

NORTH CAROLINA STATE UNIVERSITY
ENVIRONMENTAL HEALTH AND PUBLIC SAFETY
RADIATION SAFETY DIVISION

**INSTRUCTION FOR THE COMPLETION OF FORM RS-1:
“APPLICATION FOR NON-HUMAN USE OF RADIOACTIVE MATERIAL”**

Please return the completed Form RS-1 to:
Radiation Safety Division
Box 8007
Phone: 515-2894

Section 1: Applicant data

Complete the required administrative information for the proposed applicant.

Section 2: Radionuclide and activity data

Please complete one RS-1 for each requested radionuclide. This affords the Radiation Safety Committee the ability to review each radionuclide independently.

Possession Limit: This is the maximum activity of this radionuclide to be possessed at any time. This quantity is the total inventory retained by the investigator excluding radioactive waste held in the laboratory.

Annual Limit: This is the maximum activity of this radionuclide to be ordered during the fiscal year.

Please enter the chemical and physical form of the proposed compound. Gaseous radioactive material (e.g. ^{41}Ar and ^{133}Xe) may require supplemental approval from the North Carolina Radiation Protection Section.

Section 3: Radioactive material use location(s)

Record the building, laboratory number, and phone number where radioactive material will be used or stored.

Section 4: Radioactive material use protocol

Summarize the protocol and/or intended use of radioactive material. Estimate the activity to be used each time a procedure is performed and the frequency of the procedure. Attach additional sheets, if necessary.

Section 5: Storage and handling facilities for radioactive material

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Please complete the following information in detail.

Each isotope should be recorded on a separate page.

Attach any supplemental information to this application.

Please include a current CV and a detailed drawing of the proposed laboratory.

SECTION 1 APPLICANT DATA

Name of Applicant: _____

Department: _____ Application Date: _____

Building and Office #: _____ Email: _____

Office Phone: _____ FAX Number: _____

Campus Box #: _____ Date of Birth: _____

NCSU ID# (9 digits): _____

After Hours Contact Person: _____ After Hours Contact Phone No.: _____

SECTION 2 RADIONUCLIDE AND ACTIVITY DATA

Proposed Radionuclide: _____ Half-life: _____

Possession Limit: _____ mCi [Maximum activity to possess at any time.]

Annual Limit: _____ mCi [Maximum activity to be ordered per calendar year.]

Physical Form (circle one): Liquid Solid Gas Chemical Compound(s): _____

SECTION 3 PROPOSED RADIOACTIVE MATERIAL USE LOCATION(S):

- | | | |
|----------------|--------------------|----------------------------------|
| 1. Bldg. _____ | Room Number: _____ | Laboratory 1 Phone Number: _____ |
| 2. Bldg. _____ | Room Number: _____ | Laboratory 2 Phone Number: _____ |
| 3. Bldg. _____ | Room Number: _____ | Laboratory 3 Phone Number: _____ |
| 4. Bldg. _____ | Room Number: _____ | Laboratory 4 Phone Number: _____ |

Section 4

- 1) DESCRIBE THE RADIOACTIVE MATERIAL PROTOCOL.
- 2) PROVIDE THE ACTIVITY OF RADIOACTIVE MATERIAL PER PROTOCOL.
- 3) PROVIDE THE PROPOSED FREQUENCY OF USE.

* ATTACH ANY SUPPLEMENTAL INFORMATION TO THIS APPLICATION.

SECTION 5 DESCRIBE THE STORAGE, HANDLING, CONTAMINATION CONTROL, AND SECURITY MEASURES FOR RADIOACTIVE MATERIALS.

Section 6 DESCRIBE DISPOSAL METHODS, WASTE MINIMIZATION PROCEDURES AND FORMS OF RADIOACTIVE WASTES FROM THIS PROJECT.

Applicant _____ Date: _____

Chair, Rad. Safety Committee: _____ Date: _____

Radiation Safety Officer: _____ Date: _____

Describe shielded storage facilities, special handling apparatus, external dose reduction procedures, radioactive material contamination control procedures, and security for radioactive material.

All storage, radioactive material use areas and waste locations should be indicated on the laboratory map attached to the protocol submission.

Section 6: Radioactive waste disposal

Record the appropriate disposal method on the application for the physical form and half-life of the radioactive waste.

Physical Form	Half-life	Disposal Method
Liquid Waste	all types	Segregate by radionuclide categories listed in RS manual and collect in containers provided by the Environmental Health and Safety. [High water content wastes only.]
Solid Waste	all types	Segregate by radionuclide categories listed in RS manual and dispose in radioactive solid waste containers.
LSC Vials	all types	Segregate by radionuclide categories listed in RS manual and dispose in radioactive waste containers. *Tritium and Carbon-14 can be combined if the activity is less than 0.5 microcurie/gram.
Mixed Waste	all types	Disposal method determined on a case-by-case basis. [Non-aqueous wastes] *Radiation Safety does not promote mixing waste.

