



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
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UNIVERSITY OF PRETORIA  
Department of Facilities Management

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## HAZARDOUS WASTE DISPOSAL PROCEDURE

Document type: Procedure  
Category: Safety, Health and Environmental

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## 1. Purpose

The purpose of the hazardous waste disposal safe operating procedure of the University of Pretoria is to provide a systematic framework for environmental management commitments and to provide environmental sustainability through the management and operations of the hazardous waste removal term contractor.

## 2. Scope

The Environmental policy is a University-wide policy which applies to all staff members, students and contractors. The University of Pretoria, as a leading research-intensive tertiary education institution, has a complex structure, and the intention of this policy is to provide a framework for regulating and monitoring all interactions of the University with the environment, including any action that affects the environment or has the potential to affect the environment in any way.

## 3. Consequences of non-compliance

If this procedure is contravened the University will be liable for prosecution. Any staff member that does not follow the Hazardous waste removal procedure would also be disciplined under the Disciplinary code of conduct.

## 4. Definitions

<b>UP Premises</b>	All University of Pretoria property including vehicles, lockers, and parking lots.
<b>UP Property</b>	All University of Pretoria owned or leased property used by employees such as vehicles, lockers, desks, closets, etc.
<b>Waste</b>	Residues generated as a result of research which need to be disposed of;
<b>Environment</b>	<ul style="list-style-type: none"><li>• Means the surroundings within which humans exist and that are made up of—</li><li>• (i) the land, water and atmosphere of the earth;</li><li>• (ii) micro-organisms, plant and animal life;</li><li>• (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and</li></ul>

(iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

**Pollution**

- Means any change in the environment caused by—
  - (i) substances;
  - (ii) radioactive or other waves; or
- (iii) noise, odours, dust or heat emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

**Sustainable Development**

The integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations

**5. Roles and responsibilities**

**The Registrar**

The **Registrar** has overall accountability and responsibility for ensuring that all institutional policies are managed responsibly within the University. The smoking policy is an institutional policy.

**Line management**

Where applicable (for example in the case of staff, contractors and tenants), **line management** has the responsibility to ensure that the policy is communicated and enforced.

**Staff, students, visitors, contractors and tenants**

Each individual as defined in paragraph 2 above, has the responsibility to comply with the hazardous waste policy.

**6. Associated documents**

**Governing documents**

- National Environmental Management Waste Act, Act 59 of 2008.

## Reference documents

- National Environmental Management Act, Act 107 of 1998
- National Environmental Management Waste Act, Act 59 of 2008 – Waste classification and management regulations
- National Environmental Management Waste Act, Act 59 of 2008 - List of waste management activities that have, or are likely to have, a detrimental effect on the environment
- National Norms And Standards For The Assessment Of Waste For Landfill Disposal published under Government Notice R635 in Government Gazette 36784 of 23 August 2013;
- National Norms And Standards For Disposal Of Waste To Landfill Published under Government Notice R636 in Government Gazette 36784 of 23 August 2013;
- The National Norms and Standards for the Storage of waste Published under Government Notice 926 in Government Gazette 37088 of 29 November 2013;
- The National Environmental Management: Waste Act (59 of 2008): Waste Classification and Management Regulations published under Government Notice R634 in Government Gazette 36784 of 23 August 2013;
- Regulations Relating to Health Care Waste Management in Health Establishments published in terms of the National Health Act, 61 of 2003, under GNR 375 in Government Gazette 37654) (“Waste Regulations”);
- National Health Act No. 61 of 2003 (NHA): Norms And Standards Regulations Applicable To Different Categories Of Health Establishments published under Government Notice 67 in Government Gazette 41419 of 2 February 2018 (NHA Regulations);
- Occupational Health And Safety Act 85 of 1993;
- Lead Regulations published under Government Notice R236 in Government Gazette 23175 of 28 February 2002;
- Regulations For Hazardous Chemical Substances, published under Government Notice R1179 in Government Gazette 16596 of 25 August 1995;
- Regulations for Hazardous Biological Agents published under Government Notice R1390 in Government Gazette 22956 of 27 December 2001.
- Gauteng Waste Information Regulations GN 3034 published under Provincial Gazette Extraordinary No 372 of 15 September 2004;
- Gauteng Health Care Waste Management Regulations GN 3035 published under Provincial Gazette Extraordinary No 372 of 15 September 2004;

