

SOP no.: 01

SOP title: Hazardous waste disposal

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SOP title	HAZARDOUS WASTE DISPOSAL			
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1. INTRODUCTION:

Usually, the following waste is produced in laboratories:

- Urban solid waste (paper, plastic, metal, glass);
- Special waste (hazardous) - explicitly addressed below

N.B. It is of the foremost importance to keep the abovementioned types of waste separated by using appropriate waste containers.

2. DISPOSAL OF HAZARDOUS WASTE PRODUCED IN THE FOLLOWING BCA'S LABORATORIES (PRIMA STECCA):

Radiochemical Laboratory (1000B 01 024);
Proteomic Laboratory (1000B 01 027);
Joint Laboratory (1000B 01 028);
Ecotox/Feed and Food Laboratory (1000B 01 029);
Histochemical Laboratory (1000B 01 030);
Histological Laboratory (1000B 01 032);
Cell culture Laboratory (1000B 01 033);
Molecular Biology Laboratory (1000B 01 039);
Confocal Microscopy Laboratory (1000B 00 027);
Real Time Laboratory (1000B 00 028);
Photographic Laboratory (1000B 00 029)

Person responsible for the collection and delivery of waste: Giovanni Caporale.

2.1 TIPOLOGIE DI RIFIUTI PERICOLOSI PRODOTTI:

- **Radioactive waste:** The procedures for the collection and delivery of this type of waste are tracked and controlled by the Radiation Protection Services of the University of Padova;
- **Medical waste:** Waste products from processed biological matrixes (gloves, paper, pipette tips, tubes, syringes, needles, blades, etc.) labelled with EWC (European Waste Catalogue) code 180202;
- **Liquid chemical waste:** Waste products from substances and/or mixtures of substances classified based on their chemical characteristics: organic halogenated solvents (EWC 070703), non-halogenated solvents (EWC 070704), photographic developers (EWC 090101), fixed solutions (EWC 090104);
- **Solid chemical waste:** (CER 070710) Waste products from the aforementioned processed chemical substances and/or mixtures of substances (gloves, paper, pipette tips, tubes, reagent containers, etc.).

2.2 COLLECTION AND DELIVERY OF WASTE TO THE TEMPORARY STORAGE:

- **Medical waste:** Waste containers are: 50l. black containers with yellow lid and polyethylene bag, 60l. plastic cartons (cartonplast) with polyethylene bag; they are identified with both an "R" and an adhesive label

containing the name of the establishment and laboratory, the type of waste, the EWC code, the container capacity and its weight, and a progressive number identifying the temporary storage.

- **Liquid chemical waste:** Waste containers are: polyethylene tanks (5-, 10- and 20-liter capacity) with screw cap; they are identified with an “R” on a yellow background, a diamond-shaped label with a black skull on a white background and a write-on label containing the name of the establishment and laboratory, the type of waste, the EWC code, the container capacity and its weight, and a progressive number identifying the temporary storage.
- **Solid chemical waste:** Waste containers are: 50l. yellow containers with yellow lid; they are identified with an adhesive label with a black “R” on a yellow background and a write-on label containing the name of the establishment and laboratory, the type of waste, the EWC code, the container capacity and its weight, and a progressive number identifying the temporary storage. Waste collection services are provided every THURSDAY. During both collection and delivery procedures, operators shall comply with the following:
 - Use personal protective equipment (PPE), such as disposable gowns and nitrile gloves;
 - Use a waste cart to transport waste from the laboratories to the temporary storage;
 - Weight waste and affix a progressive number;
 - pesatura e apposizione del numero progressivo;
 - Deliver waste to the temporary storage.

IN CASE OF ACCIDENTAL SPILLAGE:

- Contain spills by using paper or sand;
- Demarcate the area of spill;
- If necessary, control and restrict pedestrian and vehicular traffic.

INSTRUCTIONS FOR UNIVERSITY STAFF:

- Follow the instructions provided by the person responsible for the area in which the spill occurred;
- Dispose waste according to the recycling rules established by the establishment;
- Inform the person responsible for the area of spill of any discrepancy detected.

