

THE UNIVERSITY OF CHICAGO
APPLICATION FOR NON-HUMAN USE OF RADIOACTIVE MATERIAL



REQUEST FOR APPROVAL FROM THE UNIVERSITY OF CHICAGO COMMITTEE ON
RADIATION SAFETY TO USE RADIOACTIVE MATERIAL UNDER LICENSES ISSUED TO THE
UNIVERSITY BY THE ILLINOIS EMERGENCY MANAGEMENT AGENCY, DIVISION OF NUCLEAR SAFETY

OFFICE OF RADIATION SAFETY (ORS) · 5841 SOUTH MARYLAND AVENUE · AMB ROOM M031A

Phone Number: (773) 702-6299 / Fax Number (773) 702-4008

Website Address: <http://researchsafety.uchicago.edu/>

This application and any attachments must be typewritten · Do not write on reverse side of the application

ORS Form A1 (1/11)

Protocol # (ORS Use Only)	Amendment # (ORS Use Only)	Approval Date (ORS Use Only)	Expiration Date (ORS Use Only)
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1. Applicant Information:

Name: Last First MI.	Regulatory Compliance Number (Formally BSD Number)
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Title: ☐ Professor ☐ Asst. Professor ☐ Assoc. Professor

☐ Research Associate ☐ Other:

Department:

Campus Address:

Mail Code:

E-mail Address:

Telephone Numbers: Office:

Fax:

Telephone Numbers: Laboratories:

Account Administrator

Name:

Campus Address:

Mail Code:

Telephone #:

Fax #:

Email:

FAS Account Number

Complete the **Account Authorization Form** and submit with this application.

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Have you been approved previously by The University of Chicago Radiation Safety Committee for this or another use? (Please check one box) ☐ Yes ☐ No

If no, complete the **Principal Investigator's Statement of Training and Experience Form** and submit with this application.

2. Type of Application: (Please Check One Box)

- ☐ **New** – New applicants requesting authorization for Non-Human Use of Radioactive Material
- ☐ **Renewal** – Requesting renewal of current authorization for Non-Human Use of Radioactive Material
- ☐ **Amendment****– Modification in experimental procedures, addition of new radionuclides, and new experimental procedures

****The shorter amendment forms should be used to amend current possession limits, changing location of radioactive material use/storage, changing radionuclide chemical/physical forms, and add new users.**

3. Radionuclide(s): Complete table for each nuclide, generic descriptions are acceptable (e.g., “nucleotides”, “amino acids”, “hormones”, etc.)

Radionuclide	Chemical Form(s)	Physical Form ¹	Order (mCi) ² Maximum/Month

¹ Physical Form – **Solid (S)**, **Liquid Aqueous (LA)**, **Liquid Organic (LO)**, **Gas (G)**, or **Sealed Source (SS)**

² Order (Consult with ORS) – the maximum activity that can be ordered per month per radionuclide chemical form.

4. Purpose of Use: (Check all appropriate boxes)

- ☐ Research and development excluding use in animals
- ☐ Research and development including use in animals
- ☐ Teaching and training
- ☐ Clinical in-vitro testing
- ☐ Sealed Source
- ☐ Irradiator Use

5. Procedures to be Used: A) Check all common procedures listed below that will be used under this authorization. No further explanations required for these procedures unless a deviation from the standard procedure is planned. B) Describe any other procedures; include maximum activity per experiment giving sufficient detail for the Radiation Safety Committee and Radiation Safety Office to determine safety issues. Attach a separate page, if necessary.

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DNA / RNA Labeling: ☐ nick translation ☐ nucleotide kinase ☐ Primer exten

Blot analysis: ☐ northern ☐ southern ☐ western ☐ southwestern

☐ Assays ☐ Library screenings by colony / plaque hybridization
☐ RIA ☐ In situ hybridization ☐ DNA / RNA sequencing
☐ Cells, Proteins, Nucleic Acids, and lipids labeling ☐ Chromatography
☐ Iodination

☐ Other Procedures: (List and please provide explanation. Use additional pages, if necessary.)

6. **Location of Use:** A) List room numbers for all areas where radioactive material will be used or stored under this authorization. For room additions, list only the rooms being added. B) Indicate the type (s) of use by checking the appropriate column (s).

LOCATION		TYPE (S) OF USE (X)						
Building	Room #	Experiment	Storage	Counting	Darkroom	Waste Storage	Cold Room	*Other
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐

* Other: ☐ Iodination or

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7. **Authorized Users:** List the full names of all individuals who will work with the radioactive material. Indicate with an * behind their name of anyone who may use more than 1 mCi of I-125 or I-131, or 10 mCi of P-32 at one time. Every principal investigator must name at least one “Laboratory Designee” who will attend specific Office of Radiation Safety Training and will serve as our principal contact.

Laboratory Designee: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A
Name: Last, First, MI	Regulatory Compliance No. (Formally BSD Number)	Badge Service Requested: (Check one box) ** ☐ Yes ☐ N/A

** When requesting radiation badge service a Green Radiation Badge Card **must** be completed and submitted to the Office of Radiation Safety with the application.

Please Note:

New PI Application: Please submit a **New User Amendment and Training Certification** form for each user listed on the application.

Renewal Application: Please submit a **New User Amendment and Training Certification** form for each user not listed on your previous application or subsequent amendments.

