

PRODUCT MATERIAL LICENSE

Supplementary Sheet

License Number h-181-6

AMENDMENT NO. 1

Veterans Administration Center
Cardiology Section
Wilshire and Sawtelle Boulevards
Los Angeles 25, California

Attn: Dr. E. Raymond Boran

In accordance with application dated March 21, 1958, License No. h-181-6 is amended to add the following:

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radio- activity which licensee may possess at any one time
Sodium 24	Any	2 millicuries

9. Authorized use

Na-24: In vitro studies of sodium exchange in erythrocyte specimens.

A/32

For the U. S. Atomic Energy Commission

Original Signed By:

James R. Mason

by JRM 4-28-58
Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

Date April 28, 1958

090/ R E D

REB 4/28/58



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)
a. Principles and practices of radiation protection			Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments			Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity ..			Yes No	Yes No
d. Biological effects of radiation			Yes No	Yes No

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

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE

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 ²)	USE (Monitoring, surveying, measuring)

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

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

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS

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

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.

Date June 25, 1958 Applicant named in item 1 William Drell
 By: W. M. Bland
 Title of certifying official WILLIAM M. BLAND, M.D.
Chief, Radioisotope Service

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. GRAHAM ROSELEY, JR.
 Chief, Radioisotope Division
 U.S. Department of Health, Education & Welfare
 Office of Radiation Control
 Washington, D.C. 20540

REB

Date Rec. JUL 22 1958	Exp. Date July 31, 1960	Issue Date	Tech. Rev.
Control No. 11951	Ref. No.	License No. 4-181-3 (660)	Amend. No. 2

Isotope	Form	Possession Limit
A.	A.	A.
B.	B.	B.
C.	C.	C.
D.	D.	D.
E.	E.	E.
F.	F.	F.
G.	G.	G.
H.	H.	H.

APPROVED
JUL 29 1958

Authorized Use

A. In accordance with application dated June 25, 1958.

To change expiration date from July 31, 1958 to July 31, 1960

To add symbol

Condition 12 is amended to read as follows:

Condition 12. [Part 20]

AK34

SCHA Review Yes <input type="checkbox"/> No <input type="checkbox"/>	Conditions	
Type User (Circle One) 1 2 3 4 5 6 7 Other	1. A B C	9. A B C
Mail To	2. A B C	10.
Date Mailed	3. A B C D	11.
Remarks, letters, phone calls, visits, exemptions, etc. (use reverse side if necessary)	4. A B	12.
	5.	13.
	6.	14. A B C
	7.	15.
	8. A B C	16. (over)
	Approve <input checked="" type="checkbox"/>	Void <input type="checkbox"/>
	Tech. Rev. REB	Date 7/29/58
	Chief [Signature]	Date 7/29/58

1454

R. U. H.

Date Received JUL 5 1956		No. Copies	Application No. 4-181-3
Company Confidential		Expiration Date 7/31/56	Reference No.
Isotope	Form	Possession Limit	Use:
C 14	any	200mc	Laboratory biochemistry and absorption studies in lower animals.
Service Irradiation			Amend #1, 9-13-56 change possession limit to 350 mc

APPROVED

JUL 17 1956

Special Conditions: (Circle)	Comments:	Letters:
1. A B C 10. A B C 2. C 11. 3. 12. 4. 13. 5. A B C 14. 6. 15. A 7. 16. 8. 17. A B 9. See reverse side	Amendment No 1. 9/13/56 J.K.	

New Application	Yes	<input checked="" type="radio"/> No	SCHA Review	Yes	<input type="radio"/> No	Quimby
313-A Reviewed	Yes	<input checked="" type="radio"/> No	Items Reproduced:	Jacobson		
313-B Reviewed	Yes	<input checked="" type="radio"/> No		Robbins		
Preceptor Statement	Yes	<input checked="" type="radio"/> No	Reviewer	Date	Action	Chief
Instrumentation Checked	<input checked="" type="radio"/> Yes	<input type="radio"/> No	R. T. H.	7/18/56	Approve	L. R. R. / I. N. M.
Telephone Call	Yes	<input checked="" type="radio"/> No			Disapprove	amend #1 9/14/56 J. W. H.
RSB Files Checked	<input checked="" type="radio"/> Yes	<input type="radio"/> No			Cancelled	
RSB Review	Yes	<input checked="" type="radio"/> No			Revised	