INSTRUCTION FOR STUDENTS (GRADUATE CANDIDATES, TRAINEES):

- Read carefully the SOP concerning recycling of different types of waste produced in the laboratory;
- In case of doubts, contact the person responsible for the area;
- Do not take any personal initiative.

3. WASTE MANAGEMENT IN CLASSROOMS AND RESEARCH LABORATORIES USED FOR PRACTICAL AND TIROCINIO ACTIVITIES, AS WELL AS FOR THESIS PROJECTS - MUSEUM BUILDING (BCA)

PREMISES

Any person entering the laboratory for practical and Tirocinio activities, as well as for thesis projects (students, trainees, authorized personnel, tutors) is responsible for both the production and collection of waste, but not for its disposal, which is carried out by the operators assigned to this service. Both the person assigned to one specific laboratory and the tutor are responsible for supervising that all rules concerning waste management are correctly applied, as established by the University Regulations (“Technical Regulations for the management of waste products resulting from the activities undertaken by the University of Padova” – 9 May 2011, v. 0.1.).

3.1 TYPE OF HAZARDOUS WASTE GENERATED

Any special waste that is produced during practical or traineeship activities, as well as during research activities for thesis projects, in teaching and research laboratories is either classified as chemical waste (liquid and solid) or hazardous medical waste (liquid and solid).

Liquid chemical waste includes waste deriving from substances and/or mixtures of substances classified based on their chemical characteristics: in the aforementioned laboratories where aqueous solutions are produced (E.W.C. 070701),

- organic halogenated solvents (E.W.C. 070703), non-halogenated solvents (E.W.C. 070704), photographic developers (E.W.C. 090101), fixed solutions (E.W.C. 090104);
- **Solid chemical waste:** (E.W.C. 070710) Waste products from processed chemical substances and/or mixtures of substances (gloves, paper, pipette tips, tubes, reagent containers, etc.).
- **Medical waste:** Waste products derived from biological matrixes (e.g. gloves, paper, pipette tips, tubes, syringes, needles, blades, etc.) labelled with E.W.C. 180202; This also includes waste produced in the cell culture and teaching laboratories where practicals involving the use of culture cells take place, such as cell-culture dishes, disposable plastic products (e.g. Eppendorf-like microtubes, Falcon-like tubes, disposable, pipette tips), Pasteur-like disposable glass pipettes, used PPE (e.g. gloves, protective clothing, disposable gowns) and absorbent paper used for the cleaning of surfaces that have entered into contact with non-infected biological material. Cell cultures used in laboratory activities either fall within risk category I or II (according to the classification proposed by Legislative Decree 626/94, these are organisms that, based on their level of infectivity, pathogenicity, transmissibility, neutralizing capacity and virulence, pose a low individual and collective risk). In the aforementioned laboratories, medical waste in liquid form, consisting of culture media, animal serum and spent products may also be produced.

PERSONS RESPONSIBLE FOR WASTE COLLECTION AND DELIVERY:

Davide Trez, Enrico Gallo

3.2 WASTE COLLECTION AND STORAGE IN THE TEMPORARY STORAGE

Specific special waste containers are placed in the laboratories that are used for practical and Tirocinio activities, as well as for thesis projects; only the UN approved containers provided by the University's Waste Management Services (responsible for the temporary storage of waste on the campus of Agripolis) shall be used. Waste containers are made available to users in the various laboratories by the person responsible for the laboratory or their delegate, who shall also send them for disposal. There are four types of waste containers:

- Yellow PEHD containers (50-liter capacity) with yellow lid for solid chemical waste;
- Black PEHD containers (50-liter capacity) with yellow lid and autoclavable bag for hazardous medical waste (solid);
- White PEHD tanks (5/10-liter capacity) for both medical and chemical waste (liquid);
- Blade disposal boxes for sharp objects (solid medical waste) to be placed in appropriate 50-liter containers.

