

**BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE
LABORATORY SAFETY PROCEDURE**

1. PURPOSE

This procedure has been prepared to ensure safe working conditions in the laboratories of Burdur MAKU Faculty of Veterinary Medicine.

2. SCOPE

The activities described in this procedure cover all student, clinical, and research laboratories of the Faculty.

3. APPLICATION

General rules to be followed in laboratories

Physical Safety and Area Access

1. Doors must be kept closed at all times when entering and exiting laboratories, and access to work areas by unauthorized persons must be strictly limited.
2. Consuming food and drinks, storing food materials, smoking, putting on or taking off contact lenses, and applying cosmetic products/makeup are strictly prohibited in laboratory areas.
3. Care should be taken not to work alone in laboratories for security reasons; in cases where working outside of working hours or working alone is mandatory, emergency communication protocols must be activated.
4. The front of fire exits, emergency showers, eyewash stations, fire extinguishers, and electrical panels must be kept clear at all times, and no physical obstacles that would impede access should be present.
5. The locations of large equipment and chemical cabinets used in the laboratory should not be changed without the approval of authorized persons and a detailed risk assessment.

Personal Protective Equipment (PPE) and Hygiene

6. In all laboratory work, Personal Protective Equipment (PPE) appropriate for the risk level of the work (lab coat, gloves, protective goggles, or face shield) must be used completely.
7. While working in the laboratory, long hair must be tied back; dangling jewelry, rings, and piercings should be removed against the risk of potential contamination and physical accidents.
8. Clothing that completely covers the body should be preferred against biological or chemical spills and splashes; working in short pants, shorts, or skirts is strictly prohibited.
9. Laboratory coats must always be worn buttoned in the working area, and these coats must never be worn in common areas such as rest rooms, offices, or cafeterias.
10. Fluid-proof and puncture-resistant work shoes or boots that completely cover the top of the feet and the heel must be used in laboratory, clinical, and necropsy units.
11. Used shoes or boots must not be taken out of their own working area; suitable disinfectant foot baths at least 15 cm deep must be used to prevent pathogen transfer during transitions between areas (clean-dirty).
12. Before leaving the laboratory and immediately after removing gloves, hands must be washed with an appropriate antibacterial soap or rubbed with an alcohol-based hand antiseptic when water is not available.

Work Discipline and Sample Management

13. Acting on the principle of "Universal Precautions," all biological samples (blood, body fluids, tissues) and laboratory chemicals must be assumed to be potentially infectious or toxic at all times.
14. Drawing liquid by mouth (pipetting) is strictly prohibited in the laboratory; mechanical pipettors or bulbs must always be used for this process.
15. Procedures that may cause aerosol (airborne particles) and droplet formation in working areas (centrifugation, vortexing, vigorous shaking) must be performed inside Biological Safety Cabinets (Class II).
16. To minimize the risk of breakage and spillage, leak-proof secondary containment vessels must be used when transporting chemical or biological substances from one area to another within the laboratory.
17. All containers, bottles, tubes, and samples used must be legibly labeled to include the content name, concentration, date, name of the person who prepared it, and international hazard warning symbols.
18. User manuals for the devices used in the laboratory and Material Safety Data Sheets (MSDS/SDS) for the chemicals must be kept in the work area, easily accessible to everyone in an emergency.

Decontamination and Waste Management

19. At the end of the work, after benches and equipment are mechanically cleaned of organic load (gross dirt), they must be disinfected with a disinfectant suitable for the type of agent (e.g., 1/100 sodium hypochlorite) adhering to the minimum contact time specified by the manufacturer (usually 15-20 minutes).
20. All sharps and pointy object waste (needle tips, scalpels, broken glass) must be disposed of in puncture-resistant yellow medical waste boxes, and needle tips should never be attempted to be recapped.
21. Contaminated liquid and solid wastes must be collected in red medical waste bags in accordance with laboratory waste management procedures; these waste boxes should be tightly sealed and sent to the waste storage area when they are three-quarters (3/4) full.
22. No special-purpose chemical container that is empty or cleaned in the laboratory should be reused for the storage of another material with unknown content.

Emergency, Accident, and Spill Response

23. In the event of a chemical or biological material splash into the eyes, the eyes must immediately be washed with plenty of water at the eyewash station for at least 15 minutes, and then medical attention must be sought.
24. In large-scale infectious material or dangerous chemical spills, the area must be evacuated immediately, doors must be closed, and a warning sign must be hung; after waiting for the aerosols to settle (approximately 30 minutes), intervention should be made with full PPE.
25. Any type of spill, splash, needlestick injury, injury, or near-miss incident that occurs in the laboratory must be immediately reported to the laboratory supervisor and formally recorded.
26. In accidents, emergencies, fires, or building evacuation processes, emergency plans and the instructions of the relevant authorized personnel must be fully complied with.
27. Before starting a completely new experimental protocol or procedure, a "Risk Assessment" must be performed and documented by the relevant personnel in order to identify possible biological and chemical hazards that may occur.

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**BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE
PROCEDURE FOR THE USE OF CHEMICAL SUBSTANCES**

General rules to be followed when working with chemical substances

Transport, Safety, and Storage

1. When transporting chemical substances inside or outside the laboratory, unbreakable, leak-proof secondary containment vessels/containers must always be used to prevent the risk of breakage and spillage; incompatible chemicals that may react with each other and create a hazard must not be transported together, and chemicals must strictly not be taken out of the laboratory without the approval of the responsible supervisor.
2. Only the minimum amount of flammable/hazardous chemicals required for that day's experimental procedure should be kept on the workbenches (provided they are kept away from heat and spark sources such as burner flames and electric heaters), and bottles must always be kept closed when not in use.

