

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

License No. 24-01113-7
Page 1 of 3 Pages
Amendment No. 05

Grantant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34 and 35, 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 align="center">Licensee</p> <p>1. Monsanto Company</p> <p>2. 800 North Lindbergh St. Louis, Missouri 63166</p>		<p>In accordance with application received June 14, 1967,</p> <p>3. License number 24-01113-08 is amended in its entirety to read as follows:</p> <p>4. Expiration date July 31, 1972</p> <p>5. Reference No.</p>
<p>6. Byproduct material (element and mass number)</p> <p>A. Strontium 90</p> <p>B. Hydrogen 3</p> <p>C. Tin 119m</p> <p>D. Iodine 125</p> <p>E. Tantalum 182</p> <p>F. Tellurium 121m</p> <p>G. Tellurium 123m</p> <p>H. Tellurium 127m</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>B. Tritium foil (U. S. Radium Corp. Model LAB 508-1) contained in F&M Scientific Corp. Model 2-2837 or 2-2830 detector cells</p> <p>C. Any</p> <p>D. Any</p> <p>E. Any</p> <p>F. Any</p> <p>G. Any</p> <p>H. Any</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> <p>B. 2 sources of 200 millicuries each</p> <p>C. 75 millicuries</p> <p>D. 75 millicuries</p> <p>E. 75 millicuries</p> <p>F. 75 millicuries</p> <p>G. 75 millicuries</p> <p>H. 75 millicuries</p>

V. 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 Messbauer sources.

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BYPRODUCT MATERIAL LICENSES

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Supplementary Sheet

License Number 24-01113-0

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(Continued)

CONDITIONS

10. Byproduct material may only be used at 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. E. Koerner, R. M. Levy, M. L. Unland, O. P. Tanner, or J. L. Ogilvie.
13. 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 225 degrees Centigrade.
14. 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.
15. A(1) 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.

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15. (Continued)

CONDITIONS

- A(2) The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six months prior to the date of use or transfer.
- 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.
- 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 5 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 III, 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.
16. 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; application received June 14, 1967; and in letter dated March 11, 1965, from L. C. Weger.

JUL 12 1967

For the U. S. Atomic Energy Commission
Original Signed By
Robert E. Brinkman

by Isotopes Branch

Division of Materials Licensing
Washington, D. C. 20545

W2B

W2B/GK REB 7/5/67

LICENSE CONTROL FORM

APPLICANT Monsanto Company 800 E. Lindbergh Blvd. St. Louis, Missouri 63166	LICENSE NUMBER 24-01113-08	Amnd. No. 05 04	EXPIRATION DATE 7/31/92	CONTROL NUMBER 95006
DATE REC'D 6/14/67		DATE ISSUED	PMUS 6145	ASG REB
() LETTER () APPLICATION DATED: _____				
BYPRODUCT A → H same	CHEMICAL OR PHYSICAL FORM			POSS. LIMIT
<div style="display: flex;"> <div style="width: 20%; padding-right: 10px;"> <p>A → H same</p> <p>(1A)</p> <p>(5)</p> <p>① H 4</p> <p>(21)</p> <p>(22)</p> <p>(1A, 3, 8, 9)</p> </div> <div style="width: 80%;"> <p>by the presence or by the present Co (B add app. received 6/9/67)</p> </div> </div>				
MAIL TO: Wayne Safety Mgr. Robert C. Carter	DATE MAILED: JUL 13 1967	REVIEWER: WJH 09B	DATE COMPLETED: 7/5/67	