Sharp waste used under a laminar flow hood must first be placed in closed, rigid containers (do not fill more than two-thirds of their capacity) and then disposed of in 50-liter PEHD tanks (black); disposable micropipette tips, contaminated with residues of chemical substances used in various applications shall be disposed of in 5-liter PEHD tanks kept under chemical hood. Tanks shall be properly sealed once they are filled to two-thirds of their capacity and disposed of in 50-liter PEHD tanks (yellow).

Furthermore, hazardous medical waste shall be rendered harmless by either a 5% sodium hypochlorite treatment or autoclave.

All operators involved in the production and handling of any kind of waste shall wear appropriate PPE, including nitrile gloves and gowns.

When special waste containers have been filled (for this, follow the instructions on maximum authorized weights – max 15kg for 50-liter containers; for tanks, fill to the fill line), the person responsible for supervising the laboratory shall seal the container and label it with the E.W.C. code, indicating the facility and laboratory of origin, the date of sealing and the type of waste.

It is also necessary to fill out a specific accompanying form (temporary storage form of hazardous waste of chemical/medical origin), containing a detailed description of waste produced; containers (bins and tanks) are collected on a weekly-basis (on Thursday, unless otherwise stated) and delivered to the temporary storage of Agripolis, together with the required documentation. The waste will afterwards be disposed of by the contracted companies. The delivery of waste deriving from laboratory activities to the temporary storage is carried out by using approved waste carts with spill containment basins; Besides ensuring that containers are properly sealed and labels applied, operators shall verify both the presence of the relevant documentation and the absence of external contamination.

3.3 MERGENCY MANAGEMENT

In case of accidental spillage of chemical or hazardous medical waste (liquid) contained in the collection tanks, the person responsible for the supervision of the laboratory and/or the tutor shall adopt appropriate measures to ensure staff safety and that operations can be carried out safely, using the PPE available. In particular:

- Demarcate the area of spill and keep unnecessary people away from it;
- Contain the spill with absorbent paper, sand and absorbent cloths (depending on product availability in the laboratory) and dispose used materials in the appropriate container, ensuring a correct ventilation of the area of spill.
- In case of chemical spillage of known chemical substances, see the safety data sheets;
- In case of spillage of liquid medical waste, collect as much of the spilled material as possible and treat the area with Chlorhexidine or 5% hypochlorite or 70% ethanol, depending on product availability in the laboratory.

INSTRUCTIONS FOR UNIVERSITY STAFF:

- Comply with the instruction provided orally by the person responsible for the area of spill;
- Dispose waste according to recycling rules established by the establishment;
- Inform the person responsible for the area of spill of any discrepancy detected.

INSTRUCTIONS FOR STUDENTS (graduate candidates, trainees):

- Read carefully the SOP concerning recycling of different types of waste produced in the laboratory.
- In case of doubts, contact the person responsible for the area of spill;
- Report immediately to the person responsible for the area of spill in case of accidents;
- Do not take any personal initiative.

BCA DEPARTMENT: NECROPSY ROOM (COD GEOTEC 1000D 00 013 – 1000D 00 022)

- **4.1 DEFINITION OF “WASTE”:** Any substance or object which the holder discards or intends or is required to discard as detailed in Annex A (Part IV of Legislative Decree No. 152/06). Special waste (Art. 184, paragraph 3 of Legislative Decree No. 152/2006) is:
 - a. Any waste deriving from agricultural and agro-industrial activities;
 - b. Any waste deriving from dismantling and construction activities, including hazardous waste deriving from digging activities, provided that soil and stones are not considered waste if certain conditions are fulfilled (such conditions are detailed in art. 186);
 - c. Industrial by-products;
 - d. Handicraft waste;
 - e. Commercial waste;
 - f. Waste from service activities
 - g. Waste from: waste collection and disposal activities, water purification and other water treatments, waste water purification and emissions to air;
 - h. Waste from healthcare activities;
 - i. Deteriorated and outdated machinery and equipment;
 - j. End-of-life motor vehicles, trailers and the like, and their parts;
 - k. Refuse derived fuel (RDF).

