



Swansea University
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Swansea University

Waste Management Guidance Note WMGN30 Biologicals

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| Waste Management Guidance Note WMGN30 | |
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| Biological Waste | |
| Location Generated | Laboratory Category CAT 1/2 |
| EWC | 18 01 03* / 18 01 06* / 18 01 07 / 18 02 02* / 18 02 05* |
| Transport Class & UN Number | Class 6.2 / UN 3291 |
| Type | Waste Category CAT A / B Controlled – hazardous waste |
| Disposal Method | Neutralised and segregated for incineration |
| Bin/Bag Type | Autoclave bag – Sterilised External disposal – Tiger Bag |

Duty of Care Requirements

Clinical 18 01 - wastes from natal care, diagnosis, treatment or prevention of disease in humans

EWC 18 01 03* Wastes whose collection and disposal is subject to special requirements in order to prevent infection

EWC 18 01 06* Chemicals consisting of or containing hazardous substances

EWC 18 01 07 Chemicals other than those mentioned in 18 01 06*

Research 18 02 - Wastes from research, diagnosis, treatment or prevention of disease involving animals

EWC 18 02 02* Wastes whose collection and disposal is subject to special requirements in order to prevent infection

EWC 18 02 05* Chemicals consisting of or containing hazardous substances

Description; Biological waste, Genetically Modified Organisms, Cell and Tissue culture media.

It is a legal requirement to ensure all wastes are correctly classified. Incorrectly disposing of hazardous waste via a non-hazardous waste stream can lead to legal and financial penalties dependent upon the severity of the noncompliance.

Biological research and teaching laboratories generate certain wastes that should or in some cases must be decontaminated before disposal as they contain or might contain substances that are infectious (to humans, animals or plants) and/or because they contain genetically modified micro-organisms.

Please note this WMGN provides guidance on disposal only, please consult the University's appointed Biological Safety Officers for further guidance.

For Category A waste (Microbiological cultures Class 1/2 GMMs and HG2 pathogens), produced in CAT 2 Laboratories, on-site autoclaving is mandatory to ensure waste is

inactivate due to the significant risks to the community in terms of human and animal health. Furthermore for Class 1 and 2 GMMs, there is a specific requirement in the Genetically Modified Organisms (Contained Use) Regulations to inactivate the waste within the laboratory suite (Class 2) and within the laboratory (Class 3).

Items including, but not limited to;

- Petri dishes
- Pipettes, plastic tips, serological pipettes
- Tissue culture flasks
- Syringes
- Needles
- Cell culture media
- PPE – gloves, masks, aprons
- Blue roll/ paper towels

All biological waste (non-infectious and infectious) generated during laboratory research must be deactivated by autoclaving or **disinfected with Virkon, or similar before disposal.**

Consult the Colleges appointed Biological Safety Officers (and/or health and safety leads) for further guidance.

Biological Waste Table

| Waste Type | Waste Classification | Laboratory Type | Internal Waste Pre-treatment | Internal Disposal Route | External Disposal Route |
|---|----------------------|-----------------|---------------------------------------|--|--|
| GM Waste GMM Class 1/2/3 | CAT A | CAT 2 | Autoclave Within the laboratory | Tiger Bag | ILS 1 Autoclave Skip |
| Biological Waste Pathogens HG2/3/4 | CAT A | CAT 2 | Autoclave Within the laboratory | Tiger Bag | ILS1 Autoclave Skip |
| Tissue Waste | CAT B | CAT 1 | Disinfect | Yellow Bag / Red lidded Sharps box | See WMNG24 |
| Cell Culture Waste | CAT B | CAT 1 | Disinfect | Yellow Bag / Yellow lidded Sharps box | Dedicated external Yellow Bin See WMGN26 |

Table 1 - Biological Waste Table

GM & Biological waste

GM and biological waste must be autoclaved in the laboratory before disposal. Once the waste has been autoclaved it must be placed into tiger bags (yellow/black-striped) and placed into the relevant external autoclave waste skip, or bin.

Tissue/Cell Culture Waste

Tissue and cell cultures must be disinfected before disposal. Sharps must also be disinfected before disposal via yellow lidded sharps boxes. Disposal of human tissue must comply with the requirements of the Human Tissue Act 2004. The COSHH Regulations stipulate;

- Tissue culture waste (culture medium only) – inactivate for at least 2 hours in a solution of hypochlorite (10,000ppm) prior to disposal to drain with an excess of water.
- Contaminated pipettes should be placed in hypochlorite solution (2500ppm) overnight before disposal by autoclaving and incineration.

Transportation

If any CAT A waste needs to be transported to an autoclave external to the laboratory, waste must be transported via a sealed metal box. Waste must then be taken from the metal box and placed into the autoclave. The metal box must then be decontaminated for each consignment with Virkon, or similar.

For further guidance on autoclave management form HSE see; [Safe working and the prevention of infection in clinical laboratories and similar facilities](#)

Disposal Instructions

External Storage - Category A waste

- For SUMS and SoS:



Figure 1: Cat A Waste disposal route for SUMS/CoS

Once waste is autoclaved within the laboratory, autoclave bags must be placed into tiger bags. Once autoclaved and deactivated waste is classified Offensive Waste EWC 18 01 04 or 18 02 03 and can be placed into the Margam Carpark autoclave skip – access via Technicians.

External Storage - Category B waste



Figure 2: Internal use yellow-lidded clinical waste box & external-based yellow autoclaved waste bin

Please note; Sharps must be disinfect before disposal via yellow-lidded sharps boxes.

Yellow bags can be obtained and signed out from the following locations;

Singleton Campus

- SUMS: ILS1 Stores
- CoS: Wallace Stores

Bay Campus

- CoE: Engineering Service Yard Office

External - Disposal

For disposal, please ensure the lid is sealed for transport and full sharps bins must be taken back to the following locations;

Singleton Campus

- SUMS: ILS1 Stores
- CoS: Wallace Stores (dedicated external 1100 yellow bins) See stores staff for access

Bay Campus

- CoE: Engineering Service Yard Office (dedicated external 1100 yellow bins) See service yard office staff for access

Disposal Cost

There is a charge for this service, contact estates-waste@swansea.ac.uk for further information

For further guidance contact Estates-Waste@Swansea.ac.uk and the Universities Biological Safety Advisor.