

030-09673

NRC Form 313 I (12-81) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i>	
APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL				a. NEW LICENSE	
<i>See attached instructions for details.</i> Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.				b. AMENDMENT TO: LICENSE NUMBER 13-15734-01	
2. APPLICANT'S NAME <i>(Institution, firm, person, etc.)</i> Evansville Center for Medical Education A unit of Indiana Univ. School of Medicine TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 812-464-1831				3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Dr. George Guthrie, Associate Director TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION 812-464-1831	
4. APPLICANT'S MAILING ADDRESS <i>(Include Zip Code)</i> <i>(Address to which NRC correspondence, notices, bulletins, etc., should be sent.)</i> Indiana Univ. School of Medicine-Evansville 8600 University Blvd. Center Evansville, IN 47712				5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED <i>(Include Zip Code)</i> (1) Medical Educ. Bldg. (2) Health Science Bldg. 8600 University Blvd. 1901 E. Walnut St. Evansville, IN 47712 Evansville, IN 47714	
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES)					
6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>					
FULL NAME			TITLE		
a. See Supplemental Sheets, Pages 1 & 2					
b.					
c.					
7. RADIATION PROTECTION OFFICER George D. Guthrie, Ph.D. See Supplemental Sheet, Page 3			Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15. See Supplemental Sheets, Pages 15, 21 & 10-14		
8. LICENSED MATERIAL					
LINE NO.	ELEMENT AND MASS NUMBER	CHEMICAL AND/OR PHYSICAL FORM	NAME OF MANUFACTURER AND MODEL NUMBER	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME	
(1)	See Supplemental Sheet, Page 4		<div style="border: 1px solid black; padding: 5px;"> RECEIVED BY LFMB <i>(Unsealed Source)</i> Date: 2/21/84 Log: [initials] By: [initials] Orig. To: [initials] Action Comp: [initials] </div>	D 201116101 FREE EXEMPT	
(2)					
(3)	8610030085 840511 REG3 LIC30				
(4)	13-15734-01	PDR			
DESCRIBE USE OF LICENSED MATERIAL E					
(1)	Basic Research. Tracer studies on virus and cell metabolism. This will not involve				
(2)	isotope studies on humans. Any animal usage will comply with the limits in Sec. 20,				
(3)	306 so as "to be disposed of without regard to radioactivity." See also Supple-				
(4)	mental Sheet, Page 9 regarding Waste Disposal.				

9. STORAGE OF SEALED SOURCES			
LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	NA		
(2)			
(3)			
(4)			

10. RADIATION DETECTION INSTRUMENTS						
LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	Survey Meter GSM-5	Wm. Johnson & Assoc.		2	beta, gamma	0-20
(2)	Scintillation Counter	Beckman Instruments	LS7500 LS100	2	beta, gamma	-
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10	
<input checked="" type="checkbox"/> a. CALIBRATED BY SERVICE COMPANY NAME, ADDRESS, AND FREQUENCY Beckman Instruments Routine service contracts	<input checked="" type="checkbox"/> b. CALIBRATED BY APPLICANT Attach a separate sheet describing method, frequency and standards used for calibrating instruments. See Supplemental Sheet, Page 5

12. PERSONNEL MONITORING DEVICES		
TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input checked="" type="checkbox"/> (1) FILM BADGE <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD) <input checked="" type="checkbox"/> (3) OTHER (Specify): <u>Rings</u>	R.S. Landauer Co.	<input checked="" type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY <input type="checkbox"/> OTHER (Specify): _____

13. FACILITIES AND EQUIPMENT (Check were appropriate and attach annotated sketch(es) and description(s).)	
<input checked="" type="checkbox"/> a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC. See Supplemental	
<input checked="" type="checkbox"/> b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC. Sheets, Page 6, 7, & 8	
<input type="checkbox"/> c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.	
<input type="checkbox"/> d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.	

14. WASTE DISPOSAL	
a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED U.S. Ecology, Louisville, KY or Adco Services & Co., Tinley, IL	
b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE. See Supplemental Sheet, Page 9	

INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.

See Supplemental Sheets, Pages 10-14 & 14A

16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.

See Supplemental Sheets, Pages 15-20

a. Principles and practices of radiation protection.

b. Radioactivity measurement standardization and monitoring techniques and instruments.

c. Mathematics and calculations basic to the use and measurement of radioactivity.

d. Biological effects of radiation.

17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

See Supplemental Sheets, Pages 21-26

18. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our knowledge and belief.

WARNING.—18 U.S.C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

a. LICENSE FEE REQUIRED
(See Section 170.31, 10 CFR 170)

NA See 170.11

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

George D. Guthrie, Ph.D.

(1) LICENSE FEE CATEGORY:

d. TITLE

Associate Director

(2) LICENSE FEE ENCLOSED: \$

e. DATE

May 11, 1984

6. INDIVIDUALS WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL.

FULL NAME	TITLE
a. George D. Guthrie, Ph.D.	Associate Director Associate Professor of Biochemistry
b. John F. Schaeffer, Ph.D.	Associate Professor of Physiology
c. Howell W. Rogers, Ph.D.	Associate Professor of Microbiology and Immunology
d. Godfrey Tunnicliff, Ph.D.	Associate Professor of Biochemistry
e. G. Keith Matheson, Ph.D.	Associate Professor Anatomy
f. Beat Raess, Ph.D.*	Assistant Professor of Pharmacology

*Requested in amendment in letter to Mr. Kappler dated April 6, 1984 -
copy attached, page 2