NB: Any waste is identified with an EWC code;

In case of hazardous waste, the last digit of the EWC code shall be followed by an asterisk*.

4.2 SPECIAL WASTE PRODUCED IN THE NECROPSY ROOM:

Medical waste: (EWC 180202),

Liquid chemical waste: (EWC 070701),

Solid chemical waste: (EWC 070710), Animal by-products (ABP).

WEEE (Waste electrical and electronic equipment): (EWC 160214),

Printing toner: (EWC 080317 080318).

For further information, see the University guidelines (which are available for consultation in room 1000D 00 021, bookshelf 1). In case of doubts, contact the person responsible for safety or their delegate.

• 4.3 SPECIAL WASTE MANAGEMENT

MEDICAL WASTE:

1) Description: Waste deriving from either public or private health establishments involved in the following: medical care, preventive veterinary care, diagnostic activities, caring activities, rehabilitation activities, as well as research activities (Presidential Decree no. 254/2003, art. 2). Waste produced in the necropsy room mainly consists of by-products derived from biological matrixes (e.g. gloves, paper, pipette tips, tubes, syringes, needles, blades, etc.).

2) Collection and disposal procedures: Medical waste is collected in 50l. black containers with yellow lid and polyethylene bag, 60l. plastic cartons (cartonplast) with polyethylene bag. They are both identified with an "R". During collection procedures, a white adhesive label is applied onto every container or plastic carton, containing the name of the establishment and laboratory, the type of waste, the EWC code, the container capacity and its weight, and a progressive number identifying the temporary storage. Waste disposal shall be carried out by the person responsible for safety in the laboratory.

3) Hazard identification: Biological and infectious risk

4) Safety instructions: Operators must use CPE and PPE (gowns or overalls, boots or shoe covers, nitrile gloves) before entering the necropsy room for waste collection.

LIQUID CHEMICAL WASTE:

1) Description: Special waste deriving from substances and/or mixtures of substances classified based on their chemical characteristics.

Waste produced in the necropsy room mainly consists of liquid waste products derived from formalin-fixed biological samples..

2) Collection and disposal procedures: Liquid chemical waste is collected in polyethylene tanks (5-, 10- and 20-liter capacity) with screw cap.

At the delivery stage, all tanks shall carry the following: a black adhesive label with an “R” on yellow background, an adhesive label containing the hazardous waste symbol, a white adhesive label containing the name of the establishment and laboratory, the type of waste, the EWC code, the container capacity and its weight, and a progressive number identifying both the laboratory and the temporary storage. Waste disposal shall be carried out by the person responsible for safety in the laboratory.

3) Hazard identification: See the specific waste sheet (which is available for consultation in room 1000D 00 021, bookshelf 1, reagent technical sheet section).

4) Safety instructions: Operators must use CPE and PPE (gowns or overalls, boots or shoe covers, nitrile gloves, protective gloves) before entering the necropsy room for waste collection.

SOLID CHEMICAL WASTE

1) Description: Special waste deriving from processing with chemical substances and/or mixtures of chemical substances. Waste produced in the necropsy room mainly consists of solid waste products derived from fixation activities of formalin biological samples (e.g. formalin-fixed biological samples, containers and other solid materials contaminated by formalin).

2) Collection and disposal procedures: Solid chemical waste is collected in 50l. yellow containers with yellow lid. At the delivery stage, all containers shall carry the following: a black adhesive label with an “R” on yellow background, a white adhesive label containing the name of the establishment and laboratory, the type of waste, the EWC code, the container capacity and its weight, and a progressive number identifying both the laboratory and the temporary storage.

3) Hazard identification: See the specific waste sheet (which is available for consultation in room 1000D 00 021, bookshelf 1, reagent technical sheet section).

4) Safety instructions: Operators must use CPE and PPE (gowns or overalls, boots or shoe covers, nitrile gloves, protective gloves) before entering the necropsy room for waste collection.