- City of Tshwane Waste Management Bylaw published under Local Authority Notice 1393 of 2016 in Provincial Gazette 274 of 24 August 2016; and
- City of Tshwane Solid Waste By-laws;
- Regulations to Prohibit the Production, Distribution, Import, Export, Sale and Use of Persistent Organic Pollutants that are listed by the Stockholm Convention on Persistent Organic Pollutants published under Government Notice R414 in Government Gazette 44559 of 12 May 2021;
- National Road Traffic Act 93 of 1996;
- National Road Traffic Regulations, published under Government Notice R225 in Government Gazette 20963 of 17 March 2000; and
- Hazardous Substances Act 15 of 1973 and the subordinate legislation published in terms thereof.

### **Supporting documents**

- ISO 9001:2000
- ISO 14001:2015
- ISO 40051:2018
- National Health Act (Act 63 of 1977)
- National Water Act and Regulations (Act 36 of 1998)
- Constitution of the Republic of South Africa (Act 106 of 1996)
- Occupational Health and Safety Act (Act 85 of 1993)

## **7. Policy life cycle**

This procedure should be revised every three to five years or should there be changes in the legislation.

## **8. Preventative and Corrective Actions**

### **9.1 Chemical waste**

- When a person or department have chemical waste that needs to be removed the person must complete a *Chemical Waste Destruction Request (CWDR)* and send it via e-mail to the Environmental Management and Waste Management department at the University of Pretoria

- [ilze.ueckermann@up.ac.za](mailto:ilze.ueckermann@up.ac.za)
- [miliswa.puling@up.ac.za](mailto:miliswa.puling@up.ac.za)
- This document must be completed in full in order to be collected by the service provider/waste contractor
- No abbreviations of chemical must be used
  - The following chemicals or any part thereof must be on a separate CWDR as they are disposed of in a different manner and cannot be incinerated:
    - Arsenic (As)
    - Astatine (At)
    - Cadmium (Cd)
    - Chromium n(Cr)
    - Cesium (Cs)
    - Cyanide (CN)
    - Francium (Fr)
    - Iodine (I)
    - Krypton (Kr)
    - Lead (Pb)
    - Mercury (Hg)
    - Nickel (Ni)
  - UN numbers and the class must be filled in on the CWDR the correct disposal and transport method is followed
  - For collection purposes the chemicals in the different classes must be stored separately
  - Class 3 (Flammable Liquids); 4.1 (Flammable Solids); 4.2 (Spontaneously Combustible material); 4.3 (Dangerous when Wet material); 8.2 (Alkalis) and 9. (Miscellaneous materials not classified). A GREEN mark with a koki pen must be placed on the box or container.
    - Examples: Acetone, Magnesium, white phosphorous, sodium hydroxide, calcium
  - Class 6.1 (Toxic Substances). A RED mark with a koki pen must be placed on the box or container
    - Examples: Potassium cyanide, mercuric chloride

- Class 5.1 (Oxidizing Agents) and 8.1. (Acids). An ORANGE mark with a koki pen must be placed on the box or container
  - o Examples: Calcium hypochlorite, ammonium nitrate, hydrogen peroxide
  
- Class 5.2 (Organic Peroxides) must be grouped separately and a BLUE mark with a koki pen must be placed on the box or container. These chemicals will be transported with Class 5.1(Oxidizing Agents) and 8.1. (Acids).
  - Examples: benzoyl peroxides, cumene hydroperoxide, hydrochloric acid.
  
