

BYPRODUCT MATERIAL LICENSE 47-260-6

AMENDMENT No. 3 (C61)

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	In accordance with letter dated January 4, 1960, from K. D. Williamson,
1. Name Union Carbide Corporation Union Carbide Chemicals Company 2. Address Union Carbide Olefins Company 437 MacCorkle Avenue South Charleston 3, West Virginia	3. License number 47-260-6 is amended in its entirety to read as follows:
	4. Expiration date March 31, 1961
	5. Reference No.

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
A. Hydrogen 3 B. Carbon 14 (See Page 2)	A. Any B. Any (See Page 2)	A. 25 curies B. 250 millicuries (See Page 2)

9. Authorized use
- A through H: Research and development as defined in Section 30.4(k), Title 10, Code of Federal Regulations, Part 30.
- I.: To be used as the ionization sources in Research Specialties Co., Model 600-2 Gas Chromatographic Detector Cells.
- J.: To be used with Tracerlab, Inc., "Gamma Milker" for laboratory studies.

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.

11. Byproduct material may also be used at other laboratories of the Union Carbide Corporation within the State of West Virginia as designated by the Radioactive Materials Committee. Byproduct material may also be used in other states at laboratories of the Union Carbide Corporation designated by the Radioactive Materials Committee providing the Atomic Energy Commission is notified of the location(s) of such use not later than four (4) days after the first day of such use.

12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation."

13. Byproduct material shall be used by, or under the direct supervision of, individuals approved by the local isotope committee, L. J. Rogers, Chairman.

14. Byproduct material as sealed sources shall not be opened.

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6. Byproduct material (element & mass number)	7. Chemical and/or physical form	8. Maximum amount of radio- activity which licensee may possess at any one time
C. Phosphorus 32	C. Any	C. 100 millicuries
D. Sulfur 35	D. Any	D. 150 millicuries
E. Chlorine 36	E. Any	E. 100 millicuries
F. Calcium 45	F. Any	F. 100 millicuries
G. Iodine 131	G. Any	G. 25 millicuries
H. Any byproduct material between Atomic Nos. 3 and 83, inclusive.	H. Irradiated Palladium samples	H. 100 microcuries
I. Strontium 90	I. Sealed Sources (Radiochemical Centre Model No. SIG-9)	I. 3 sources of 10 milli- curies each. Total 30 millicuries.
J. Cesium 137	J. Any	J. 10 millicuries

CONDITIONS

15. Sealed sources containing Strontium 90 shall be tested for leakage and contamination at intervals of not more than six (6) months and records of test results shall be maintained by the licensee.
16. Byproduct material shall not be used in or on human beings, in products distributed to the public or in field applications where activity is released.
17. 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 his applications dated January 29, 1959, July 30, 1959 and August 3, 1959, and in related documents and amendments as follows:
 - A. Administrative instructions entitled "Governing The Control and Use of Radioactive Materials" and dated January 21, 1957.
 - B. Letter dated January 27, 1959 from L. J. Rogers.
 - C. Letter dated September 2, 1959 from H. T. Sessions.
 - D. Letter dated January 4, 1960 from K. D. Williamson.

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CONDITIONS

18. Written administrative instructions referenced in Condition 17A, covering radiological protection, control, and security of byproduct material shall be followed and a copy of instructions shall be supplied to each individual using or having responsibility for use of such material. Any changes in the administrative instructions shall have the prior approval of the Isotopes Branch, Division of Licensing and Regulation.
19. Pursuant to Section 20.302 of Title 10, Code of Federal Regulations, Part 20, disposal of waste materials containing Carbon 14 by incineration, as described in letter dated November 10, 1958, from F. G. Young, is hereby authorized.

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DUPLICATE

For the U. S. Atomic Energy Commission

Date January 21, 1960

FOR DIV. OF INSP

Original Signed By
James R. Mason

Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

1. Edhill/NSC

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