

U. S. ATOMIC ENERGY COMMISSION
 BYPRODUCT MATERIAL LICENSE

License No. 47-00260-06
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 Amendment No. 21

FOR AEC-374
 10 CFR 30

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 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.

Licensee

1. Name Union Carbide Corporation
 Chemicals and Plastics
 Operations Division
 Technical Center
 P. O. Box 8361
 South Charleston,
 West Virginia 25303

In accordance with application dated February 28, 1967,

3. License number 47-00260-06 is amended in its entirety to read as follows:

4. Expiration date March 31, 1969

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	A. Any	A. 25 curies
B. Carbon 14	B. Any	B. 250 millicuries
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. 200 millicuries
H. Gold 198	H. Any	H. 300 millicuries
I. Potassium 42	I. Any	I. 100 millicuries
J. Krypton 79	J. Any	J. 50 millicuries
K. Cesium 137	K. Any	K. 10 millicuries
L. Xenon 133	L. Any	L. 100 millicuries
M. Cesium 131	M. Any	M. 100 millicuries
N. Technetium 99m	N. Any	N. 500 millicuries
O. Argon 37	O. Any	O. 1000 millicuries

9. Authorized use

A. through O. Research and development as defined in 10 CFR 30.

CONDITIONS

10. Byproduct material may only be used at Union Carbide Corporation, Technical Center, South Charleston, West Virginia, and at temporary job sites of the licensee anywhere in the United States where the Atomic Energy Commission maintains jurisdiction for regulating the use of byproduct material. This condition does not prohibit use in agreement States (as defined in Section 30.4(c), 10 CFR 30) under reciprocity procedures which may be established by those States.

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Supplementary Sheet

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(Continued)

CONDITIONS

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, individuals designated by the licensee's isotopes committee, N. H. Ketcham, Chairman.
13. 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.
 - (2) Notwithstanding the periodic leak test required by the preceding paragraph, any licensed sealed source containing byproduct material is exempted from periodic leak tests provided the quantity of byproduct material contained in the source does not exceed ten times the quantity specified for the byproduct material in Column II, Schedule A, Section 31.100, 10 CFR 31.
 - (3) 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.

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CONDITIONS

- 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 II, Division of Compliance, USAEC, 50 Seventh Street, Northeast, Atlanta, Georgia, 30323.
- 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.
14. Pursuant to Sections 20.106(b) and 20.302, 10 CFR 20, the licensee is authorized to dispose of byproduct material by incineration provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table II, 10 CFR 20. Ash residues may be disposed of as ordinary waste provided appropriate surveys pursuant to 20.201 are made to determine that concentrations of byproduct material appearing in the ash residues do not exceed the concentrations (in terms of microcuries per gram) specified for water in Appendix B, Table II, 10 CFR 20.
15. 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 February 28, 1967, and licensee's "Manual for Use of Radioactive Materials," as amended.

For the U. S. Atomic Energy Commission

Original Signed by
Robert E. Drinkmanby Isotopes BranchDivision of Materials Licensing
Washington, D. C. 20545

MAR 15 1967

Date

WGH/CARREB 3/14/67