Labeling and Identification

3. All chemical containers, bottles, and samples in the work area must be legibly labeled to include the full name of the contents, concentration, date of preparation, the name of the preparer, and Global Harmonized System (GHS/CLP) hazard pictograms.
4. Chemical containers whose labels have fallen off, are illegible, or whose physical integrity is compromised (swollen, leaking, crystallized) must strictly not be used or opened; in such cases, the laboratory safety officer must be notified immediately to initiate the hazardous waste protocol.

Personal Protection and Emergency Awareness

5. Touching, tasting, or smelling chemicals with bare hands is strictly prohibited; even if gloves are used, any chemical that comes into contact with the skin must immediately be washed with plenty of water at the eyewash station/body shower for at least 15 minutes, regardless of its concentration.
6. All personnel who will work in the laboratory are mandatory required to learn the locations of safety signs, emergency showers, eyewash stations, and spill kits before starting work.
7. Interventions in spills, splashes, or accidents that may occur must not be made randomly; they must always be carried out in accordance with the "Instructions for Chemical Substance Accidents" and the specific procedures specified in the Safety Data Sheet (SDS) of that chemical.

Chemical Manipulation, Fume Hood, and Heating

8. A fume hood must strictly be used when working with toxic, volatile, flammable, and foul-smelling substances; during work, the sash of the fume hood should be kept at the lowest possible level to act as a shield against splashes.
9. Chemicals in systems with lids or closed with stoppers (insulated/sealed systems) must strictly not be heated directly.
10. While heating liquid inside a test tube, the tube must be gently shaken continuously, and the open end of the tube must not be pointed towards anyone in the laboratory (including yourself) against sudden bumping/boiling.

Reagent Use and Contamination Prevention

11. Mouth pipetting during the transfer of liquid chemicals is strictly prohibited; appropriate mechanical pipettors or pipette bulbs/props must always be used, and the same pipette must not be inserted into different solution bottles.
12. To prevent exothermic reactions and violent splashes, water must strictly never be poured onto acids or solid caustics (bases); acid/base should always be added slowly to the water while constantly stirring.
13. Chemicals taken from their bottle or remaining after use must never be put back into the original bottle to avoid compromising the purity of the stock reagent, and a used pipette must not be dipped into the original bottle.
14. Solid chemicals must always be taken with a clean spatula, and the inner parts of bottle caps must not be left in contact with the table surface (they should be placed upside down) to prevent contamination.

Spills, Mercury, and Waste Management

15. Waste chemicals must strictly not be poured down the sinks; they must be collected in labeled waste canisters/carboys segregated according to chemical incompatibility, and wastes that can react with each other must never be poured into the same canister.
16. Broken glass contaminated with chemicals should not be thrown into general trash bins; they must be disposed of in separate yellow boxes as contaminated sharps/pointy hazardous waste.
17. In the event of a possible mercury thermometer breakage/spill, traditional methods such as sprinkling sulfur must not be applied; it must be collected using a special 'Mercury Spill Kit' that captures mercury vapor and isolated as hazardous waste.
18. When a chemical spills into the laboratory environment, the area must be isolated immediately, and it must be cleaned by technical personnel using chemical spill kits (absorbent pads, neutralizers) appropriate for the type of spill, with full PPE (Personal Protective Equipment).

Working with Radioactive Substances

1. All work carried out with radioactive materials must be conducted based on the international ALARA (As Low As Reasonably Achievable) principle, aiming to minimize personnel exposure, and by strictly complying with the institution-specific "Radioactive Substance Safety Instructions."

Biological Material and Biosafety

1. Laboratory personnel working with pathogenic or potentially infectious biological agents (bacteria, viruses, fungi, parasites) are mandatory required to provide the Biosafety Level (BSL 1-4) infrastructure conditions appropriate for the Risk Group (Risk Group 1-4) of the agent being worked on and to fully implement biosafety procedures in accordance with international standards.
2. In emergency accident situations such as the splashing or spilling of infectious materials or contamination of personnel (needlestick, mucosal splash, etc.), the area must be isolated immediately, and intervention must be made without delay according to the "Instructions for Infected Material Accidents."

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**BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE
CHEMICAL SUBSTANCE STORAGE PROCEDURE**

1. PURPOSE:

This procedure has been prepared for the safe storage of chemical substances procured for use in the laboratories of Burdur MAKU Faculty of Veterinary Medicine.

2. SCOPE AND RESPONSIBILITIES

The activities described in this procedure cover all administrative and academic units of the Faculty.

3. APPLICATION

Rules to be Followed During the Procurement and Storage of Chemical Substances

Procurement, Inventory, and Labeling

1. All chemicals to be procured for the laboratories must contain hazard pictograms in accordance with the Global Harmonized System (GHS/CLP) standards; chemicals whose packaging or label does not meet these standards must strictly not be purchased or accepted.
2. The processes of dividing and dispensing chemicals from their original packaging into smaller containers must strictly be performed under a fume hood and with appropriate Personal Protective Equipment (PPE) against the risk of inhalation and splashing.
3. The new containers of the divided chemicals must be permanently labeled to include the full name of the substance, its concentration/purity, amount, date of preparation, the name of the preparer, and the GHS hazard symbols on its original packaging.
4. Only a minimum stock of chemical substances sufficient for near-term studies should be kept in the laboratories, and overstocking should be avoided.