- (Note: no collection will take place if chemicals are not identified by means of a colour code)
  
- o Chemicals containers must be properly sealed, and no leaks must be allowed
- o Unmarked containers must be inspected by a qualified person and identified before such a container will be removed
- o Should the container be a mixture, the highest concentration constituent must be used for classification
- o All chemicals for disposal must be kept in a safe place until the service provider/contractor comes to collect such chemicals
- o Upon collection the service provider/contactor will ensure that only those chemicals that appears on the CWDR are removed and no extra containers are loaded.
- o The container and its contents will be checked by both the service provider and the head of the department before the box is sealed with the relevant tape.
  - o Please note that the service provider will not verify the contents but only the number of bottles in the container, this is to ensure that volumes requested to be collected corresponds with the total containers within the “box or container”
- o The waste generator will be responsible for the packing of all waste into containers suitable, and the service provider/contactor will not pack any chemical waste before removal
- o Waste containers must be strong and in a proper state to be moved and transported
- o Wet/leaking containers will not be removed by the service provider/contactor
  - No person/department will send completed CWDR documents directly to the service provider/contractor. Only CWDR's sent to the service provider/contractor by Ilze Ueckermann or Miliswa Puling will be accepted and booked by the service provider/contractor

## SEGREGATION CHART FOR DANGEROUS GOODS IN VEHICLES AND FREIGHT CONTAINERS

<b>1</b> EXPLOSIVE		<b>DO NOT LOAD WITH</b>	 SEE NOTE <b>1</b>	<b>4.3</b> DANGEROUS WHEN WET		<b>DO NOT LOAD WITH</b>	
<b>2.1</b> FLAMMABLE GAS		<b>DO NOT LOAD WITH</b>		<b>5.1</b> DANGEROUS AGENT		<b>DO NOT LOAD WITH</b>	Also do not load with Oils, Greases or Combustibles
<b>2.2</b> NON-FLAMMABLE NON-TOXIC GAS		<b>DO NOT LOAD WITH</b>		<b>5.2</b> ORGANIC PEROXIDE		<b>DO NOT LOAD WITH</b>	Also do not load with Oils, Greases or Combustibles
<b>2.2</b> (S.L.) NON-FLAMMABLE DANGEROUS AGENT		<b>DO NOT LOAD WITH</b>		<b>6.1</b> TOXIC		<b>DO NOT LOAD WITH</b>	OR Foodstuffs or Foodstuff Empties, ETC
<b>2.3</b> TOXIC GAS		<b>DO NOT LOAD WITH</b>	OR Foodstuffs or Foodstuff Empties, ETC	<b>7</b> RADIOACTIVE		<b>DO NOT LOAD WITH</b>	OR Foodstuffs or Foodstuff Empties, ETC
<b>3</b> FLAMMABLE LIQUID		<b>DO NOT LOAD WITH</b>		<b>8</b> CORROSIVE		<b>DO NOT LOAD WITH</b>	OR Foodstuffs or Foodstuff Empties, ETC
<b>4.1</b> FLAMMABLE SOLID		<b>DO NOT LOAD WITH</b>		<b>9</b> MISCELLANEOUS DANGEROUS GOODS		<b>DO NOT LOAD WITH</b>	
<b>4.2</b> SPONTANEOUSLY COMBUSTIBLE		<b>DO NOT LOAD WITH</b>		<p><b>1</b> Refer to Explosives Regulations for details of the transport of Explosives (Class 1). It may be transported with any other class of dangerous goods on the same quantity basis, but exceed 1 kg/kg.</p> <p><b>2</b> When both Classes are in bulk.</p> <p><b>3</b> When the Class 2 substance is a flammable gas.</p> <p><b>4</b> When the Class 3 substance is a flammable liquid.</p> <p><b>5</b> When the Class 4 substance is a flammable solid.</p> <p><b>6</b> When the Class 5 substance is a flammable solid.</p> <p><b>7</b> EXCEPT: Flammable gases in cylinders may be transported together with compressed oxygen or oxidizing gas cylinders.</p> <p><b>8</b> Concentrated strong Acid is to be segregated from concentrated strong alkali.</p>			

This segregation chart is a guide only and does not constitute a guarantee. It is intended to provide a general overview of the segregation requirements for dangerous goods. It is not intended to be used as a substitute for the relevant regulations and standards. The user should refer to the relevant regulations and standards for more detailed information.