ABP (ANIMAL BY-PRODUCTS INTENDED FOR HUMAN CONSUMPTION - CATEGORY 1)

1) Description: Substances or objects resulting from a production process which did not originally intend to create such products, and whose use is safe and legal within the same or new production process without additional treatments (Legislative Decree of 3 December 2010, art. 184 bis.).

Animal by-products (ABPs) produced in the necropsy room are animal carcasses, parts of animals, or other animal materials intended for teaching and research purposes; these by-products are conservatively classified as Category 1 materials with a high health risk.

2) Collection and disposal procedures: ABPs are identified with a yellow and black stripe and collected in tippable steel tanks which are easy to clean and disinfect. ABPs are firstly stored in a cold room at a temperature of +4°C and then disposed of by the authorised contracted company, as established by Regulation (EC) 1774/2002. Transport and removal of ABPs shall be carried out using vehicles authorised by the Local Health Authority (ASL) and identified with irremovable metal plate carrying the following information: Region, ASL and identification number. ABP removal from the steel tank shall be carried out using a forklift which can only be used by properly trained authorised personnel, according to existing legislation. The forklift manual is located in room 1000D 00 021, bookshelf 1, equipment 1 manual section). Both the means of transport and containers used are washed within a designated area, as per established procedures. The area can only be accessed by authorized personnel and using appropriate PPE.

3) Hazard identification: Biological and infectious risk. See the specific ABP sheet (located in room 1000D 00 021, bookshelf 1).

4) Safety instructions: Operators must use CPE and PPE (gowns or overalls, boots or shoe covers, nitrile gloves) before entering the necropsy room for waste collection.

5) Istruzioni di sicurezza: La raccolta è sempre subordinata all'utilizzo dei DPC e DPI da utilizzare al momento dell'ingresso nella sala necroscopie (camice o tuta da lavoro, stivali o copriscarpe, guanti in nitrile).

6) Documentation and registration: At ABP loading, the consignor shall complete the specific commercial document (which is equivalent to the form accompanying special waste), which must be signed by both the consignor and carrier, and, in case of Category 1 waste, authenticated by an official ASL veterinarian at the point of departure (this latter point is no longer in force since the application of new regulations); a copy of the document shall be returned to the producer signed by the establishment of destination and authenticated by an official ASL veterinarian from which the establishment is based. The producer/consignor shall keep a load/unload register, and each page shall be numbered and authenticated by the ASL responsible for the area. NB: All procedures concerning waste transportation, collection and disposal, as well as the completion of ABP documentation, shall fall within the competence of the person responsible for safety in the necropsy room or other assimilated operators who identify themselves as consignors. Except for ABPs, which are disposed of by the contracted company, all other special waste is transported from the laboratories to the temporary storage of Agripolis by the University's Waste Management Services every week (Thursday morning).

Waste transportation is carried out by either the person responsible for safety or the person responsible for the laboratory.

IN CASE OF ACCIDENTAL SPILLAGE:

- Determine the nature of spilled material and act in accordance with the type of waste, so to prevent further dispersion of the spilled material into the environment;

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- Demarcate the area of spill;
- Control and restrict, if necessary, pedestrian and vehicular traffic.

INSTRUCTIONS FOR BOTH UNIVERSITY AND NON-UNIVERSITY STAFF, GRADUATE CANDIDATES AND TRAINEES:

- Comply with the instruction provided by the person responsible for safety or their delegates.
- Follow the instructions provided by the relevant SOP;
- Dispose waste according to the University guidelines (which are located in room 1000D 00 021, bookshelf 1, University guideline section);
- In case of doubts, contact the person responsible for safety or their delegate.

