

U. S. ATOMIC ENERGY COMMISSION

BYPRODUCT MATERIAL LICENSE

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No. 24-1113-8 Amendment No. 3  
(G67)

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below, and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

<p>Licensee</p> <p>1. Name      Monsanto Chemical Company               800 North Lindbergh</p> <p>2. Address    St. Louis 66, Missouri</p>		<p>In accordance with letter dated March 11, 1965,</p> <p>3. License number 24-1113-8 is amended in its entirety to read as follows</p> <p>4. Expiration date      July 31, 1967</p> <p>5. Reference No.</p>	
<p>6. Byproduct material (element and mass number)</p> <p>A. Strontium 90</p> <p>(See page 2)</p>	<p>7. Chemical and/or physical form</p> <p>A. Sealed sources (U.S. Radium Corp. Model 369) contained in Barber-Colman Co. Model A-4145 detector cells</p>	<p>8. Maximum amount of radioactivity which licensee may possess at any one time</p> <p>A. 3 sources of 20 millicuries each</p>	

9. Authorized use

- A. To be used in Barber-Colman Co. Model 10 or Model 20 gas chromatography units.
- B. To be used in F&M Scientific Corporation gas chromatography unit.
- C. through H. To be used as Moessbauer sources.

CONDITIONS

- 10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above:
- 11. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."
- 12. Byproduct material shall be used by, or under the supervision of, D. R. Beasecker, W. S. Coakley, William E. Koenner, or Richard M. Levy.
- 13. Sealed sources containing byproduct material shall not be opened or removed from the Model A-4145 detector cells by the licensee.
- 14. Hydrogen 3 foil shall not be removed from detector cells by the licensee.
- 15. Detector cells containing Hydrogen 3 foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents foil temperatures from exceeding 125 degrees Centigrade.

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6. Byproduct material  
(element and mass number)

B. Hydrogen 3

- C. Tin 119m
- D. Iodine 125
- E. Tantalum 182
- F. Tellurium 121m
- G. Tellurium 123m
- H. Tellurium 127m

7. Chemical and/or physical form

B. Tritium foil (U. S.  
Radium Corp. Model  
LAB 508-1) contained  
in P&M Scientific  
Corp. Model 2-2837 or  
2-2830 detector cells

- C. Any
- D. Any
- E. Any
- F. Any
- G. Any
- H. Any

8. Maximum amount of radioactivity which  
licensee may possess at any one time

B. 2 sources of 200 milli-  
curies each

- C. 75 millicuries
- D. 75 millicuries
- E. 75 millicuries
- F. 75 millicuries
- G. 75 millicuries
- H. 75 millicuries

CONDITIONS

16. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.203(a)(1), Title 10, Code of Federal Regulations, Part 20, the licensee is hereby authorized to label detector cells and cell baths, containing byproduct material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols without a color requirement.
17. A. Each sealed source containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, the sealed source shall not be put into use until tested.
- B. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.

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CONDITIONS

17. continued

C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five days of the test with the Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region XII, Division of Compliance, USAEC, Oakbrook Professional Building, Oak Brook, Illinois, 60523.

D. Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically authorized by the Commission or an Agreement State to perform such services.

18. Except as specifically provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7 and 8 of this license in accordance with statements, representations and procedures contained in application dated June 16, 1961, and in letter dated March 11, 1963, from L. C. Weger.

MAR 17 1965

Date \_\_\_\_\_

For the U. S. Atomic Energy Commission

Original Signed by  
Robert E. Brinkman

~~Robert E. Brinkman~~  
by ~~Division of Materials Licensing~~  
Washington 25, D. C.

RB/Howard

REA 3/17/65

*Continued 25 March 11/1965*

DATE RECEIVED	EXPIRATION DATE <i>3-11-1967</i>	ISSUE DATE	REVIEWER <i>ASB</i>
CONTROL NO.	REFERENCE NO.	LICENSE NO. <i>14-1113-5(-717)</i>	AMENDMENT NO. <i>3</i>
ISOTOPE	FORM	POSSESSION LIMIT	
A.	A. <i>Copy of license except</i>	A.	
B.	B. <i>ext. 1</i>	B.	
C.	C.	C.	
D.	D. <i>Change SC then SH to 75me end</i>	D.	
E.	E. <i>Cold Fusion (Kornet + Jerny)</i>	E.	
F.	F. <i>add to 18 - 25. Control March 11/1965</i>	F.	
G.	G.	G.	
H.	H.	H.	

AUTHORIZED USE

MAIL TO: <i>Wey</i>	DATE MAILED <i>MAR 17 1965</i>	REVIEWER <i>ASB</i>	DATE <i>3/17/65</i>
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