Safety Data Sheets

5. Every chemical in the laboratory inventory must have an up-to-date 16-section Safety Data Sheet (SDS) compliant with the GHS format. These sheets must be kept readily available in a printed folder or in an instantly accessible digital system in a way that is easily accessible to everyone in the areas where chemicals are stored and used.

Storage Conditions and Physical Safety

6. Doors must be kept locked to prevent unauthorized persons from accessing chemical storerooms, and there must be warning signs appropriate for the hazards in the contents (flammable, corrosive, toxic) on the laboratory/storeroom doors and relevant cabinets.
7. Chemical substances must be stored away from heat sources (ovens, autoclaves, steam pipes, etc.) and direct sunlight; in environments where ventilation and temperature control suitable for the physicochemical properties of the substance are provided.
8. Chemicals must not be left continuously on the workbenches; they must be put back into their respective storage areas/cabinets immediately after their use is finished.
9. Chemicals on the shelves must be placed in a way that they do not hang over the edge of the shelf to prevent them from tipping over; there must be fall-prevention barriers (shelf lips) on laboratory shelves.
10. Frequently used and especially dangerous/heavy liquid chemicals must be stored below eye level (between shoulder and knee height); large bottles must never be placed on the upper shelves.
11. Using wheeled stools or chairs to access chemicals on the upper shelves is strictly prohibited; safe and approved laboratory step stools/ladders with non-slip bases must be used.

Chemical Incompatibility and Segregation

12. Chemicals must strictly not be arranged on shelves or in cabinets solely in alphabetical order; they must be physically segregated from each other according to their hazard classes (flammables, oxidizers, acids, bases, toxics, etc.) in accordance with the chemical storage matrix.
13. Incompatible chemicals that may react violently with each other (e.g., acids and bases, or flammables and oxidizers) must not be stored in the same cabinet. Flammable liquids must strictly be stored in fire-resistant, approved flammable storage safety cabinets.
14. Corrosive substances (acids) must be stored in acid-resistant (polyethylene, etc.) secondary containment vessels to prevent the corrosion of metal shelves and to contain leaks.

Emergency Access and Facility Safety

15. The front of fire extinguishers, emergency showers, eyewash stations, first aid kits, as well as electrical panels and gas valves must be kept clear at all times, and no obstacles should be present on the access routes to this equipment.
16. Laboratory and storeroom exit routes and stairs must be completely unobstructed (free of items) in terms of evacuation safety; fire extinguishers compliant with NFPA standards must be available in areas where flammable chemicals are stored.

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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE CHEMICAL SUBSTANCE STORAGE PROCEDURE		
APPENDIX 1. SYMBOLS AND SIGNS ON HAZARDOUS SUBSTANCE LABELS AND PRECAUTIONS TO BE TAKEN		
	F: Highly Flammable	Property: Indicates 'highly flammable liquids' with a flash point below 21°C and 'highly flammable solids'. Precaution: Must be kept away from naked flames, sparks, and heat sources.
	F+: Extremely Flammable	Property: Liquids with a flash point below 0°C and a boiling point of maximum 35°C. These are gases and gas mixtures that are flammable in air at normal atmospheric pressure and room temperature. Precaution: Must be kept away from naked flames, sparks, and heat sources.
	Xn: Harmful	Property: Harmful to health if inhaled, swallowed, or in contact with skin. Precaution: Contact with the human body should be avoided.
	Xi: Irritant	Explanation: Although not corrosive, immediate, prolonged, or repeated contact with skin can cause inflammation. Precaution: Contact and skin irritation should be prevented.
	O: Oxidizing	Explanation: Organic peroxides are oxidizing substances that can be explosive even without contacting any flammable material, such as esterified ones, nitro compounds. Other oxidizers, even if not flammable themselves, can ignite in the presence of oxygen. Precaution: Must be kept away from flammable materials.
	E: Explosive	Explanation: Some chemicals that undergo exothermic reactions. They may explode when brought near fire. Precaution: Keep away from naked flames, sparks and heat sources in a safe container.
	T: Toxic	Explanation: Harmful to health or fatal if inhaled, swallowed or in contact with skin. Precaution: Human contact should be avoided, otherwise medical advice should be sought.
	T+: Very Toxic	Explanation: Harmful to health or fatal if inhaled, swallowed or in contact with skin. Precaution: Human contact should be avoided, otherwise medical advice should be sought.
	N: Dangerous for the Environment	Explanation: The presence of such substance in the environment can cause immediate or delayed harm to the ecological system in terms of changing the natural balance. Precaution: Considering the risk, contact of such substances with the soil or environment must be prevented.
	C: Corrosive	Explanation: Causes damage to living tissues. Precaution: Special measures must be taken to protect eyes, skin and clothing. Vapors must not be inhaled, otherwise medical advice should be sought.
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**BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE
CHEMICAL SUBSTANCE STORAGE PROCEDURE**

Appendix 2. HAZARDOUS SUBSTANCE STORAGE PROCEDURE

						
	+	-	-	-	-	+
	-	+	-	-	-	-
	-	-	+	-	-	+
	-	-	-	+	-	-
	-	-	-	-	+	O
	+	-	+	-	O	+

- +** : Can be stored together
O : Can be stored together with special precautions
- : Cannot be stored together

The Chemical Storage Matrix indicates which classes should or should not be stored together to prevent the categorized chemical substances from interacting with each other and causing hazardous reactions.

