





STANDARD OPERATING PROCEDURE OF GENERAL OCCUPATIONAL SAFETY AND HEALTH



FACULTY OF MATHEMATICS AND NATURAL SCIENCES

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1. OBJECTIVE

- 1.1. This guideline is used to protect the safety and health of the academic community while in offices, laboratories and/or classrooms within FMIPA.

2. SCOPE


- 2.1. This document covers aspects of occupational safety and health that must be prioritized when carrying out laboratory activities within FMIPA..

3. TERMS AND DEFINITIONS

- 3.1. A hazard/potential hazard is a source, situation, or action with the potential for harm in terms of human injury or ill health.
- 3.2. Ill health includes any identifiable physical or mental condition that arises from and/or is exacerbated by work activities and/or work-related situations.

4. OSH INVESTIGATION AND ENFORCEMENT

- 4.1. Safety inspections will be carried out periodically to check compliance with safety regulations in the Faculty of Engineering. The inspection will be carried out together with the FMIPA OSHE Team. The results of the examination will be summarized in a report addressed to the lecturer responsible for the laboratory, facility coordinator and administrative manager.
- 4.2. These periodic inspections will help you to identify safety hazards within your laboratory and will remind you of routine safety requirements in the environment. Designated FMIPA are responsible for carrying out routine audits of their responsible laboratories as well as user members. Experimental equipment and procedures will be discontinued if it does not comply with established safety practices.
- 4.3. When occupational safety inspection officers detect violations of safety regulations, the following disciplinary guidelines are recommended:
 - Preliminary Warning – verbal at the warning site. Reread the rules thoroughly to make sure you understand them all. Report to the Head of the Laboratory, Research Supervisor, and Study Program Coordinator.
 - Punishment – give a punishment. Repeated violations found during safety checks must be reported immediately to the Head of the Laboratory, Research Supervisor, and Study Program Coordinator.
 - Safety issues must be completely resolved at the expense of routine work in the laboratory.

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- 4.4. When you become aware of a safety issue, contact the FMIPA OSHE Team. They are the best source of information. You can also contact the FMIPA OSH Team for daily problems or for questions regarding equipment design.

5. WORK ACCIDENTS AND INJURIES

- 5.1. Immediately report all work accidents or injuries that occur to the FMIPA OSHE Team for investigation. An accident report (Accident Report Form) must be filed within 24 hours of the accident to receive workers' compensation. Only employees who receive wages through the university financial director's office are eligible to receive workers' compensation. All laboratory workers are required to use their health insurance. Minor injuries can be treated using first aid equipment provided in each laboratory. For cases of more serious injuries, immediately go to the UNJ Pratama Polyclinic. If the injured person cannot be moved .
- 5.2. Familiarize yourself with emergency procedures and learn how to get additional help at a moment's notice in an emergency state. Get to know how to use emergency equipment in your work area. Everyone should know the location and how to use emergency telephones, safety showers, eyewash equipment and personal protective equipment.

6. RIGHT TO KNOW

- 6.1. The Head of the Laboratory must inform workers and students working in his laboratory that they can request written information regarding the dangers associated with toxic substances to which they may be exposed. Such written information must be available within three business days or workers and students may refuse to work with the substance without fear of facing disciplinary or discriminatory action.
- 6.2. Material safety data sheets (Material Safety Data Sheet, MSDS) for laboratory chemicals are available in each laboratory, and can be requested from the Head of the Laboratory. It is highly recommended that you request an MSDS from the manufacturer when ordering chemicals. Experimental compounds and less common substances will require a literature search and consultation with your Program of Study advisor.
- 6.3. If your work involves the use, handling, or exposure to hazardous substances, you will need to see your supervisor for complete safety instructions. All chemicals are capable of causing injury. You should exercise care and

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discretion when using chemicals because simple precautions (such as preventing all bodily contact with chemicals as well as never inhaling chemical fumes) can protect you from known and unknown dangers.

