

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE

Page 1 of 1  
24-1113-7 Amendment No. (864)

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.

|  |  |   |
|--|--|---|
| <b>Licensee</b><br>1. Name <b>Monsanto Company</b><br><b>Inorganic Research</b><br>2. Address <b>800 N. Lindbergh Boulevard</b><br><b>St. Louis 66, Missouri</b> |  | In accordance with application dated May 27, 1965,<br>3. License number <b>24-1113-7</b> is amended in its entirety to read as follows<br>4. Expiration date <b>June 30, 1967</b><br>5. Reference No. |
| 6. Byproduct material (element and mass number)<br><br>A. Calcium 45 -<br>Phosphorus 32<br>B. Bismuth 210  | 7. Chemical and/or physical form<br><br>A. Any<br>B. Sealed source | 8. Maximum amount of radioactivity which licensee may possess at any one time<br><br>A. 16 millicuries<br>B. 15.2 microcuries   |
| 9. Authorized use<br><br>A. Determination of dentin abrasion.<br>B. Instrument calibration.  |  |   |

**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, Donald Widdows or Kenneth J. Shaver, Ph.D.
13. Byproduct material shall not be used in or on human beings.
14. 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 applications dated June 7, 1961 and May 27, 1963.

For the U. S. Atomic Energy Commission

Date JUN 17 1965

Original Signed by  
 by W. E. [Signature]  
**Isotopes Branch**  
 Division of Materials Licensing  
 Washington, D. C. 20545

9702250400 970106  
 PDR FOIA  
 NEITZEL96-314 PDR

1 Per 1/11

W. E. 6/17/65

A167

9702250400

| CONTROL NO.             | REFERENCE NO.                                  | LICENSE NO.               | AMENDMENT NO. |
|-------------------------|--|---------------------------|---------------|
| ISOTOPE                 | FORM   | POSSESSION LIMIT          |               |
| A. <i>Carbon 14</i>     | A. <i>any</i>                                  | A. <i>16 million</i>      |               |
| B. <i>Phosphorus 32</i> | B. <i>small amount</i>                         | B. <i>1000 micrograms</i> |               |
| C. <i>Strontium 90</i>  | C.   | C.                        |               |
| D.                      | D.   | D.                        |               |
| E.                      | E. <i>A. Determination of denture abrasion</i> | E.                        |               |
| F.                      | F. <i>B. Instrument calibration</i>            | F.                        |               |
| G.                      | G.   | G.                        |               |
| H.                      | H.   | H.                        |               |

AUTHORIZED USE

- (5) *Donald W. Windsor or Kenneth J. Shaver*
- (8) *B.m. shall not be used in or on human beings*
- (16) *exp. June 7, 1961 and May 27, 1965*

*Converted copy  
7/20/65  
add Corradini*

| MAIL TO: | DATE MAILED | REVIEWER   | DATE    |
|----------|-------------|------------|---------|
|          | JUN 17 1965 | <i>RGP</i> | 6/17/65 |