Corrosives + Flammables = Explosion/Fire
 Corrosives + Toxics = Toxic Gas
 Flammables + Oxidizers = Explosion/Fire,
 Acids + Bases = Corrosive Fumes/Heat

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**BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE
CHEMICAL SUBSTANCE STORAGE PROCEDURE**

APPENDIX 3. CHEMICALS THAT MUST NOT BE MIXED TOGETHER

CHEMICAL	SUBSTANCES INCOMPATIBLE WITH THE CHEMICAL
Alkali metals	Water, CO ₂ , carbon tetrachloride and other chlorinated hydrocarbons
Ammonia, anhydrous	Mercury, halogens, calcium hypochlorite and hydrogen fluoride
Ammonium nitrate	Acids, metal powders, flammable liquids, chlorates, nitrites, sulfur, finely divided organic or explosive substances
Aniline	Nitric acid and H ₂ O ₂
Acetic acid	Chromic acid, nitric acid, hydroxyl derivatives, ethylene glycol, perchloric acid, peroxides and permanganates
Acetylene	Copper (tubing etc.), halogens, silver, mercury and their compounds, concentrated sulfuric and nitric acid mixtures
Acetone	Concentrated sulfuric and nitric acid mixtures
Copper	Acetylene, azides and H ₂ O ₂
Bromine	Ammonia, acetylene, butadiene, butane, hydrogen, sodium carbide, turpentine and finely divided metals
Mercury	Acetylene, fulminic acid and ammonia
Phosphorus pentoxide	Water
Silver	Acetylene, oxalic acid, tartaric acid and ammonium compounds
Hydrogen peroxide (H ₂ O ₂)	Chromium, copper, iron, most other metals and metal salts, flammable liquids and other explosive substances, aniline and nitromethane
Hydrogen sulfide	Nitric acid vapor and oxidizing gases
Hydrocarbons	Fluorine, chlorine, bromine, chromic acid and sodium peroxide
Iodine	Acetylene and ammonia
Carbon, active	Calcium hypochlorite and all oxidizing agents
Chlorates	Ammonium salts, acids, metal powders, sulfur and finely divided organic or explosive substances
Chlorine dioxide	Ammonia, methane, phosphine and hydrogen sulfide
Chromic acid	Acetic acid, naphthalene, camphor, alcohol, glycerol, turpentine and other flammable liquids
Nitric acid	Acetic acid, chromic acid, hydrocyanic acid, aniline, carbon, hydrogen sulfide, readily nitrated liquids, gases and other substances

Oxygen	Liquid and solid oils, hydrogen and flammable liquids, solids and gases
Oxalic acid	Silver and mercury
Flammable liquids	Ammonium nitrate, chromic acid, H ₂ O ₂ , nitric acid, sodium peroxide and halogens
Perchloric acid	Acetic anhydride, bismuth and its alloys, alcohol, paper, wood and other organic material
Potassium permanganate	Glycerol, ethylene glycol, benzaldehyde and sulfuric acid
Cyanides	Acids
Sodium	Carbon tetrachloride, CO ₂ and water
Sodium azide	Lead, copper and other metals (this substance, frequently used as a preservative, forms unstable, explosive compounds with metals; if poured down the sink, metal pieces hold the substance and pipes can explode when a plumber works on them.)
Sodium peroxide	Any oxidizing agent e.g., methanol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerol, ethyl acetate and furfural chlorates, perchlorates, permanganates and water
Sulfuric Acid	Chlorates, perchlorates, permanganates and water
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE
INSTRUCTIONS FOR CHEMICAL SUBSTANCE ACCIDENTS

1. PURPOSE

To determine the basic rules that must be followed during and after accidents that may occur while working with chemical substances in the laboratories of Burdur MAKÜ Faculty of Veterinary Medicine.

2. SCOPE

The activities described in this procedure cover all student, diagnostic, and research laboratories of the Faculty.

3. APPLICATION

Surface Contamination and Spills

1. The toxicity and volatility of the spilled chemical must be evaluated according to the data in the Safety Data Sheet (SDS). One should not simply wait for a volumetric limit such as 5 liters to be reached; if the spilled substance is highly toxic, flammable, or poses a respiratory risk (e.g., concentrated acids or toxic solvents), the area must be evacuated immediately.
2. If a flammable liquid is spilled, electrical switches in the environment (light switches, device on-off switches) must strictly not be touched (risk of spark and explosion). Open flame heaters or gas valves should be turned off only if it is safe to do so.
3. The spill area must be restricted, doors must be closed and locked, and the area must be isolated by hanging warning signs to prevent other employees from entering.
4. The spill must not be intervened with ordinary cleaning materials; it must be intervened using professional "Chemical Spill Kits" appropriate for the type of substance (acid neutralizer, solvent absorbent, etc.) and appropriate Personal Protective Equipment (PPE) (mask, gloves, protective goggles).
5. All contaminated materials used in cleaning (absorbent pads, gloves) must be disposed of in properly labeled yellow hazardous waste boxes, and the incident must immediately be reported to the laboratory safety officer and formally recorded.

