

UNIVERSITY OF MISSOURI-ROLLA - NUCLEAR REACTOR

STANDARD OPERATING PROCEDURES

S.O.P.: 600

REVISED: 5-10-84

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TITLE: LABORATORY RULES

A. Purpose

To ensure that all personnel abide by, safe operating practices and limit their radiation exposure to as low as reasonably achievable.

B. Precautions and Rules

1. Keep the laboratory area neat and clean at all times.
2. Return all equipment and nonradioactive material to their original location. Make sure all equipment used is either turned off or on depending upon its function.
3. A film badge or dosimeter shall be worn by the student or researchers at all times. If you do not have a film badge, check out a dosimeter at the Reactor Secretary's desk.
4. Do not eat, drink, or smoke in the bay area or counting room, or while handling radioactive materials.
5. Protective apparel, such as gloves, safety glasses and possibly lab coats should be worn when needed during lab operation.
6. Plastic gloves shall be worn only in the bay area or lower level area while handling radioactive samples. Do not wear gloves outside of these areas.
7.
 - a) Only burnable radioactive wastes will be placed in the Yellow rad-waste can.
 - b) Non burnable radioactive wastes shall be segregated and stored for ultimate disposal.
8.
 - a) If the sample is non-radioactive it is to be disposed of in the Red waste can.
 - b) If the sample is radioactive and less than 5 mrem/hr at 1 foot it is to be disposed of in the

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Yellow rad-waste can (located in the bay area and lower level of the Reactor Building.

c) If the sample is greater than 5 mrem/hr at 1 foot, special considerations must be made. Immediately consult a member of the reactor staff. Such samples will be stored in a properly marked container or pink envelope. Include the following information on the container/envelope:

Date:

Your Name:

Contents:

Radiation level:

Class Number:

and label it with magenta and yellow radioactive tape.

9. All samples greater than 100 mrem/hr on contact must be monitored by a Reactor Operator or the Health Physicist, prior to handling or counting.

10. Liquid samples will be allowed on the reactor premises by special permission only. Consult reactor staff prior to entry into the Reactor Facility.

11. Be aware of what you can and cannot irradiate, in accordance with Technical Specifications 6.2 (7,8,9).

12. Practice procedures, perform a walk through using non-radioactive substances before performing with radioactive substances.

13. Do not transfer radioactive materials to unauthorized persons. Do not remove samples from the Reactor Facility unless the By-Product Release Form has been properly completed. (See SOP 604.)

14. Survey lab areas, equipment, and personnel after

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during and after completion of the experiment.

15. Always use the frisker station when leaving the bay area. Always keep the frisker probe pointed downward to avoid contamination of the frisker.
16. Use shielding to reduce exposure to yourself and to others.
17. Review written procedures and maintain them on hand for laboratory operations.
18. If the building alarm is activated, immediately evacuate the Reactor Building in a safe, calm manner. Proceed directly to the decontamination room located in the basement of the Physics Building.
19. Know the procedures for cleaning a minor spill. They are: Stop the release, Warn reactor personnel of any mishaps, Isolate the area, and Minimize your exposure, and Secure the building ventilation fans. (SWIMS).
20. Visitors are allowed in the Reactor Building, however, they must observe the visitor rules posted beside the main security door and must be accompanied at all times.
21. Before any experiment can be performed, an irradiation request form must be turned in, fully completed and signed by the proper personnel, preferably at least 24 hours in advance. (See SOP 702.)
22. Violation of these laboratory rules could result in unsafe and unprofessional conditions. You should monitor your lab partners as well as yourself for compliance. Failure to comply will result in dismissal from a specific laboratory session. Repeated violations will result in preclusion from the Reactor Building.

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