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## Chemical Waste Destruction Request (CWDR) for chemical waste

Generator Details				Waste Management Details	
Company Name	University of Pretoria	Account Number			
Contact Person		Department			
Cell Number		Campus, Building Name, Room No:			
Tel Number					
Fax Number					
Email Address					

*\*Booking can only be made once this form has been completed in full.*

Date booking made (Completed by Client):	Booking Reference number (Completed by booking clerk):	Service date: (Completed by booking clerk, Could be more than one):
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Item No.	Chemical/Product/Shipping name	Container Capacity	Number of Containers	PLEASE TICK ✓			Estimated Quantity and *Physical	UN NUMBER	CLASS
				EXCHANGE	REMOVE	PLACEMENT			

## 9.2 Biomedical waste

Biomedical waste is any kind of waste containing infectious (or potentially infectious) materials. It may also include waste associated with the generation of biomedical waste that visually appears to be of medical or laboratory origin (e.g., packaging, unused bandages, infusion kits, etc.), as well research laboratory waste containing biomolecules or organisms that are restricted from environmental release. As detailed below, discarded sharps are considered biomedical waste whether they are contaminated or not, due to the possibility of being contaminated with blood and their propensity to cause injury when not properly contained and disposed of. Biomedical waste is a type of biowaste.

Biomedical waste may be solid or liquid. Examples of infectious waste include discarded blood, sharps, unwanted microbiological cultures and stocks, identifiable body parts (including those as a result of amputation), other human or animal tissue, used bandages and dressings, discarded gloves, other medical supplies that may have been in contact with blood and body fluids, and laboratory waste that exhibits the characteristics described above. Waste sharps include potentially contaminated used (and unused discarded) needles, scalpels, lancets and other devices capable of penetrating skin.

- When a person or department have medical or pharmaceutical waste that needs to be removed, the person must complete a *Medical Waste Removal Request* (MWRR) and send it via e-mail to the Environmental Management and Waste Management department of the University of Pretoria
    - [ilze.ueckermann@up.ac.za](mailto:ilze.ueckermann@up.ac.za)
    - [miliswa.puling@up.ac.za](mailto:miliswa.puling@up.ac.za)
  - This document must be completed in full in order to be collected by the service provider/contractor
  - Waste must be packed in a proper waste container with a red plastic liner inside
  - Medical/pharmaceutical waste must be kept in a safe storage area until the service provider/contractor collect such waste
  - Care must be taken that waste boxes/containers does not leak. No wet boxes will be remove
  - Medical/pharmaceutical waste boxes must be sealed with adhesive tape. (Bio-hazardous tape)
  - 142Lt Biohazard boxset must not weigh more than 15kg when packed, and the 50Lt Biohazard boxset should not weigh more than 8kg when packed
  - Special care must be taken to ensure the bottom of boxes does not separate
  - Form 1 (Medical waste removal request MWRR) needs to be completed and send to the Environmental Management department on Thursdays to arrange collection the next week.
  - The generator of the waste needs to print Form 2 and stick this on the biohazard boxset with selotape. Form 2 needs to be completed to correspond with the MWRR that was submitted to the Environmental Management department.
-

- No medical waste removal request may be sent directly to the service provider/contractor. Only requests sent to the contractor/service provider by the Environmental Management department will be collected

### Medical Waste Removal Request (MWRR) for medical and pharmaceutical waste

Generator Details				Waste Management Details		
Company Name	University of Pretoria	Account Number				
Contact Person		Department				
Cell Number		Campus, Building Name, Room No:				
Tel Number						
Fax Number						
Email Address						
*Booking can only be made once this form has been completed in full.						
Date booking made (Completed by Client):		Booking Reference number (Completed by booking clerk)		Service date: (Completed by booking clerk):		
2014/09/20						
Item No.	Product Name, Container Capacity and Type	Number of Containers	PLEASE TICK ✓			Estimated Quantity
			EXCHANGE	REMOVE	PLACEMENT	
		1		x		1



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FORM 2

1

DATE / DATUM .....