Personnel Contamination and First Aid

6. The victim must immediately warn their colleagues. Clothing contaminated with chemicals must be removed instantly. If taking the clothing off over the head creates a risk of face/eye contamination, the clothing must be removed by cutting it.
7. Regardless of its concentration, any chemical that comes into contact with the skin or eyes must be washed with plenty of continuous water at the emergency shower or eyewash station for at least 15 minutes. Another chemical (acid/base) must never be used to neutralize the chemical on the skin.
8. While the washing process is ongoing, a colleague must check the SDS form of the spilled substance (e.g., calcium gluconate gel is required for Hydrofluoric acid burns), and emergency medical assistance (112) must be called.
9. Following medical intervention, the incident must be reported to the responsible faculty member, and the "Laboratory Accident Report Form" must be filled out completely.

Fire and Smoke Detection (RACE & PASS Protocols)

10. When a fire or dense smoke is detected, other employees in the area must be warned immediately, and the building evacuation protocol must be initiated by pressing the nearest fire alarm button.
11. To prevent the spread of fire and toxic smoke, laboratory doors and fume hood sashes must be closed, provided that the exit route is not blocked.
12. Intervention: An appropriate type of fire extinguisher must be used only if the fire is in its initial stage (small), the personnel have received fire extinguisher training, and the escape route will remain open.
13. Scene Safety: Absolutely no attempt should be made to clean up the surroundings after the fire is extinguished or during the fire (risk of toxic soot and reignition). The scene must be left isolated until "safe" approval is given by the fire department or the authorized OHS (Occupational Health and Safety) unit, and the situation must be reported to the responsible faculty member.

