



TREASURY DEPARTMENT

BUREAU OF CUSTOMS

BALTIMORE, MD.



JUN 5 1973

REFER TO

FILE:TEC-1-07-RO:L

United States  
Atomic Energy Commission  
Washington, D. C. 20545

Attn: Isotopes Branch, Division of Materials Licensing

Gentlemen:

Enclosed please find completed Form AEC-313, in duplicate,  
for the renewal of License No. 19-08654-01; expiration date  
July 31, 1973 (Program Code 03100).

Sincerely yours,

James M. Adams, Ph.D.  
Regional Director,  
Laboratory Division

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UNITED STATES ATOMIC ENERGY COMMISSION  
**APPLICATION FOR BYPRODUCT MATERIAL LICENSE**

**INSTRUCTIONS.**—Complete Items 1 through 16 if this is an initial application or an application for renewal of a license. Information contained in previous applications filed with the Commission with respect to Items 8 through 15 may be incorporated by reference provided references are clear and specific. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail two copies to: U.S. Atomic Energy Commission, Washington, D.C., 20545, Attention: Isotopes Branch, Division of Materials Licensing. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30, and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20.

1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc. Include ZIP Code.) (b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a). Include ZIP Code.)

**Treasury Department  
U. S. Customs Laboratory  
103 S. Gay Street  
Baltimore, Maryland 21202**

**Not Applicable**

2. DEPARTMENT TO USE BYPRODUCT MATERIAL 3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)

**Laboratory Division  
U.S. Customs Service, Region III  
40 S. Gay St. Baltimore, Md. 21202**

**Renewal: No. 19-08654-01**

4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.) 5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resums of his training and experience as in Items 8 and 9.)

**Alvin Bober, Chief, Inorganic/  
Physical Branch**

**James M. Adams, Regional Director,  
Laboratory Division**

6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) (b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)

**Various**

**Exempt quantities for use as tracers or in calibration.  
Sealed sources not to exceed 1 in number, such as may be used in a gas chromatograph  
Example: U.S. Radium, Catalog No. 369, containing 24 millicuries of Sr 90.**

7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.)

- 1) Gas chromatograph detector, Example: Electronic Instruments for Research, Inc. AV-18-2000.**
- 2) Analytical methodology for recovery correction**

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## TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

8. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)		FORMAL COURSE (Circle answer)	
			Yes	No	Yes	No
a. Principles and practices of radiation protection	<b>U. S. Customs Laboratory</b>	<b>7 yrs.</b>				
b. Radioactivity measurement standardization and monitoring techniques and instruments	<b>U.S. Customs Laboratory</b>	<b>7 yrs</b>				
c. Mathematics and calculations basic to the use and measurement of radioactivity	<b>U.S. Customs Laboratory</b>	<b>7 yrs</b>				
d. Biological effects of radiation	<b>U.S. Customs Laboratory</b>	<b>7 yrs</b>				

## 9. EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
<b>235 U<sup>235</sup></b>	<b>?</b>	<b>U. S. Customs Laboratory</b>	<b>7 yrs</b>	<b>monitoring imported ores and depleted uranium hexafluoride</b>

## 10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm <sup>2</sup> )	USE (Monitoring, surveying, measuring)
<b>Navy Radiac 27E</b>	<b>1</b>	<b>beta, gamma</b>	<b>0.01-500</b>	<b>Navy BS1 and BS2</b>	<b>Monitoring</b>
<b>M R D Scaler</b>	<b>1</b>	<b>beta gamma</b>	<b>0.01-500</b>	<b>3-4</b>	<b>Measuring</b>

## 11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

**Calibrated by Naval Research Laboratory, biannually.  
Test sample MX 1083B available**

## 12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

**Film Badges-Tracerlab, Inc., Waltham, Mass.**

## INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS IN DUPLICATE

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) Yes **(No)** **Fume hoods**

14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source.

15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved.

## CERTIFICATE (This item must be completed by applicant)

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, 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.

**Treasury Department**

**U.S. Customs Laboratory**

Applicant named in item 1

Date **July 3, 1973**

By: **A. B.**

**Chief, Inorganic/Physical Branch**

Title of certifying official

**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.

Form AEC-313 (8-64): Supplemental Sheet

5. James M. Adams, Regional Director, Laboratory Division  
(8 Type of Training)

	<u>Where Trained</u>	<u>Duration</u>	<u>On the Job</u>
a	Oak Ridge National Laboratory	3 yrs	Yes
b	Oak Ridge National Laboratory	3 yrs	yes
c	Oak Ridge National Laboratory	3 yrs	yes
d	Oak Ridge National Laboratory	3 yrs	yes

(9 Experience with Radiation)

<u>Isotope</u>	<u>Max. Amount</u>	<u>Where</u>	<u>Duration</u>	<u>Use</u>
C <sup>14</sup>	Exempt	Oak Ridge Natl. Lab.	3 yrs	Tracer
Co <sup>60</sup>	Exempt	Rosner-Hixon Lab. Chicago, Ill	3 yrs	Tracer
C <sup>14</sup>	Exempt	Merck & Co. Rahway, N.J.	4 yrs	Tracer

14. Continued

Sealed sources will be tested for leakage at 6 month intervals by Alvin Bober, Chief, Inorganic/Physical Branch. Servicing maintenance and repair when required will be referred to the original supplier.

A "wipe" test will be performed on the source using filter paper and the paper will be counted using a thin window geiger tube or windowless flow counter.

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