<b>UNIQUE-NR</b>

2

**WASTE-DISPOSAL → → → → → AFVAL-VERWYDERING**

1		
2		
3		
4		
5		
6		
7		

3

<b>DEPARTMENT-RESPONSIBLE / DEPARTEMENT-VERANTWOORDELIK</b>	
<b>RESPONSIBLE-PERSON / VERANTWOORDELIKE-PERSOON</b>	
<b>CONTACT-NUMBER / KONTAK-NOMMER</b>	
<b>OFFICE-DETAILS / KANTOOR-INLIGTING</b>	

4

**THE-CONTENT-OF-THIS-BOX-SHOULD-NOT-EXCEED-15-KG**  
**DIE-INHOUD-VAN-DIE-HOUER-MOET-NIE-MEER-AS-15KG-WEES-NIE**

<b>IN-CASE-OF-THIS-BOX-BEING-MISPLACED, PLEASE CONTACT DEPARTMENT-FACILITIES-MANAGEMENT-012-420-2046</b>
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### 9.3 Pharmaceutical waste

- Pharmaceutical waste means unused medicines, medications and residues of medicines that are no longer usable as medication.
- Pharmaceutical waste containers must be green in colour with a toxic substance label.
- Pharmaceutical waste must be stored for no longer, than 90 days from the date the container is sealed to the date of final disposal.
- Pharmaceutical waste must be clearly marked with a list of the content of the pharmaceutical container. This list must be signed by the responsible pharmacist.
- Pharmaceutical waste are categorised in schedule 0 – 6 substances according to their hazard potential.
- Schedule 0 – 4 can be disposed of together in one container regardless of the schedule if they are the same type e.g. pills or ointments.
- Schedule 5 – 6 need special permission from the National Department of Health prior to disposal.
- A pharmaceutical register must be filled in and this must accompany the application for waste removal to the Environment and waste Management department.
- A barcoded schedule 5 – 6 sticker is to be placed on the container to differentiate it from schedule 0 – 4 medicines.

### 9.4 Zoonotic waste

- Safe containment and packaging of waste should be performed as close as possible to the point of generation. Staff should avoid opening containers to manipulate the waste after primary containment.
- Limit the number of staff entering the infected area and those handling generated waste before and after primary containment.
- Always use appropriate personal protective equipment (PPE) and procedures for handling waste until transport away from the site of production for offsite incineration.
- The hazardous waste term contractor is not allowed to close the 210Lt drum or single use biohazard boxset. UP staff should ensure that the bags and containers are properly sealed and placed in the storage facility.

#### **A. Vaccination:**

##### **Rabies - Pre-exposure**

All staff and students (including laboratory workers) who may be expected to come into contact with animals or tissue products should undergo prophylactic pre-exposure vaccination against rabies.

A registered vaccine, which complies with the requirements and standards laid down by the WHO Expert Committee on Rabies (2,5 IU per dose), is prescribed by the Official Guidelines for the Prevention and Control of Rabies for the Medical, Veterinary and Allied Professions (2002), issued by the National Department of Agriculture.

The vaccine should be administered by a qualified Medical Occupational Health Officer (MOHO) according to the prescribed protocol (3 successive deep intramuscular injections into the deltoid muscle at 0, 7 and 28 days, followed by biannual booster vaccination-Official Guidelines pp. 34) and antibody titers should be monitored on an annual basis to ensure the required level of protective immunity.

There are contra-indications in individuals with acute disorders as well as in pregnant women and in individuals with known anaphylactic hypersensitivities. In all these disorders, patients are obliged to inform and consult with the responsible MOHO.

**Rabies - Post-exposure:**

This may only be considered in consultation with an adequately qualified and experienced medical health professional after having assessed the risk of infection after exposure. Important risk-factors include the nature of exposure; the species and behaviour of the implicated animal, as well as the incidence of rabies in the animals' area of origin (refer to pp. 41 of the Guidelines for more details).

**B. Prevention of exposure to zoonotic agents:**

All staff and students (including laboratory workers) should be informed of, and routinely reminded of, the risks to human health of animals and tissues infected with zoonotic agents.