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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE INSTRUCTIONS FOR INFECTED MATERIAL ACCIDENTS	
1. PURPOSE To determine the basic rules that must be followed during accidents that may occur while working with infected materials in the laboratories and hospital clinics of Burdur MAKU Faculty of Veterinary Medicine.	
2. SCOPE The activities described in this procedure cover all student, diagnostic, and research laboratories, and hospital clinics of the Faculty.	
3. APPLICATION Response to Surface Contamination and Spills - When blood, culture, or infectious liquid is spilled outside the Biological Safety Cabinet (especially as a result of a centrifuge tube or glass container breakage), the area must be evacuated immediately due to the risk of pathogens mixing into the air (aerosolization), doors must be closed, and one must wait for at least 30 minutes for the aerosols to settle. - Before starting the intervention, the spill area must be isolated with warning signs; the personnel who will perform the cleaning must strictly wear appropriate Personal Protective Equipment (PPE) (fluid-proof gown, double-layer nitrile gloves, N95/FFP3 mask, and face shield). - Broken glass or needles must strictly not be picked up by hand; they must be picked up using tongs, forceps, or a dustpan and disposed of directly into the puncture-resistant yellow sharps waste box. - The spill must be completely covered slowly with absorbent materials (paper towels or absorbent pads) to prevent splashing and aerosol formation, and it must be ensured that the liquid is absorbed. - Considering the high organic load in biological spills, a 1/10 diluted sodium hypochlorite (bleach) must be used as a standard; the disinfectant must not be poured directly onto the spill, but slowly in a circular motion from the outer circle (edges) towards the center. - One must wait at least 20 minutes (contact time) for the disinfectant to inactivate the pathogens, then the absorbent materials must be collected and disposed of in a red medical waste bag, and the floor must be wiped one last time with detergent water or an appropriate surface disinfectant. - After carefully removing the PPE and disposing of them in medical waste, hands must be washed thoroughly and disinfected, and the incident must immediately be reported to the laboratory safety officer and an accident record form must be filled out. Personnel Contamination and First Aid - The victim must immediately warn their colleagues around them; protective clothing or personal clothes contaminated with infected liquid must be removed instantly in a way that prevents the agent from coming into contact with the face and mucous membranes (by cutting if necessary). - The area in contact with the skin must be washed with plenty of water and antibacterial soap; in case of eye, nose, or mouth (mucous membrane) contamination, continuous washing must be performed at the eyewash station or with clean water/saline solution for at least 15 minutes. - After first aid application, the incident must be evaluated as an "emergency," the type of biological agent exposed to (suspicion of rabies, brucella, anthrax, etc.) must be definitively reported to the healthcare teams, and medical support and Post-Exposure Prophylaxis (vaccination/antibiotics) must be initiated immediately. - Following emergency medical intervention, the situation must immediately be reported to the laboratory supervisor and the Occupational Health and Safety unit.	
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE RADIOACTIVE SUBSTANCE SAFETY INSTRUCTIONS	
1. PURPOSE It covers the basic rules that must be applied in the event of an accident that may occur during work with radioactive substances in the laboratories of Burdur MAKÜ Faculty of Veterinary Medicine.	
2. SCOPE These safety instructions cover the diagnostic and research laboratories of the faculty that work with radioactive substances.	
3. APPLICATION	
WORKING WITH RADIOACTIVE SUBSTANCES AND SAFETY INSTRUCTIONS	
Facility, Access, and Storage	
- The international radiation warning symbol (Trefoil) must strictly be present on the entrance doors of laboratories where radioactive substances are worked with; the area must be open only to authorized/trained personnel, and doors must always be kept locked when no work is being performed. - Radioactive stocks must be stored in a refrigerator or deep freezer in locked boxes to prevent unauthorized access; additionally, these boxes must be lined with shielding (lead or plexiglass) appropriate for the type of isotope. - Equipment that comes into contact with radioactive material and is allocated solely for these studies (pipettes, centrifuges, tube racks/supports, etc.) must be labeled with the radiation symbol, and this equipment must strictly not be taken to "clean (non-radioactive)" areas.	
ALARA Principle and Personal Protection	
- Every personnel working in the radioactive area must strictly wear institutionally allocated personal dosimeters (collar, waist, or ring dosimeters) to keep exposure below legal limits. - All studies must be planned according to the ALARA (As Low As Reasonably Achievable) principle, which minimizes radiation exposure: Procedure time must be kept to a minimum, maximum distance must be maintained from the source, and physical shielding/shields appropriate for the radiation type of the isotope (plexiglass for Beta radiation, lead for Gamma radiation) must be used. - During work, a fluid-proof gown, protective goggles/face shield, and strictly double-layer nitrile gloves must be worn; the outer glove must be changed frequently to reduce the risk of contamination. - All open procedures performed with radioactive isotopes that are volatile, can gasify, or carry the risk of aerosol formation (e.g., Iodine-125) must be carried out in certified special radioisotope fume hoods with carbon filters.	
Monitoring, Spills, and Waste Management	
- The work area, equipment, and hands must be continuously scanned before, during, and at the end of the procedure with a handheld detector (Geiger-Müller counter or scintillation detector) appropriate for the isotope used, and the measurement results must be recorded. - In the event of a radioactive substance spill, the area must be isolated immediately; the cleaning process must be carried out from the outside in using special radioactive decontamination solutions/foams (e.g., Radiacwash), and decontamination must continue until the area is measured with a detector and the radiation drops to normal background levels. - Radioactive wastes must strictly not be mixed with general or medical wastes; they must be segregated according to the type of isotope, its physical state (solid/liquid), and its half-life, and collected in special shielded and radiation-labeled waste containers. - At the end of the work, all protective clothing must be removed, hands must be washed thoroughly, and immediately before leaving the laboratory, hands, soles of the feet, and the gown area must be scanned for the last time with a detector to ensure there is no contamination.	
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE HAZARDOUS CHEMICAL WASTE PROCEDURE	