4 DISPOSAL OF WASTE PRODUCED IN THE HORSE STABLES OF THE DEPARTMENT OF MAPS

The following waste is produced in the horse stables:

1. **“Ordinary” waste:** paper, plastic, glass, wood, polystyrene; This type of waste is disposed in bins for separate waste collection, which are subsequently unloaded manually onto specific waste containers of the recycling collection point of the campus.
2. **“Special” waste:** biological waste (excreta and food leftovers) and waste deriving from treatments on hospitalised animals (syringes, needles, drugs, PPE, bandages, etc.) Loading and transportation of excreta and food leftovers produced by either housed or hospitalised non-infectious animals to the dunghill is carried out by the “Lucio Toniolo” Experimental Farm through the use of a tractor and a trailer. All excreta and food leftovers of infected animals are collected in 60l. plastic cartons (cartonplast) with polyethylene bag carrying the name of the establishment and laboratory, the container capacity and its weight, and a progressive number identifying the temporary storage. The abovementioned cartons are also used for the collection of materials deriving from treatments on hospitalised animals.

In case of accidental spillage:

- Contain the spill with absorbent paper, sawdust;
- Demarcate the area of spill;
- Control and restrict, if necessary, pedestrian and vehicular traffic.

In case of fire:

- If possible, use the fire extinguishers available in the establishment; otherwise, leave immediately;
- Report immediately to the person responsible for the area.

Instructions for University staff:

- Comply with the instruction provided orally by the person responsible for the area of spill;
- Dispose waste according to recycling rules established by the establishment;
- Inform the person responsible for the area of spill of any discrepancy detected

Instructions for students (graduate candidates, trainees):

- Read carefully the SOP concerning recycling of different types of waste produced in the laboratory.
- In case of doubts, contact the person responsible for the area;
 - Do not take any personal initiative.

6. DISPOSAL OF WASTE PRODUCED WITHIN THE VTH, EMERGENCY ROOM AND CLINICAL LABORATORIES (MAPS)

6.1. PREMISES

Teaching and/or research clinical activities carried out at the VTH (MAPS) requires for the coordinated use of the following premises:

- Clinic 1 (1000D 00 073)
- Clinic 2 (1000D 00 074)
- Clinic 3 (1000D 00 075)
- X-ray computed tomography room (1000D 00 076)
- Nuclear magnetic resonance and radiology room (1000D 00 083)
- Drug storage (1000D 00 089)
- Ecography (1000D00090)
- Former scintigraphy room (1000D 00 093)
- Radiology room (1000D 00 095)
- Clinic 5 + ECG (1000D 00 096)
- Clinic 4 (1000D 00 097)
- Parapharmaceutical storage and medical and surgical devices (1000D 00 104)
- Disinfecting room/autoclave (1000D 00 085)
- Clinical Diagnostic Laboratory (1000D 00 100)
- Reproduction Laboratory (1000D 00 099)
- Operating Theatre 1 (1000D 00 120)
- Operating Theatre 2 (1000D 00 084)
- Operating Theatre 3 (1000D 00 079)
- Recovery room (1000D 00 080)
- Emergency room (1000L 00 005, 005, 016, 017 e 018)

6.2 PERSONS RESPONSIBLE FOR THE COLLECTION AND DELIVERY OF WASTE

- Badon Tamara
- Vaccaro Calogero
- Varotto Graziano
- Zucchini Paolo

6.3 TYPE OF HAZARDOUS WASTE PRODUCED

Waste produced in the aforementioned premises includes:

1. waste similar to solid urban waste (paper, plastic, glass, non-recyclable dry waste etc.);
2. special medical waste, including waste involving a risk of infection;
3. expired or deteriorated drugs.

6.4 COLLECTION AND DELIVERY OF WASTE TO THE TEMPORARY STORAGE

Ordinary waste

This waste is disposed of using recycling containers that are emptied at the recycling point.

Special waste

This waste includes medical waste (gloves, syringes, etc.), biological waste (droppings, hair, dirty gauzes, etc.), as well as any contaminated material which may involve a risk of infection.

Special waste is collected using 60-liter plastic cartons (cartonplast) with yellow polyethylene bag or black containers (UN3291) with interlocking lid with yellow polyethylene bag which can be sealed so as to prevent liquid spillage. "SAFETY BOX" are used to collect hazardous medical waste involving a risk of infection, such as sharp objects. Once filled, these boxes are emptied in the aforementioned black containers (UN3291)

Liquid waste derived from instruments within the Clinical Diagnostic Laboratory, identified with EWC code 070101, is collected in 10-liter tanks.