7. FIRE DANGER

- 7.1. Familiarize yourself with the proper use and location of fire extinguishers and fire alarm boxes. Alarm box fire must be used for all fires. Always be aware of the nearest emergency exit.
- 7.2. Ensure that an appropriate fire extinguisher (see fire extinguisher types below) is available when carrying out work where there is a fire hazard. Fire extinguishers are only to be used by safety technicians or members of the occupational safety group, unless they are in immediate danger.
- 7.3. Please check the seal on the fire extinguisher. If the seal is broken, immediately report it to the FMIPA OSH Team.
- 7.4. All fires, regardless of size, must be reported immediately to the FMIPA OSH Team for investigation.

8. SAFETY EQUIPMENT

- 8.1. Appropriate fire extinguishers for laboratory fire hazards should be securely attached to a stationary object that is easy to reach and cannot be dropped. Please refer to the information on types of fire extinguishers to find out the types of fire extinguishers.
- 8.2. Safety glasses with side shields must be worn at all times in laboratory areas. Contact lenses should not be used in areas where chemicals or solvents are used. The minimum tolerance level of eye protection for handling chemicals or the area around the operation is:
 - Goggles are soft-sided, hooded, and ventilated, or
 - Soft-sided, hooded, vented goggles over glasses without side shields, or
 - Face shield over regular safety glasses with detachable side shields.
- 8.3. General laboratory work, even when eye hazards are minimal, requires safety glasses with detachable side shields or goggles with detachable side shields. To order standard safety goggles contact certified specialty shops.
- 8.4. UV light sources and laser light have other dangers. Advice from your supervisor or safety coordinator should be obtained before using this equipment.

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8.5. All laboratory members should know the nearest eyewash station and be sure that the eyewash station is working. Immediately report any damage to the eyewash station to the FMIPA OSH Team.

9. AWARENESS


- 9.1. All chemicals, electrical equipment, magnets, biological materials, radioactivity and extreme temperatures must be clearly labeled with warning signs.
- 9.2. The name and telephone number of an emergency contact must be provided on each test equipment in the event of a power outage or accident. This is especially important for highly sensitive equipment and equipment that runs 24 hours per day. All chemicals in the laboratory must be labeled with identification information and the date of purchase or date when the material was stored in the container in which it is currently used. This applies to all chemicals both dangerous and non-hazardous.
- 9.3. All laboratory members must know where safety glasses and gloves are placed in the laboratory.
- 9.4. The laboratory door must be locked at all times for security reasons. Even when the laboratory is occupied.

10. STORAGE

- 10.1. All storage areas must be clearly defined and separated from routine work areas (for example no storage in storefronts or on rooftops). Syringes should be stored in a locked and safe place. Stolen or lost syringes and syringes must be immediately reported to the Occupational Safety Task Force. All gas cylinders must be securely chained or attached to a stationary object to prevent the cylinder from accidentally falling.

11. HOUSEKEEPING

- 11.1. Hallways and exits should be easily accessible and should not be blocked by equipment or objects stored in the laboratory. Storage space can be provided by the faculty upon request to the FMIPA OSHE Team.
- 11.2. When leaving a room, turn off all lights and electrical equipment not in use and lock the door.
- 11.3. Motorized vehicles and bicycles may not be stored in the laboratory or office.
- 11.4. Damaged and unneeded glassware must be taken to a metal container at the loading dock. Reagent bottles must be washed thoroughly. If your work will

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produce large quantities of materials, small metal containers can be purchased for your laboratory. Building maintenance employees are not permitted to handle this material.

12. WASTE DISPOSAL

- 12.1. No accumulation of waste paper or other burning materials will be permitted. Spilled materials should be cleaned up immediately using spill kits located in each laboratory. Disposal of materials used for cleaning should be done immediately in accordance with waste disposal guidelines. When a mercury spill occurs, contact the FMIPA OSHE Team. Mercury spills are very dangerous, don't take action if you don't know the procedure.
- 12.2. Any sharps (e.g. needles, pipettes, slides, razor blades, blood tubes) that come into contact with infected or biologically hazardous materials should be disposed of in a sharps container. Pasteur pipettes, microscope slides etc. that have not come into contact with hazardous biological materials, waste not used in animal care or research, or hazardous chemical waste, can be disposed of in a sturdy fiberboard box used to collect glass fragments. When this box is full, this box can be glued so that the contents of the box don't spill out, then thrown in the regular trash.
- 12.3. Every used or unused needle or syringe, regardless of use, must always be placed in a sharps container. All researchers in the laboratory are asked to store the waste temporarily in puncture-resistant containers to be collected by the FMIPA OSHE Team and then for incineration and disposal.

