U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICEN.

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.

Licensee	
1. Name **Monsanto Chemical Company**	3. License number **24-1113-8 (G63)**
2. Address **800 No. Lindbergh St. Louis 66, Missouri**	4. Expiration date **July 31, 1963**
	5. Reference No. **34-825-8**

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may posses at any one time
A. **Strontium-90**	A. **Sealed sources (U. S. Radium Corporation Model 369)**	A. **60 millicuries (3 sources of 20 millicuries each)**

9. Authorized use

A. **Each source to be used in a Barber-Colman Company Model A-4145 cell for use in a Barber-Colman Company Model 10 or Model 20 gas chromatography device.**

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. E. Sharpe or Ronald E. Rensecker.**

13. **Byproduct material as sealed sources shall not be opened or removed from the Model A-4145 cells by the licensee.**

14. **Maintenance, repair and initial radiation survey of the Model A-4145 cell containing Strontium 90 and repair, replacement and disposal of the Strontium 90 sources shall be performed by the Barber-Colman Company or other persons specifically authorized by the Commission to perform such services.**

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CONDITIONS

15. A. Each sealed source containing Strontium 90 shall be tested for leakage and/or contamination at intervals not to exceed 6 months. In the absence of a certificate from a transferor indicating that a test has been made within 6 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 microcuries of contamination on the test sample. The test sample shall be taken from the sealed source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. 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 microcuries 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 Licensing and Regulation, U. S. Atomic Energy Commission, Washington 25, D. C., describing the equipment involved, the test results and the corrective action taken. A copy of such report shall be sent to the manager of the nearest AEC operations office listed in Appendix B of Title 10, Code of Federal Regulations, Part 20.

D. Tests for leakage and/or contamination shall be performed by the licensee in accordance with procedures contained in applications dated January 24, 1961 and June 16, 1961, or by other persons specifically authorized by the Commission to perform such tests.

16. Except as 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 his applications dated February 19, 1960; January 24, 1961; February 23, 1961 and June 16, 1961.

17. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.203(a)(1), 10 CFR 20, the licensee is hereby authorized to label detector cells and cell baths containing byproduct material and used in gas chromatography devices, with conspicuous etched or stamped radiation caution symbols without a color requirement.

For the U. S. Atomic Energy Commission
Original Signed By
James R. Mason
by Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

Date July 12, 1961

1 cc

REB 7/12/61

Date Received	Expiration Date	Issue Date	Tech. Reviewer
JUN 19 1961	[illegible]		[illegible]
Control No.	**Reference No.**	**License No.**	**Amendment No.**
	[illegible]	[illegible]	

Isotope	Form	Possession Limit
A. Sr 90	A. sealed source (U. S. Radium Corp. Model 369)	A. 60 mc (3 sources @ 20 mc each)
B.	B.	B.
C.	C.	C.
D.	D.	D.
E.	E.	E.
F.	F.	F.
G.	G.	G.
H.	H.	H.

Authorized Use

A. Each source to be used in a Barber-Colman Co. Model R-4145 cell for use in a Barber-Colman Co. Model 10 or Model 20 gas chromatography device

REMARKS, Letters, Phone calls, Visits, Exemptions, Etc. (Use reverse side if necessary)

License to 1113 inst. no.

(omit direct)
Donald R. Beaucher or
Dexter B. Shape
(use)

Conditions			
1. A B C	6.	11.	16.
2. A B C	7.	12.	17.
3. A B C D	8. A B C	13.	18.
4. A B	9. A B C	14. A B C	19.
5.	10.	15.	20.
			21.

☑ Approve ☐ Void

Tech. Reviewer	Date
REB	7/10/61
Chief	**Date**

Mail to:	Date Mailed
W. T. Cave	JUL 12 1961