All special waste is delivered to the collection and disposal point on a weekly basis.

Expired or deteriorated drugs

Expired drugs or drugs in a poor state of preservation must be delivered to the person responsible for drug storage for their disposal. If this is not possible, they may be disposed of using the yellow containers located in the Pharmacy room or disposed of as special waste

6.5 IN CASE OF ACCIDENTAL SPILLAGE:

- Contain spills by using paper or sand;
- Demarcate the area of spill;
- If necessary, control and restrict pedestrian and vehicular traffic.

6.6 IN CASE OF FIRE

- If possible, use the fire extinguishers available in the establishment; otherwise, leave immediately;
- Report immediately to the person responsible for the area.
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6.7 INSTRUCTIONS FOR UNIVERSITY STAFF

- Comply with the instruction provided orally by the person responsible for the area of spill;
- Dispose waste according to recycling rules established by the establishment;
- Inform the person responsible for the area of spill of any discrepancy detected.

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6.8 INSTRUCTIONS FOR STUDENTS (graduate candidates, trainees)

- Read carefully the SOP concerning recycling of different types of waste produced in the laboratory.
- In case of doubts, contact the person responsible for the area;
- Do not take any personal initiative.

7.2. DISPOSAL OF HAZARDOUS WASTE PRODUCED IN PRIMA STECCA (MAPS)

7.1. PREMISES

Teaching and/or research activities at the non-clinical laboratories of MAPS are carried out on the following premises:

- Microbiology and Infectious Diseases Laboratory (1000B 01 037)
- Food Microbiology Laboratory (1000B 01 036)
- Serology Laboratory (1000B 01 038)
- Virology Laboratory (1000B 01 047)
- Post PCR and Data Analysis Biotechnology Laboratory (1000B 01 045)
- Nucleic Acid Extraction Biotechnology Laboratory (1000B 01 047)
- Pararitology and Parasitic Diseases Laboratory (100B 01 043 e 044)
- NIRS XRF Chemicals Laboratory (1000B 00 007, 009 e 024)

7.2 PERSONS RESPONSIBLE FOR THE COLLECTION AND DELIVERY OF WASTE:

- Miotti Scapin Riccardo
- Mondin Alessandra
- Tenti Sandro
- Tessarin Cinzia

7.3 TYPE OF HAZARDOUS WASTE

Medicalwaste

Hazardous medical waste involving a risk of infection (EWC code 180202*) derived from:

1. microbial cultures from clinical and experimental samples;
2. residues of biological matrices (faeces, blood, residues of animal organs, insects, parasites, food) of clinical, experimental or on-the-field origin, as a result of micro-organism isolation, nucleic acid extraction, serological, parasitological and chemical analysis;
3. single-use material used to process biological matrices of clinical or experimental origin;
4. boxes for the collection of used needles;
5. residues from feed analysis.

Liquid chemical waste

- Solutions containing non-halogenated solvents (EWC 070704*) derived from:
 1. staining of slides for the identification of micro-organisms;
 2. washing solutions used during acid nucleic extraction;
- Acidic liquid solutions for washing (EWC. 070701*) derived from:

1. washing solutions used during fiber (NDF ADF) and protein analysis.

Solid chemical waste

Spent filtration and absorbent materials (EWC 070710*) derived from:

1. Single-use materials used for handling solutions referred to in the previous point;
2. Agarose gel containing intercalants for the visualization of nucleic acids;
3. Single-use materials (e.g. gloves, pipette tips, tubes, containers) used for handling intercalants used for the visualization of nucleic acids;
4. Single-use materials (absorbent paper) used for cleaning surfaces after using the chemical products referred to in previous points.

7.4 COLLECTION AND DELIVERY OF WASTE TO THE TEMPORARY STORAGE

Specific special waste containers are placed in the laboratories (waste similar to urban waste and special waste); users must sort waste for recycling purposes, paying particular attention to hazardous waste and according to instructions given by the tutor and/or the laboratory manager.