All personnel should be informed immediately of outbreaks or suspected outbreaks of zoonotic disease, for which special precautions should be taken.

Important specific agents, presenting signs and possible sources of infection are tabulated below:

Class	Disease	Species	Presenting Signs	Source
Virus	Rabies	All	Nervous disease	Brain, saliva
	Rift Valley fever	Ruminants	Abortion, sudden death	Foetus, all tissues and discharges
	Congo-Crimean haemorrhagic fever	Ostrich	None	All tissues
	Equine viral encephalitides	Horse	Nervous disease	Brain, spinal cord
	Avian influenza	Birds	Sudden death	All tissues
Bacteria	Anthrax	All	Sudden death	All tissues and discharges
	Brucellosis	Cattle	Abortion	Foetus, uterus and contents
	Salmonellosis	All	Gastro-intestinal disease	All tissues and discharges
Chlamydia	Psittacosis	Psittacine birds	Respiratory disease	All tissues and discharges

Fungi	Cryptococcosis	Dogs, cats	Respiratory disease	All tissues and discharges
	Histoplasmosis	Dogs, cats	Respiratory disease	All tissues and discharges

Precautions to avoid infection with these and other agents include:

- Pregnant women and immunocompromised persons debarred from handling tissues where there is a risk of exposure to a zoonosis.
  - Wearing of protective clothing (gloves, overalls, boots) at all times
  - Use of face masks for post-mortem of large animals in which there are grounds to suspect a zoonosis.
  - Use of biohazard hoods for post-mortem of all foetuses, for removal of brain and spinal cord from any animal in which a zoonotic encephalitis is suspected, for post-mortem of all psittacine birds and primates (which may be infected with human pathogens).
  - Limitation of post-mortem examination and handling of tissues to the minimum required for securing a diagnosis where there are grounds to suspect a zoonosis.
  - Immediate disinfection of tables, hoods, instruments and clothing contaminated during post-mortem and collection of specimens where there are grounds to suspect a zoonosis.
- Segregation should always be the responsibility of the waste generator,
  - Segregation should take place as close as possible to where the waste is generated and should be maintained in storage areas and during transport.
  - Bags and containers for infectious waste should be marked with the international infectious substance symbol.
  - Highly infectious waste should, whenever possible, be sterilized immediately by autoclaving. It therefore needs to be packaged in bags that are compatible with the proposed treatment process: red bags, suitable for autoclaving, are recommended.
  - Waste bags should never be over-filled. Containers should be removed when they are three-quarters full.
  - Waste should be packaged with an installed liner provided by the waste vendor.
  - Waste should be triple bagged in provided 100µ red bags and sealed before being placed into the single use box set.
  - The single use box set should be properly sealed with adhesive tape before being moved to the storeroom.
  - Move the carcass to the freezer Pathology room 1-16 for collection by the term contractor and off site incineration.

If the single use box sets are not used and an alternative 210Lt drum is preferred then the following steps should be taken:

- Line appropriate-sized waste containers with a leak-proof biohazard bag.
- Place non-sharps solid waste in the biohazard bag. Bags should not be filled beyond two thirds full to allow safe closure.
- Prepare filled bags for offsite incineration.



- Upon removing the triple-bagged waste from the post mortem room, the staff member should place the triple-bagged waste in a designated transport trolley for offsite incineration.
- Close the bag with a method that will not tear or puncture the bag (e.g., tying the neck of bag with a goose-neck knot) and will ensure no leaks.
- Wipe or spray the outside surface of the 210Lt drum.
- Store the disinfected sealed 210Lt drum in a designated area to await removal.
- Environmental services personnel removing the waste from the care area should only handle the outer container/transport cart and should never open the container or handle the triple-bagged waste.
- The utmost care must be taken when packing hazardous waste. Containers must never be overfilled, as the volume of waste materials could fluctuate and cause leakage. All clamps, caps, lids and clasps must be securely fastened at all times.
- Move the carcass to the freezer Pathology room 1-16 for collection by the term contractor and off site incineration.

