

Radiation Users Guidelines

Department of Environmental Health & Safety

The University of Southern Mississippi

Important Contact Information

Environmental Health & Safety Office

Walker Science Building room 241

Director of E.H. S. Martha Sparrow 601-266-6912

cell phone 601-270-8224

Asst. Director Kevin Davis 601-266-4897

Campus Safety 601-266-4850

Campus Police 601-266-4986

IN THE EVENT OF AN EMERGENCY CALL 911

Time, Distance and Shielding: Radiation exposure can be greatly reduced in the lab by utilizing time, distance and shielding.

1. Reduce the amount of **time** spent near radioactive source.
2. Increase the **distance** from radioactive source.
3. Always use appropriate **shielding** whenever possible.

ALARA: This acronym stands for As Low As Reasonably Achievable. This is the attitude all radiation workers should adapt in consideration of their own personal safety, the safety of their co-workers and the environment. Radioactive contamination from an experiment can only be as large as the amount of the radiation used in the experiment. Therefore only use the smallest quantity absolutely necessary.

Lab Set Up

Before working with radioactivity it is important to consider how the lab is set up to ensure a safe research environment and to limit any additional exposure.

It is best to perform procedures using radioactivity in a location in the lab that can be easily isolated in the event of a spill or accident. A fume hood or back bench away from any entry doors work well. Be sure to cover bench area or hood surface with absorbent bench paper.

Make sure proper shields have been purchased and are in place prior to experiment.

Registered Users

All persons working with radioactivity at The University of Southern Mississippi must be registered with the department of Environmental Health & Safety prior to performing the procedure.

Applicants to become a registered user must take the online Radiation Safety Course available through the E.H. S. website and pass the associated quiz with a score of 70% or better. ***NO** radiation work can be performed until a passing score has been recorded at E.H.S.

Once a passing grade is recorded a request for a dosimeter device (radiation badge) is made for the new user if using ^{22}Na or ^{32}P . This is handled by Kevin Davis, asst. RSO.

Procurement

Working with Radioactivity

Perform as much work as possible behind shield. Use shield when moving sample from one work area to another i.e. to centrifuge, waterbath or scintillation counter.

Once procedure is complete spot check lab for radioactive contamination with counter. Remove gloves and place in small radioactive waste bag.

Tape bag of waste shut (when full) with radioactive warning tape and label with another piece tape with P.I.'s name, lab location, isotope, the date and users initials.

Wash hands well after removing gloves to rad. waste bag.

Disposing of Radioactive Waste

When the experiments are complete and the results are being analyzed the radioactive waste can be disposed. Here are the guidelines for radioactive material disposal.

Collect all liquid radioactive waste in an empty 4 liter bottle.

Make sure to label bottle as Radioactive Waste and include the isotope, P.I., the lab location, the date and your initials.

When the bottle is full contact E.H.S. for pick up.

NEVER dispose of radioactive liquids down the drains.

Collect all solid radioactive waste in an appropriate size plastic bag. Make sure to close bag with tape and label as radioactive waste, include the isotope, P.I., lab location, the date and your initials.

When you are ready to dispose of the waste or have a full bag contact E.H.S. for pick up.