Medical waste

Waste is collected using autoclavable, polyethylene bag placed in 50-liter rigid plastic drums (black) with yellow lid (13 locking points) or flexible plastic containers or carton (all pack) with 60-liter capacity. Petri dishes and/or tubes used for microbial cultures involving a risk of infection, including single-use materials (swabs, buffers, pipette tips, needles, etc.) used to transfer bacterial cultures must be delivered using small, autoclavable bags. Before being disposed of as medical waste, bags must undergo an autoclave sterilization cycle at 121°C for 20 minutes. Sharp objects (slides, scalpel blades, tips) must be disposed of in rigid, plastic containers (yellow) with red lid. Once sealed, the containers must be disposed of as medical waste.

In addition to reporting the R symbol and the biological risk symbol, a further printable, adhesive label is applied onto the containers reporting:

1. name of the facility or laboratory where waste has been produced;
2. description of waste along with EWC code;
3. container capacity;
4. final weight of container once it has been sealed and is ready to be disposed of;
5. progressive number of laboratory
6. progressive number of temporary storage
7. date of sealing

Liquid chemical waste

Waste is collected using 5-, 10- and 20-liter polyethylene tanks with screw lid. Before being sent to the temporary storage, the following adhesive labels must be applied:

1. square label (15 cm) with a black R on yellow background;
2. diamond label (10cm) with a black skull on white background ;
3. rectangle label identified with the UN number precede by "UN" ;
4. printable label containing the aforementioned items provided for medical waste

Solid chemical waste

Waste is collected using 50-liter rigid plastic drums (yellow) with yellow lid (6 locking points). Before being sent to the temporary storage, the following adhesive labels must be applied:

1. square label (15 cm) with a black R on yellow background;
2. printable label containing the aforementioned items provided for medical waste

In case of exceptional closure days (which are communicated to all laboratories mentioned in this doc by means of email by the person responsible for safety services at the Polo Multifunzionale of Agripolis), the delivery of hazardous waste to the temporary storage may be carried out on a weekly basis (Thursday morning) either by university staff or post-lauream students who have received adequate training.

People responsible for the sealing and delivery of hazardous waste must carry out planned procedures using the following PPE:

1. gown;
2. disposable nitrile gloves.

Waste containers, which must be sealed following the aforementioned procedures, are transported to the temporary storage using a cart with spill containment basins. Waste must be divided per EWC code and complemented with two transport form copies completed by the Laboratory Manager. Forms must include the number of containers, including their identification number. Staff at the Polo Multifunzionale of Agripolis who are responsible for the disposal of hazardous waste must assign a progressive storage number to each container before it being temporarily stored. The number, together with the weight of the container, must be reported both on the printable label and the transport form.

Once delivery procedures to the temporary storage are completed, transport forms must be initialed by the hazardous waste disposal services of the Polo Multifunzionale of Agripolis. A copy of the form is given to the laboratory staff responsible for waste delivering procedures as proof of receipt.

Receipts must be archived by the laboratory manager.

7.5 IN CASE OF ACCIDENTAL SPILLAGE:

- Demarcate the area of spill. If necessary, control and restrict pedestrian and vehicular traffic;
- Inform the laboratory manager, tutor, university staff;
- Clean the area using tools/materials that are suitable for the treatment of material spilled, as well as adequate PPE;
- Collect spilled material using an adequate container for it to be disposed of.

7.6 INSTRUCTIONS FOR UNIVERSITY STAFF

- Follow the instructions provided by the person responsible for the area in which the spill occurred;
- Dispose waste according to the recycling rules established by the establishment;
- Inform the person responsible for the area of spill of any discrepancy detected.

7.7 INDICAZIONI PER GLI STUDENTI (TESISTI, TIROCINANTI, FREQUENTATORI)

- Read carefully the SOP concerning recycling of different types of waste produced in the laboratory;
- Follow instructions on waste disposal given by the tutor and/or laboratory manager during training;
- In case of doubts on how to dispose waste, ask the tutor and/or laboratory manager.