

Form AEC-313 8-54 10 CFR 30	UNITED STATES ATOMIC ENERGY COMMISSION <b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE</b>	Form approved Budget Bureau No. 38-9027		
<p><b>INSTRUCTIONS</b> - 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.</p>				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>1 (a) NAME AND STREET ADDRESS OF APPLICANT (Institution, firm, hospital, person, etc. Include ZIP Code.)</p> <p>Monsanto Company              800 North Lindbergh Boulevard              St. Louis, Missouri (63166)</p> </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from 1 (a). Include ZIP Code.)</p> <p>(1) 800 N. Lindbergh Boulevard              St. Louis, Missouri (63166)              (2) Monsanto Company, Carondelet Plant              8201 Idaho              St. Louis, Missouri (63111)</p> </td> </tr> </table>			<p>1 (a) NAME AND STREET ADDRESS OF APPLICANT (Institution, firm, hospital, person, etc. Include ZIP Code.)</p> <p>Monsanto Company              800 North Lindbergh Boulevard              St. Louis, Missouri (63166)</p>	<p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED (If different from 1 (a). Include ZIP Code.)</p> <p>(1) 800 N. Lindbergh Boulevard              St. Louis, Missouri (63166)              (2) Monsanto Company, Carondelet Plant              8201 Idaho              St. Louis, Missouri (63111)</p>
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<p>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.)</p> <p><b>Determination of Dentin Abrasion</b>          Procedure described in: J. Dent. Res., 37, 1050 (1958)          Grabenstetter, et al</p>				

(Continued on reverse side)

## TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4

Use supplemental sheets if necessary.

## 8. TYPE OF TRAINING

(Kenneth J. Shaver)

WHERE TRAINED

DURATION OF  
TRAININGON THE JOB  
(Circle answer)FORMAL COURSE  
(Circle answer)

a. Principles and practices of radiation protection

Mound Laboratory,  
Miamisburg, Ohio

2 yrs.

Yes ☒ NO ☒Yes ☒ NO ☒

b. Radioactivity measurement standardization and monitoring techniques and instruments

Mound Laboratory,  
Miamisburg, Ohio

2 yrs.

Yes ☒ NO ☒Yes ☒ NO ☒

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

Mound Laboratory,  
Miamisburg, Ohio

2 yrs.

Yes ☒ NO ☒Yes ☒ NO ☒

d. Biological effects of radiation

Mound Laboratory,  
Miamisburg, Ohio

2 yrs.

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
LA-140		Mound Laboratory, Miamisburg, Ohio	2 years	Research

## 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)
See prior application, License No. 24-1113-7, June 30, 1963					

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

See prior application, License No. 24-1113-7, June 30, 1963

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

See prior application, license No. 24-1113-7, June 30, 1963

## 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 ☒ See prior application, License No. 24-1113-7, 6-30-63
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. See prior application, License No. 24-1113-7, June 30, 1963
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. See prior application, License No. 24-1113-7, June 30, 1963

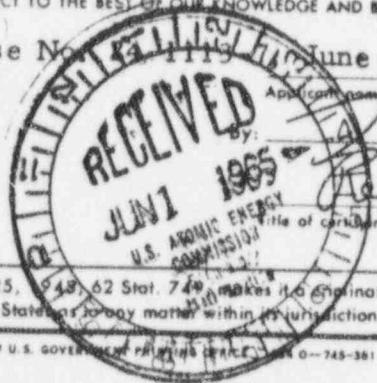
## CERTIFICATE (This item must be completed by applicant)

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.

See prior application, License No. 24-1113-7, June 30, 1963

Date

May 27, 1965



Applicant named in item 1

By:

Kenneth J. Shaver  
Research Group Leader

Title of certifying official

WARNING.—18 U. S. C., Section 1001; Act of June 25, 1948, 62 Stat. 742 makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States or to any matter within its jurisdiction.

(Donald Widdows)

See prior application for License No. 24-1113-7, Amendment No. 4,  
July 31, 1964.