## 9.5 Isolation infectious carcasses

- This procedure is applicable to all carcasses with suspected or confirmed infectious disease.
- It is the responsibility of all pathologist and post mortem assistant to follow this procedure.
- Isolation / Infectious carcasses need to be triple bagged in 100µ red liners.
- The bags need to only be three-quarters full and seal with a tying the neck of bag with a goose-neck knot.

### Procedure

#### Small Animal

- a. When finished with the carcass, put it back into the plastic bag.
- b. Tie the bag at the top end.
- c. Take the carcass to post mortem hall number 1, for disposal.
- d. Put the carcass on the designated area marked "Holding area carcass awaiting incineration"
- e. Put the white sticker on top of the carcass; make sure that it is visible.
- f. Move the carcass to the freezer Pathology room 1-16
- g. The senior technical assistant in post mortem hall must then notify the Department Environment and Waste who will contact the term contractor for immediate removal and incineration off site
- h. Always cover the biohazard boxsets and seal it with the biohazard tape before transporting them.
- i. The boxsets should not be opened once it has been sealed.

### Large animal

- a. Line appropriate-sized waste containers with a leak-proof biohazard bag.
- b. Place non-sharps solid waste in the biohazard bag. Bags should not be filled beyond two thirds full to allow safe closure.
- c. Prepare filled bags for offsite incineration.
- d. Upon removing the triple-bagged waste from the post mortem room, the staff member should place the triple-bagged waste in a designated transport trolley for offsite incineration.
- e. Close the bag with a method that will not tear or puncture the bag (e.g., tying the neck of bag with a goose-neck knot) and will ensure no leaks.
- f. Wipe or spray the outside surface of the 210Lt drum.
- g. Store the disinfected sealed 210Lt drum in a designated area to await removal.
- h. Environmental services personnel removing the waste from the care area should only handle the outer container/transport cart and should never open the container or handle the triple-bagged waste.
- i. The utmost care must be taken when packing hazardous waste. Containers must never be overfilled, as the volume of waste materials could fluctuate and cause leakage. All clamps, caps, lids and clasps must be securely fastened at all times
- j. The 210Lt drum should not be opened once it has been sealed.
- k. Move the carcass to the freezer Pathology room 1-16
- l. The senior technical assistant in post mortem hall must then notify the Department Environment and Waste who will contact the term contractor for immediate removal and incineration off site

### Packaging Requirements for Incineration

- Materials for incineration must be packaged and labelled.
- Bags for incineration must NOT contain glass or liquids.
- The senior technical assistant in post mortem hall must then notify the Department Environment and Waste who will contact the term contractor for immediate removal and incineration off site.

## **9.6 Non infectious carcass waste**

The carcasses (generated as a result of research in laboratories) should be managed, transported and disposed of in terms of all the relevant applicable legislation and the University's Carcass Waste Disposal Procedure, as amended from time to time.

Carcasses are disposed of as either a carcass with more than 40% moisture content or a carcass with less than 40% moisture content.

- a. Holding, when necessary, is accomplished in a cold room reserved for carcass disposal (Pathology room 1-16). Carcasses and body parts of animals that have not been preserved must be triple bagged to prevent leakage and kept cold until pickup by the term contractor.
- b. Once a notifiable disease is suspected, fill in the necessary documentation and notify the state vet.
  - a. Follow the procedure for infectious carcasses described above and notify the Department Environment and waste to arrange collection.
- c. The carcasses are picked up on a regular schedule (every Friday) for appropriate disposal by a term contractor. Fridges are cleaned as necessary by assistant of the post mortem hall to keep them in a sanitary condition

