

**U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE**

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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.

**DUPLICATED  
FOR DIV. OF INSP.**

<b>Licensee</b>  1. Name <b>Union Carbide Corporation</b> <b>Union Carbide Chemicals Company</b> 2. Address <b>Union Carbide Olefins Company</b> <b>437 MacCorkle Avenue</b> <b>South Charleston 3</b> <b>West Virginia</b>		3. License number <b>47-260-6</b> <b>(C61)</b> 4. Expiration date <b>March 31, 1961</b> 5. Reference No.
6. Byproduct material (element and mass number)  <b>A. Hydrogen 3</b> <b>B. Carbon 14</b> <b>(See Page 2)</b>	7. Chemical and/or physical form  <b>A. Any</b> <b>B. Any</b>	8. Maximum amount of radioactivity which licensee may possess at any one time  <b>A. 25 curies</b> <b>B. 250 millicuries</b>
9. Authorized use  <b>A. thru F.: Research and development as defined in Section 30.4(k), Title</b> <b>10, Code of Federal Regulations, Part 30.</b>		

**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. Total amount of Hydrogen 3 (tritium) acquired under this license shall not exceed 50 curies.

(See Page 2)

For the U. S. Atomic Energy Commission

Date March 11, 1959

Original Signed By  
James R. Mason

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

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BYPRODUCT MATERIAL LICENSE

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Supplementary Sheet

License Number 47-260-6  
(C61)

CONTINUED:

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensees 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

CONDITIONS

15. Byproduct material shall not be used in or on human beings.
16. Byproduct material shall not be used in products distributed to the public.
17. Byproduct material shall not be used in field applications where such activity is released.
18. 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 application dated January 29, 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.
19. Written administrative instructions referenced in Condition 18.A. covering radiological protection, control, and security of byproduct material shall be followed and a copy of these instructions shall be supplied to each individual using or having responsibility for use of such material. Any changes in these administrative instructions shall have the prior approval of the Isotopes Branch, Division of Licensing and Regulation.

(See Page 3)

For the U. S. Atomic Energy Commission

Original Signed By

James R. Mason

Chief, Isotopes Branch

by

Division of Licensing and Regulation  
Washington 25, D. C.

Date March 11, 1959

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Supplementary Sheet

License Number 47-260-6  
(C61)

CONTINUED:

CONDITIONS

20. 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.

*Am #4 3-8-60 JMB*

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 March 11, 1959

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