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**INSTRUCTION FOR THE COMPLETION OF FORM RS-2:
“APPLICATION FOR NON-HUMAN USE OF RADIOACTIVE MATERIAL”**
TRAINING, EXPERIENCE, LABORATORY STAFF, AND EQUIPMENT ADDENDA

Please return the completed RS-2 to:

*Radiation Safety Division
Box 8007
Phone: 515-2894*

Section 7: Training in the safe use of radiation

All pertinent training in Parts A-F should be completed by the Applicant. Please list the university/college/institutional where the radiation safety training was received. Note the duration of the training and whether it was on-the-job or formal classroom training.

Section 8: Laboratory/clinical experience using radiation sources

List prior experience utilizing the requested radionuclides, activities, and protocols described on the RS-01 application (e.g. ^{32}P , 0.250 mCi, sequencing, 2 years, North Carolina State Univ.).

If an applicant has no direct experience with the protocol or radionuclide, another Principal Investigator may submit a Memorandum of Supervision stating that the proposed protocol will be performed under their direction until the applicant becomes proficient with that technique.

Section 9: Laboratory personnel using radiation sources

List all laboratory staff working with radiation sources. Laboratory personnel working with radiation must complete the RS-3 (Radiation Worker Registration Form) and RS-4 (Previous Exposure History) forms which are available from the Radiation Safety Division.

All persons working with radiation sources must be informed of the specific hazards of their work. They should initial the RS-2 indicating that they have been informed by the applicant of the potential radiation hazards present in the laboratory.

Section 10: Radiation detection instrumentation

List any portable survey instruments used by or available to the laboratory (e.g. Ludlum Model 3, SN: 12345). List any analytical counting equipment used by or available to the laboratory (e.g. Liquid Scintillation Counter, Packard Tri-Carb Model 4430).

Section 11: Certification

Sign and date on the appropriate line indicating that all information on the application is true to the best of your knowledge and that you intend to comply with the authorization conditions and restrictions imposed by the Radiation Safety Committee at North Carolina State University.

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TRAINING, EXPERIENCE, LABORATORY STAFF, AND EQUIPMENT ADDENDA
PLEASE SUBMIT A COPY OF YOUR CURRENT CV WITH THIS APPLICATION.

SECTION 7 TRAINING IN THE SAFE USE OF RADIATION

Location of Training

- A. Principles and practices of radiation protection _____
Circle one: On the job training Formal Classroom Training
- B. Radiation detection and monitoring _____
Circle one: On the job training Formal Classroom Training
- C. Safety procedures for use of radiation sources _____
Circle one: On the job training Formal Classroom Training
- D. Biological effects of radiation _____
Circle one: On the job training Formal Classroom Training
- E. Date(s) of radiation safety training _____
(Please submit copies of training certificates or letter of verification from outside facility)
- F. Have you participated in the Basic Radiation Safety Class offered by NCSU? Yes No

SECTION 8 LABORATORY/CLINICAL EXPERIENCE USING RADIATION SOURCES

Radionuclide	Activities in use	Type of protocol/use	Duration of experience	Location of experience gained

SECTION 9 LABORATORY PERSONNEL USING RADIATION SOURCES

Laboratory personnel must be informed of the potential radiation hazards present in the workplace. Have the laboratory personnel initial that they understand the presence of this hazard and will employ safe work habits.

Name	Title (e.g. Ph.D)	Position	Initial
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Note: Each employee listed above must submit a RS-Form 03: Worker Registration Form and RS-Form 04: Request for Exposure History

SECTION 10 RADIATION DETECTION INSTRUMENTATION

	Manufacturer	Model Number	Serial Number
Portable survey instrument	_____	_____	_____
Analytical counter (e.g. LSC)	_____	_____	_____

SECTION 11 CERTIFICATION

It is understood that the applicant named herein, upon approval of this license assumes responsibility for the use and disposition of the radiation sources in strict compliance with the policies, rules, and guidelines established and prescribed by the Radiation Safety Committee of North Carolina State University. In addition, the approval of this license in no way privileges the applicant to assign their authority to procure, possess, or acquire radiation sources to another individual.

I signify that I have read and understood the policies, rules, and guidelines issued by the Radiation Safety Committee of North Carolina State University which governs the safe use of radiation sources, and agree to strictly comply therewith.

Applicant: _____ Date: _____

Chair, Rad. Safety Committee: _____ Date: _____

Radiation Safety Officer: _____ Date: _____