MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY
APPLICATION FOR POSSESSION AND USE OF RADIATION SOURCES

Type of Application: New ☐ Renewal ☐ Amendment ☐ Reinstatement ☐ Auth #

1. Name of individual user:	2. Date:
3. Campus address:	4. Telephone:
5. Bldg. And room where material will be used:	6. Nearest Telephone:

7. Material requested:

Isotope	Half Life	Main Radiation(s)	Energies	Form	Possession Limit

8. In narrative form please discuss the following. Use additional sheets, if necessary.

a) Proposed use and plan of investigation. (Include a diagram of the laboratory with storage/use locations)
b) Indicate maximum activity per experiment and maximum per year.
c) Procedures to be followed for the safe use of the material requested.
d) Provisions taken to prevent generation of mixed (toxic) waste.
e) Plan for personnel monitoring and radiation protection.
f) Plan for storage of material and rad. wastes.
g) Will the proposed investigation involve the use of :
Biohazards: Yes ☐ No ☐ Animals? Yes ☐ No ☐ P-32? Yes ☐ No ☐
Transfers of radionuclides to or from other users? Yes ☐ No ☐
Iodination or storage of radioiodine? Yes ☐ No ☐
>100 mCi of tritiated water/Sodium Borohydride or >24 mCi tritiated organic material? Yes ☐ No ☐
Radioactive gas chromatograph sources? Yes ☐ No ☐
For each of the above answered yes, please respond to the relevant questions listed on the attached questionnaire.
h) For each person working under this application list below : name , social security number, date of birth, last radiation safety orientation/training and job classification. (Use supplemental sheets if necessary)

Name	Job Title	Birth Date	Date of Last Rad . Training

Health Physics Evalution	Campus Review	
Date received:	Date received:	
Date Evaluated:	Date approved:	Applicant named in item
Risk-level classification:		
Health Physicist responsible:	Committee chairman	Chariman of Department

9. Training and experience of user

Type of training	Where trained	Duration Of Training	On-the job	Formal Course
a) Principle s and practices of radiation protection			☐ ☐ Yes No	☐ ☐ Yes No
b) Radioactivity measurement techniques and instruments			☐ ☐ Yes No	☐ ☐ Yes No
c) Mathematics basic to measurement of radioactivity			☐ ☐ Yes No	☐ ☐ Yes No
d) Biological effects of radiation			☐ ☐ Yes No	☐ ☐ Yes No

10. Experience with radiation sources: (Actual use or equivalent experience)

Source	Quantity	Where gained	Duration (dates)	Type of use

DESCRIPTION OF EQUIPMENT AND FACILITIES FOR RADIATION SAFETY

Radiation Detection Instruments: (Use supplemental sheets if necessary)

Type of Instrument (Include make and model number of each)	Number available	Radiation detected	Sensitivity range (mR/hr)	Window thickness (mg/cm^2)	Use (Monitoring ,surveying,measuring)

Method, frequency, and standards used in calibrating instruments listed above:

Special facilities :

15. Describe laboratory facilities and include a sketch to detail storage containers, shielding, fume hoods, remote handling equipment, and other pertinent equipment:

Questionnaire

If work will involve the use of biohazards, describe:
1. Biohazards/safety procedures/special waste handling
2. Experimental procedures to be used under this application
3. Radiation safety procedures to be used under this application

If the user plans to receive radionuclides via transfers form other users, list the following data for each such source(s) of radionuclides.
1. Name and address of source
2. Radionuclide
3. Annual activity to be received

If the user plans to transfer radionuclides to other users, list the following data for each recipient.
1. Name and address of recipient
2. Radionuclide
3. Annual activity to be transferred

If live animals will be used list/describe the following for all animals to be used.
1. Animals type (s)
2. Radionuclides used
3. Location where any live radioactive animals will be kept
4. Who will provide care for the animal(s)
5. All procedures related to animal use/Disposal

If you plan to iodinate or store radioiodine, list /describe the following for iodinations or storage with greater then 5 mCi/container.
1. Radionuclides involved
2. Maximum activity in any container
3. Storage /iodination building and room
4. Individuals who will be doing iodination or handling > 10 mCi/container
5. Procedures followed; include estimates of tagging efficiency

If > 100 mCi tritiated water/sodium borohydride or >25 mCi tritiated organic material will be used list the following:
1. Maximum activity in any container
2. Storage /Usage building and room
3. Individuals who will be handling such material

If P-32 will be used, list /describe the following .
1. All procedures used to minimize /detect contamination
2. All procedures used to minimize exposure (including use of Plexiglas shields)
3. Maximum activity in any stock solution
4. Maximum activity in any other container storing P-32 solution or waste
5. Storage/ Usage building and room
6. Individuals who will be handling > 0.1 mCi or P-32

If you plan to use radioactive gas chromatograph source , list for each one :
Isotope , location, calibration date , manufacturer , model number, serial number , and date last leak test was done.