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8. **ALARA/Safety Precautions:** What additional precautions other than those outlined in the University Radiation Safety Manual will you take to minimize exposures to your personnel from radioactivity during use or while in storage?
 (Check all appropriate boxes)

a. Radioactive material will be used and/or stored:

- 1) ☐ behind shielding material
 ☐ Lead bricks ☐ Lead foil ☐ Beta Blocks
 ☐ Plastic beta shield
 ☐ Other shielding
- 2) ☐ in a separate room or area not frequented by personnel
- 3) ☐ in an approved hood for volatile radionuclides
- 4) ☐ with remote manipulators to minimize exposure
- 5) ☐ by personnel wearing protective clothing (e.g., lab coat, disposable gloves, etc. as outlined in the Radiation Safety Manual)
- 6) ☐ other

b. Indicate whether any of the conditions listed below occur during your experimental procedures. For any "Yes" answers, indicate additional safety precautions to be used.

	Within Procedure		Radiolabeled Compound Itself	
Gas, vapor or aerosol	☐ No	☐ Yes	☐ No	☐ Yes
Flammable liquid	☐ No	☐ Yes	☐ No	☐ Yes
Powder or dust	☐ No	☐ Yes	☐ No	☐ Yes
Infectious biohazard	☐ No	☐ Yes	☐ No	☐ Yes
Pressure/vacuum	☐ No	☐ Yes		
High temperature	☐ No	☐ Yes		

Additional safety precautions to be followed:

c. Security/Supervision of Radioactive Materials:

- 1) How will you secure radioactive materials when no radiation workers are in the lab?
☐ Room will be under direct supervision when radioactive materials are present or unsecured.
☐ Room or building will be locked when lab personnel are not present.
☐ Other (specify)
- 2) How will you manage your radioactive waste program?
☐ Waste container(s) will be stored in a locked room.
☐ All waste containers will be properly shielded.
☐ All waste placed into the container will be identified on the manifest.
☐ Other (specify)

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9. **Survey Instruments:** List survey instrument(s) for monitoring contamination and/or radiation levels: (All survey meters must have been calibrated within a year) Note: you must own appropriate survey equipment or identify equipment to be shared with another lab. Tritium only use – no portable survey instrument required.

a. Portable Survey Instrument

Mfg. (Brand)	Model #	Serial #	Calib. Date	Probe Type: (Check all appropriate types)				Room	Ownership
				GM Pancake	GM End Window	NaI Crystal	*Other: (Explain below)		
				☐	☐	☐	☐		☐ Own ☐ Shared ¹
				☐	☐	☐	☐		☐ Own ☐ Shared ¹
				☐	☐	☐	☐		☐ Own ☐ Shared ¹
				☐	☐	☐	☐		☐ Own ☐ Shared ¹
				☐	☐	☐	☐		☐ Own ☐ Shared ¹

¹ If an instrument is shared please provide the name of the survey instrument owner:

* Other:

b. Analytical Equipment [Liquid Scintillation Counter (LSC) and/or Gamma Counter]

Mfg.	Model #	Serial #	Counter Type			Room	Ownership
			LSC	Gamma	*Other: (Explain below)		
			☐	☐	☐		☐ Own ☐ Shared ¹
			☐	☐	☐		☐ Own ☐ Shared ¹
			☐	☐	☐		☐ Own ☐ Shared ¹
			☐	☐	☐		☐ Own ☐ Shared ¹

¹ If an instrument is shared please provide the name of the equipment owner:

* Other:

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10. Radioactive Waste:

ALL RADIOACTIVE WASTE, EXCEPT DEREGULATED SCINTILLATION MEDIA (H-3, C14) AND SHORT HALF-LIFE ANIMALS, MUST BE TRANSFERRED TO RADIATION SAFETY. Please indicate below the types of waste you expect to generate and the storage room (s) to be used. (Check all that apply)

- a. Isotopes with < 90 day half-lives:

- ☐ Dry solid
☐ Aqueous liquid
☐ Scintillation Vials Storage location:
☐ Organic liquid
☐ Animal carcass Storage location:

- b. Isotopes with > 90 day half-lives:

- ☐ Dry solid
☐ Aqueous liquid
☐ Scintillation Vials Storage location:
☐ Organic liquid
☐ Animal carcass Storage location:

- c. Will your lab conduct drain disposal? ☐ Yes ☐ No

If yes, you are required to document this disposal on a **Radioactive Aqueous Waste Drain Disposal Log**. This log shall be submitted quarterly to the Office of Radiation Safety with the quarterly inventory report.

- d. Will your lab be generating organic bulk liquid, biological wastes, or other mixed wastes?

☐ Yes ☐ No If yes, please explain:

Note: Mixed waste is waste that has radioactive waste mixed with another hazardous waste component. Scintillation Media is not considered mixed waste.

- e. Will your lab be generating another type of radioactive waste? Please specify

11. Administering Radioactive Material to Living Animals:

- a. Will radioactive material be administered to living animals?

☐ Yes ☐ No

If yes, contact the Administrator of the Institutional Animal Care and Use Committee (IACUC) at 2-9203 for the **Animal Care and Use Protocol Submission Forms (Supplemental Form R)**.

The web address for these forms is: <https://iacuc.uchicago.edu/> and click on FORMS. Complete the necessary application packet and submit to the IACUC Committee.

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12. Principal Investigator Certification:

Radioactive material obtained under this application will be used only as described above except when the University Radiation Safety Committee has been given advance written notice of changes and has approved such changes. Procedures described in the **University Radiation Safety Manual** will be followed. I understand that approval, if granted, will expire on the date stamped on the approved application, and that approval may be withdrawn at any time.

Signature of Applicant: _____ Date: _____

Radiation Safety Officer: _____ Date: _____

Committee Decision: _____ Date: _____