Purpose, Scope, and Legal Basis 1. This procedure has been prepared to ensure the classification, segregation at the source, collection, and disposal of hazardous chemical and genotoxic wastes generated in the laboratories and clinics of Burdur MAKU Faculty of Veterinary Medicine, in accordance with the "Waste Management Regulation" of the Republic of Turkey Ministry of Environment, Urbanization and Climate Change and international EPA (Environmental Protection Agency) standards. Definitions and Waste Characterization 2. Hazardous Chemical Waste: According to EPA standards, these are substances that have at least one of the following four characteristics: Flammable, Corrosive, Reactive, and Toxic. 3. Genotoxic/Cytotoxic Waste: Agents that create mutagenic, carcinogenic, or teratogenic effects on cell DNA (e.g., Ethidium Bromide, antineoplastic drugs, formaldehyde) and any kind of material contaminated with them. Segregation and Collection of Liquid Chemical Wastes 4. Liquid wastes must strictly not be poured down the sinks. Wastes must be accumulated by segregating them at the source according to the chemical incompatibility matrix; acids and bases, or oxidizers and flammables must STRICTLY not be collected in the same waste canister. 5. Organic Solvent Wastes: Waste solvents must strictly be collected in two separate High-Density Polyethylene (HDPE) canisters as "Halogenated" (containing chlorine, fluorine, bromine, iodine; e.g., chloroform, dichloromethane) and "Non-Halogenated" (e.g., ethanol, acetone, methanol). Mixing these two groups may cause toxic gas emissions and explosions, and is also a reason for rejection at disposal facilities. 6. Formaldehyde/Formalin wastes, which are intensively used in pathology laboratories, must be collected in their own original containers or in compatible HDPE containers, inside leak-proof secondary transport boxes, without being mixed with other chemicals, as they are carcinogenic (category 1B). Management of Genotoxic Wastes: Ethidium Bromide 7. Ethidium Bromide (EtBr) gels used for DNA staining in faculty laboratories, contaminated gloves, and paper towels must be collected in thick, leak-proof, hard plastic genotoxic waste boxes with pedals or lids, labeled specifically for this substance only. EtBr wastes must strictly not be treated with bleach (sodium hypochlorite) for decontamination purposes (it causes toxic gas formation). 8. Liquid EtBr wastes (electrophoresis buffers) must be delivered to the storage after being inactivated by passing them through appropriate carbon filters or by collecting them in special canisters as liquid genotoxic waste. Labeling, Storage, and Transport 9. All chemical waste canisters and solid waste bins in the laboratory must have a legible "Hazardous Waste Label" on them. This label must strictly include the full chemical name of the waste (formulas like H₂SO₄ should not be used, Sulfuric Acid should be written), its hazard class (GHS pictogram), and the date the waste started to accumulate. The phrase "Unknown Waste" is strictly prohibited. 10. Waste containers (solid and liquid) must not be completely filled against the possibility of chemical expansion or gas emission; they must always be filled to a maximum of 75% (3/4) to prevent pressure build-up, and when full, they must be tightly sealed and immediately delivered to the Hazardous Chemical Waste Storage Officer.	
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE MEDICAL WASTE PROCEDURE	
MEDICAL AND BIOLOGICAL WASTE MANAGEMENT PROCEDURE	
Purpose, Scope, and Legal Basis 1. This procedure has been prepared to ensure the segregation at the source, collection, transport, and disposal of medical and biological wastes generated in the laboratories, clinics, and pathology/necropsy units of Burdur MAKÜ Faculty of Veterinary Medicine without causing harm to human health, animals, and the environment. 2. Procedures are carried out in full compliance with World Health Organization (WHO) standards and the provisions of the "Regulation on the Control of Medical Wastes" of the Republic of Turkey Ministry of Environment, Urbanization and Climate Change, and cover all academic/administrative personnel and cleaning staff producing medical waste within the faculty. Definitions and Waste Characterization 3. Infectious Waste: Any blood, body fluid, laboratory culture, vaccine stocks, excreta of animals under quarantine, and personal protective equipment (gloves, gowns), gauze, and filters contaminated with these, which are known or suspected to carry infectious (pathogenic) agents (especially Class 3 and Class 4 patients). 4. Pathological Waste: Tissues, organs, body parts, fetuses, and animal carcasses resulting from operations, necropsies, or anatomical dissections. 5. Sharps and Pointy Object Waste: Any kind of waste such as syringes, syringe needles, scalpels, lancets, suture needles, broken glass tubes, slides-coverslips, and petri dishes that can cause percutaneous injuries (disrupting skin integrity) and infection transmission through pricking/puncturing. Segregation and Collection of Wastes at the Source 6. Infectious and pathological wastes must be disposed of in tear- and burst-resistant red medical waste bags bearing the "International Biohazard" emblem and the phrase "CAUTION MEDICAL WASTE"; these bags must be kept inside hard protective bins with pedals and lids. 7. Medical waste bags must be filled to a maximum of three-quarters (3/4) of their volume; they must strictly not be compressed, and when full, their mouths must be sealed leak-proof using the "swan neck" technique (twisted and tied upon itself). 8. The double-bag method must strictly be used to prevent pathogen leakage in wastes containing large amounts of liquid, likely to leak, or belonging to Class 4 (Highly Infectious/Zoonotic) patients. 9. Sharps and pointy object wastes must strictly not be disposed of in red bags; they must be disposed of directly into puncture- and tear-resistant, leak-proof, yellow or red special "Sharps/Pointy Object Waste Boxes". 10. Used syringe needles must strictly not be attempted to be recapped, bent, or broken to prevent needlestick injuries, and their tips must be disposed of in the waste box as a whole without being manually separated from the syringe. Transport, Labeling, and Storage 11. Labels containing the name of the unit producing the waste, the date, and the name of the responsible person must strictly be affixed to the bags accumulated and tied in the departments, and no unlabelled bag should be accepted. 12. Medical waste bags must strictly not be carried by hand or leaning against the body; the transport process must only be carried out with leak-proof, lidded, wheeled, and washable special medical waste transport carts/containers allocated for this job. 13. When sharps-pointy object waste boxes are 3/4 full, their lids must be closed and locked, they must never be opened again, and the waste inside must not be attempted to be emptied into another container. 14. It is a legal obligation to provide periodic occupational health and safety training to all personnel who collect, transport, and store wastes regarding the health risks posed by the wastes (Infectious diseases, Needlestick), bloodborne pathogens, and emergency measures to be taken in the event of an accident.	
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE MEDICAL WASTE EQUIPMENT CLEANING PLAN AND PROCEDURE	
