal of clinical waste, which are set out in the University of Leicester document 'Clinical Waste Procedure' available from the Waste Officer (Estates and Campus services). In addition, departments in which clinical waste of any quantity is generated should have access to the Department of Health guidance document 'Safe Management of Healthcare Waste'.

Arrangements for disposal-HTA
HTA relevant material such as blood samples, bodily fluids, excreta and small tissues (i.e. tissue blocks, sections on slides) should be disposed of with respect and not with other biological waste. A full audit trail is required. A separate document HTA-1001 details the requirements for disposal.

Chemical Waste

The University will follow the criteria established in the Environmental Agency Waste Classification guidance document to determine the hazardous nature of any chemical wastes being produced. These criteria are based on the concentration of the chemical being disposed and the hazards of the chemicals as classified under the Classification, Labelling and Packaging Regulations. Where a chemical has multiple hazards, a waste assessment under each hazard category must be carried out. Flow charts to aid this classification can be found in the Chemical Waste Guidance document.

It should not be assumed that because a substance is liquid or aqueous, that it is safe to dispose of via the sink. Any material disposed of via the sink goes to the public sewer where it is treated. Waste must not affect the health and safety of workers on the system, damage the sewage system or harm the environment. To achieve these aims, the waste:

- Must not be harmful (use the waste classification document to make an assessment). For small amounts a judgment is required and this should be covered within the COSHH assessment
- Must not be flammable or explosive-residues of water miscible substances which do not pose a hazard are acceptable
- Must not be corrosive and must have a pH between 6 and 10
- Must not kill or feed bacteria
- Must not be on the red list of substances. These will always be hazardous irrespective of concentrations and these must always be disposed of as hazardous waste. These are:

Chemical	Chemical
3-Chlorotoluene	Aldrin
Altrazine	Azinphos-methyl
Cadmium and its Compounds	Carbon Tetrachloride
Chloroprene	DDT
Dichloroethane 1.2	Dichlorvos
Dieldrin	Endosulfan
Endrin	Fenitrothion
Gamma-Hexachlorocyclohexane (Lindane)	Hexachlorobenzene (HCB)
Hexachlorobutadiene (HCBD)	Malathion
Mercury and its Compounds	Pentachlorophenol (PCP)
Polychlorinated biphenyls (PCBs)	Simazine
Tributyltin compounds	Trichlorobenzene
Trifluralin	Triphenyltin compounds

The disposal of hazardous chemical waste is organised on behalf of the University by the Department of Chemistry. When required, the Department of Chemistry will notify all departments that a chemical waste disposal run is being organised. It is the responsibility of the department to return details of the chemicals that require disposing. This will include chemical names, amounts, how they are packaged and where relevant how the chemical was used/how the waste was generated. Failure to return all the require information will result in delays disposing of the waste. Where a department undertakes a laboratory clearance and have a quantities of chemicals for disposal, they should make arrangements to dispose of the chemicals using the University's chemical waste contractor directly.

Where required, specialist waste contractors can be used to dispose of chemicals if the University's chemical waste contractor cannot provide the service.

Radioactive waste

All enquiries about radiation waste disposal should be directed to the University Radiation Safety Officer.
Complete rules regarding the disposal of radioactive waste are to be found in the University's 'Radiation Protection Rules', Section L:16 on Health and Safety Services website.
All disposals of radioactive waste are controlled and recorded so that the conditions of the University's and the Incinerator Contractor's "Certificates of Authorisation for Accumulation and Disposal of Radioactive Waste" (issued by the Environment Agency) can be complied with.

There are four categories of radioactive waste that are sent for incineration off-site. All such waste is transferred, via Estates from our sites at LRI, and GGH to Main Site before being consigned to the waste contractors for incineration.
The basic principles regarding control of the four categories are as follows:

Non 32P Solid Waste in labelled Burn-bins or Bags
Bins/bags should be sealed by the end of the month (on a monthly basis), and stored in departments until taken to the site Solid Waste "Transit Store".

32P Solid Waste in labelled Burn-bins or Bags
Bins/bags should be sealed by the end of the month (on a monthly basis) and taken to the site "Decay Store" as soon as convenient. After 5 months decay the waste will go either to the incinerator contractor direct or to the Solid Waste "Transit Store".

Organic Liquid Waste (Scintillation Vials)
Bins should be sealed, labelled on a monthly basis, and taken to the site Organic Liquid "Scintillation Vial Store".

Bulk Organic Solvent
This should by absorbed into inert material in "Medi-Bins" by departments, labelled and then taken to the site Organic Liquid "Scintillation Vial Store" on a monthly basis.

Asbestos Waste
All asbestos waste must be disposed of via licenced contractors. Most asbestos waste will be generated by licenced activities that is under the supervision of Estates and Campus services. Where departments believe they have any asbestos containing materials to dispose of, they must contact the Health and Safety Business Partner for advice.

Other types of waste

The University's waste management website details the procedures to be followed for other types of waste. These include

- Batteries
- Cardboard
- Confidential waste
- Feminine hygiene
- Furniture
- General Waste
- IT equipment
- Lamps and fluorescent tubes
- Metal
- Paper
- Plastic
- Printer toners/cartridges
- Waste Electricals
- White goods/bulky electrical items

When any of this waste has originated from a hazardous area, for example a laboratory, this must be decontaminated before disposal. Where necessary, a decontamination certificate should be

attached to the equipment being disposed of. Where the item cannot be decontaminated (e.g. cardboard or paper), this should be disposed of as hazardous waste.

5. Related documents

- UHSP-05b: Hazardous Substances (Biological Agents) Policy
- UHSP-32a: Ionising Radiation Policy

6. Revision History

Date of Issue	Version number	Amendments Made
31/01/2020	1.0	First issue
12/12/2020	1.0	Reformatting.