13. OPERATION


- 13.1. Laboratory personnel and equipment must be protected from temperature, electrical, and chemical hazards during equipment operation.
- 13.2. Electrical contacts must not be overloaded. The power cord must be kept in good condition. any cables on the floor must be protected from laboratory traffic by using cable bridges.
- 13.3. Non-metallic power cables should not be used as a substitute for permanent cables. Flexible cables and cables should not be installed through holes in walls, roofs, floors, etc.
- 13.4. Locking tags should be used to prevent sudden energy increases during construction and maintenance. This applies to electrical, pneumatic, chemical, hydraulic and heat systems.

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- 13.5. Equipment and operations must be properly installed on a secure, permanent, horizontal surface to prevent objects from accidentally falling.
- 13.6. A fume hood should always be used when working with flammable solvents or toxic gasses. Noxious or irritating fumes must be vented out of the building. Work with the gas hose lowered as far as possible. This will allow the ventilation system to work more effectively.
- 13.7. Use plexiglass to protect the glass container from all sides. This will minimize the danger to workers working close to potential explosions.
- 13.8. Don't get around safety equipment. For example, system Mains equipped with 3-conductor cables must be properly grounded.
- 13.9. Only equipment approved by the Occupational Safety Task Force may be brought into the laboratory, such as coffee makers, radios, or fans.
- 13.10. The faculty electrician must make all electrical connections to the building. Cable connection requirements can be directed to the Occupational Safety Task Force.
- 13.11. Compressed gas cylinders must be securely attached at all times to a bench or wall equipped with a cylinder clamp or chain/rope. When storing or moving tubs, always securely install the safety cap to protect the faucet system. Moving gas cylinders must use wheeled carts specifically designed for gas cylinders.
- 13.12. Only trained and authorized persons should operate laboratory equipment.
- 13.13. Exit doors must provide a free and unobstructed exit.
- 13.14. Materials should not be placed or stored in stairwells or corridors.
- 13.15. Fire doors must not be blocked or propped open.
- 13.16. The use of doorstops, wedges, or other non-automatic devices that hold doors open is prohibited.
- 13.17. No one is permitted on the roof at any time for any reason. The FMIPA OSH team enforces this campus policy strictly.
- 13.18. For information regarding the dangers of UV and laser light, and regulations regarding "sources of ionized radiation" (e.g. x-rays), please contact the Occupational Safety Task Force.

14. PERSONAL SAFETY PRACTICES

- 14.1. Contamination from food, drinks, and cigarettes are potential routes for exposure to toxic substances. Smoking is NOT permitted at any location in the building. No food or beverages that may be stored or consumed in any

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laboratory, even if the laboratory is temporarily used as office space. Glassware and utensils that have been used for laboratory operations must not be used to prepare or consume food or drinks. Laboratory refrigerators, ice machines, ice boxes and the like should not be used to store food. Always provide laboratory visitors with safety equipment and information regarding safety procedures in the laboratory.

- 14.2. Wash your hands well before leaving the laboratory area.
- 14.3. Never leave the laboratory area or touch objects while wearing gloves that may be contaminated with unsafe substances. This will put everyone in the laboratory and in the building at risk.
- 14.4. No bare feet are permitted in the laboratory. Safety shoes or at least shoes that provide maximum protection are recommended.
- 14.5. For your own safety, never work in a laboratory alone. Always check that there are other people present on your laboratory floor in case emergency assistance is required.
- 14.6. When you encounter someone who has fainted in the laboratory, immediately report it to the FMIPA OSHE Team. Never enter the laboratory to help before you know clearly what factors are causing it. Make sure there are no toxic gasses in the laboratory that could cause accidents.

15. IMPLEMENTING ACTIVITIES

- 15.1. FMIPA OSHE Team
- 15.2. Head of Laboratory
- 15.3. Head of OSHE FMIPA

16. RELATED DOCUMENT

- 16.1. Accident Report Form