For biopsies and all samples received by the laboratory

- a. Once the pathologist is finished with the case, he/she sends the file to the laboratory.
- b. File the slide in numerical sequence, detach the laboratory card from the rest of the documentation accompanying the case
- c. Check on the card if the case is to be reserved or discarded. If the case is to be discarded take the sample out of the filing system and put it on the trolley in the 'put thru room' Room 1-63
- d. Once the trolley is full then call one of the assistants to collect the trolley from the laboratory.
- e. The assistant must then throw out formalin from the sample container into the big formalin container which is marked "Formalin" at the post mortem hall.
- f. The specimen will then be thrown into the big closed silver container and stored in one of the cold rooms while awaiting the removal by the term contractor.
- g. Then the samples are collected every Friday or as the need arise, the arrangement is done by the post mortem hall personnel

When a person or department has carcass waste that needs to be removed, the person must complete a Medical Waste Removal Request (MWRR) and send it via e-mail to the

Environmental Management and Waste Management department at the University of Pretoria

- [ilze.ueckermann@up.ac.za](mailto:ilze.ueckermann@up.ac.za)
- [miliswa.puling@up.ac.za](mailto:miliswa.puling@up.ac.za)

## 9.7 Laboratory Glass waste

Departments may sterilize biologically contaminated glass waste by autoclave or other approved methods, as described in the laboratory's biosafety manual, and then dispose of as non-contaminated glass waste.

When a person or department has non contaminated glass waste that needs to be removed the person must complete a Medical Waste Removal Request (MWRR) and send it via e-mail to the Environmental Management and Waste Management department at the University of Pretoria

- [ilze.ueckermann@up.ac.za](mailto:ilze.ueckermann@up.ac.za)
- [miliswa.puling@up.ac.za](mailto:miliswa.puling@up.ac.za)

The Department or person should request the placement of a 210Lt drum for the purposes of safe non contaminated glass waste disposal. Once the 210Lt drum is full the lid should be sealed and the request submitted for removal of the glass waste drum. There must be no failure of the container's integrity during transport which could expose laboratory or service provider staff to cutting or puncture hazards. The term contractor disposal staff are not required to handle any glass waste container which could rupture during handling.

The procedure for contaminated glass waste is similar as above however, the person or department should very clearly indicate that the glass is contaminated laboratory glass waste.

## 9. Roles and responsibilities of the staff involved

### I. Responsibilities

#### a) The waste management officer (UP staff member)

- To ensure hazardous waste is segregated, stored, and transported to the treatment facility before disposal
- Securing of site and final safe storage of hazardous waste containers / receptacles
- Monitoring of waste preparation, movement to store and storage

b) Waste handlers (Term contractor)

- Removal of waste from generation points and transportation to the off site incinerator or waste disposal site
- Appointed hazardous waste term contractor

c) Incinerator Operator

- Operate the incinerator and maintain records of waste treated and disposed
- Ensure proper maintenance of sanitation within the incinerator area
- Report any malfunctions of the incinerator to the maintenance officer

## 10. Waste types

- animal carcasses;
- animal products (e.g. meat, eggs, milk, wool);
- bedding and manure;
- feed and feeding stuff;
- contaminated equipment, supplies, and materials (e.g. veterinary medical products, vaccination or diagnostic syringes, PPE, trash);

## 11. Transport

Transport vehicles will be needed to relocate items (hazardous waste, carcasses, other materials) to the disposal site, whether it is on or off the premises. If the waste must travel on public roads, it should be transported in closed, leak-resistant trucks, containers or dumpsters.

Secondary containment may be needed, depending on the type of waste being transported. Some other transport planning considerations are listed below:

- The transport vehicles should be designed to handle the materials to be transported.
- The transport vehicles should be properly marked for the transport of these materials.
- The drivers adequately trained in biosecurity and should have the correct PPE.
- In the case of carcass waste shipments should be accompanied with the correct legislative and statutory documents for transport and disposal

- The routes that would be travelled during the transport of the carcasses; should be approved in advance by the competent authority. Care must be taken to avoid road construction, neighborhoods and densely populated areas.)
- An alternate travel route must also be identified
- Procedures should be in place to be followed if the vehicle is damaged during transit.
- How will vehicles be cleaned and disinfected before leaving the affected premises and after materials have been offloaded at the disposal site?
- How will vehicle-loading be performed in order to avoid releasing biological agent(s) into the environment?
- How will transport vehicle traffic be minimized into the infected area?