Purpose, Scope, and Legal Basis 1. This procedure has been prepared to determine the cleaning and disinfection standards for thick plastic, lidded, and wheeled waste containers and transport carts used to transport medical wastes generated in the clinics, laboratories, and departments of Burdur MAKÜ Faculty of Veterinary Medicine, in a way that protects employee health and the environment. 2. These rules cover all support and cleaning personnel who use medical waste carts, transfer them to the temporary storage area, and are responsible for the cleaning of this equipment. Personal Protective Equipment (PPE) and Safety 3. Since there is a high risk of splashing and aerosols (airborne particles) during the collection of medical wastes and the washing of equipment; the personnel performing the procedure must strictly wear a fluid-proof heavy-duty gown, thick rubber/nitrile gloves, waterproof rubber boots, and a face shield against liquid splashes along with an N95/FFP3 mask. Cleaning and Disinfection Steps 4. When cleaning medical waste containers, high-pressure water (pressurized water machines/power washers) must strictly not be used to prevent pathogens from remaining suspended in the air (aerosolization) and personnel from inhaling them; the washing process must be done with low-pressure water and mechanical brushing. 5. Since disinfectants become ineffective in the presence of organic matter (blood, feces, etc.); after the container is emptied, the gross organic dirt on the inner and outer surfaces must first be completely cleaned and rinsed with the help of soap or detergent water and a brush. 6. To the inner and outer surfaces of the pre-cleaned container, 1/100 diluted sodium hypochlorite (bleach) or an equivalent hospital-grade surface disinfectant should be applied in routine situations; if there has been a leakage of blood or infectious liquid inside the container, it should be applied at a 1/10 dilution. 7. The disinfectant must be allowed to sit on the surfaces of the container for at least 20-30 minutes (contact time) to completely inactivate the pathogens. Rinsing, Discharge, and Drying 8. After the waiting period is over, the container must be rinsed with clean water. The contaminated wastewater resulting from the washing and disinfection process must strictly not be poured into rainwater drains or the open environment; it must be discharged directly into the sewage system. 9. The washed waste containers must be left to air dry completely by turning them upside down or leaving their lids open, in order to prevent bacterial and fungal growth inside them and to prevent the newly inserted medical waste bag from getting wet and losing its resistance; a new bag must strictly not be inserted while the inside is wet.	
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE MOBILE CLINIC (AMBULATORY) AND FIELD VEHICLES BIOSAFETY PROCEDURE	
Pre-Field Visit Preparation and Personnel/Student Criteria 1. All personnel and students who will participate in farm or field visits must wear their clean street/daily clothes before leaving the faculty. Boarding mobile clinic vehicles with gowns or scrubs worn in the faculty clinics (inside the hospital) is strictly prohibited. 2. In order to prevent cross-contamination between different animal species (e.g., African Swine Fever, Avian Influenza); personnel/students going on a field visit are required to confirm that they have not entered a different pig/wild boar area within the last 48 hours or a poultry/exotic animal area within the last 6 days. In-Vehicle Hygiene and Order 3. The consumption of food and beverages in mobile clinic vehicles is only permitted inside the vehicle cabin (in the clean area) or in specifically authorized rest areas on the farm; food consumption is prohibited in intervention areas or next to dirty equipment. 4. The floors, door handles, steering wheels, and other hand contact surfaces of the vehicles must be wiped with surface disinfectants at the end of each day; vehicles must be thoroughly washed and disinfected inside and out at least once a week. Biosafety Rules to be Followed in the Field (on the Farm) 5. Upon arriving at the farm, before getting out of the vehicle, a clean, field-specific coverall (disposable or washable) and fluid-proof, thick rubber/plastic boots must strictly be worn. In farms where there is a suspicion of infectious disease, disposable overshoes must be worn over the boots. 6. Examination gloves must strictly be changed when moving between different animal groups (e.g., calves and adults) in the field; hands must be washed with plenty of water and soap between each group, or disinfected with a hand antiseptic if water is not available. 7. The use of gloves and fluid-proof gowns is mandatory when intervening with animals showing symptoms of infectious diseases such as mastitis, diarrhea, or pneumonia. Post-Visit and Return to Clinic (Dirty Material Management) 8. Right before leaving the farm (upon exiting the field), the boots used must be scrubbed free of gross organic dirt (feces, mud) with a brush, washed, and disinfected. 9. If there is no water or disinfection facility in the field/farm; the dirty boots and coveralls must be placed in leak-proof and thick plastic bags (double bag) and tied shut to prevent contaminating the inside of the vehicle, and cleaning and disinfection procedures must be performed upon returning to the faculty. 10. All medical tools and equipment used in the field, such as thermometers, stethoscopes, stomach tubes, and mouth gags, must be cleaned in the field as soon as the procedure is finished and disinfected with 0.5% chlorhexidine or 70% alcohol. 11. No tool, equipment, or sample returning from field work with mobile vehicles should be brought into the clean examination and operation areas of the main hospital (Ruminant/Equine/Small Animal Clinics) without undergoing a complete disinfection process.	
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BURDUR MEHMET AKİF ERSOY UNIVERSITY FACULTY OF VETERINARY MEDICINE CADAVER VEHICLE AND TRANSPORT EQUIPMENT BIOSAFETY PROCEDURE	
Cadaver Preparation and Characteristics of Transport Containers 1. Animals that die or are euthanized in the faculty clinics, external farms, or isolation units must strictly be placed in leak-proof (waterproof), closed transport containers or thick, leak-proof body bags before being removed from their area. 2. Especially when transporting the cadavers of patients with Class 3 (Moderate) and Class 4 (High) infectious/zoonotic status, a legible warning label indicating the name and risk class of the suspected infectious pathogen must strictly be affixed to the outside of the container or bag, and the Necropsy Department must be notified in advance.	
Transport Procedure and Personnel Safety (Inside and Outside the Faculty) 3. Deceased large animals must not be dragged in the clinic corridors or transported out in the open; they must be transported to the Pathology/Necropsy Department as soon as possible, solely using a Forklift allocated for this purpose and an appropriate transport container. 4. The routes of the "Cadaver Collection Vehicle/Truck" used to collect cadavers from outside the faculty (field/farm) and the vehicles (Forklift) performing intra-hospital transport must be determined; these vehicles must not enter the "Clean" areas of the clinics or regions with heavy pedestrian traffic. 5. The personnel loading and transporting the cadaver into the vehicle are mandatory required to wear a heavy-duty waterproof coverall or gown, thick nitrile/rubber gloves, and washable steel-toed rubber boots.	
Cleaning and Disinfection of the Cadaver Vehicle and Container 6. IMMEDIATELY AFTER the cadaver is left in the cold room or delivery point in the Pathology/Necropsy area; the waterproof container in which the cadaver was transported, the bed of the cadaver truck, and the tires/bucket of the Forklift must be washed. 7. The cleaning of vehicles and equipment must be done with the professional high-pressure washer located at the necropsy dock/delivery point. During the washing process, personnel must strictly use a face shield and mask against splashes (aerosols). 8. The cadaver vehicle bed, tires, and transport containers, which have been completely cleared of gross organic dirt (blood, urine, feces) with pressurized water and detergent; must then be thoroughly disinfected with an appropriate surface disinfectant (e.g., 1/10 bleach) and left to dry. Without a complete disinfection, these vehicles must not return to the hospital courtyard or depart for a new assignment.	
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