NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

Amendment No. 01

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

IC 03620 Licensee

573077

1. Monsanto Company 2. Mail Zone R3B 800 North Lindbergh Blvd. St. Louis, MO 63167 .	**In accordance with letter dated June 15, 2010,** 3. License number 24-32488-01 **is amended in its entirety to read as follows:** 4. Expiration date January 31, 2014 5. Docket No. 030-36488 Reference No.

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Any byproduct material with Atomic Numbers 1-83; inclusive	A. Any	A. 100 millicuries of each radionuclide; total possession limit not to exceed 5 curies, except as listed below: Hydrogen-3 5 curies Carbon-14 20 curies Phosphorus-32 1 curie Sulfur-35 5 curies Phosphorus-33 2 curies Iodine-125 0.5 curies
B. Nickel-63	B. Foil or plated source (registered pursuant to 10 CFR 32.210 or an Agreement State)	B. No single cell to exceed 15 millicuries; 30 cells total.

9. Authorized use:

A. To be used for laboratory research and development as defined in 10 CFR 30.4, including animal studies.

B. To be used in gas chromatographs for sample analysis.

CONDITIONS

10. Licensed material may be used only at the facilities located at the following locations: (1) 893 North Warson Road, St. Louis, Missouri; (2) 800 North Lindbergh Boulevard, St. Louis, Missouri; and (3) 700 Chesterfield Parkway, St. Louis, Missouri.

License Number
24-32488-01

Docket or Reference Number
030-36488

MATERIALS LICENSE
SUPPLEMENTARY SHEET

11. Licensed material shall be used by, or under the supervision of, individuals designated by the Radiation Safety Officer, Joseph Eades.

12. A. Sealed sources shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State.

B. Notwithstanding Paragraph A of this Condition, sealed sources designed to primarily emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

C. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.

D. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or under equivalent regulations of an Agreement State, prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested and the test results received.

E. Sealed sources need not be leak tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.

F. Sealed sources need not be tested if they are in storage and are not being used; however, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

G. The leak test shall be capable of detecting the presence of 0.005 microcurie (185 becquerels) of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie (185 becquerels) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.

H. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or by other persons specifically licensed by the U. S. Nuclear Regulatory Commission or an Agreement State to perform such services.

13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
24-32488-01

Docket or Reference Number
030-36488

14. A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperature from exceeding that specified by the manufacturer and approved by U.S. Nuclear Regulatory Commission.

    B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside.

15. The licensee is authorized to hold radioactive material with a physical half-life of less than 120 days for decay-in-storage before disposal in ordinary trash provided:

    A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.

    B. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

    C. Generator columns shall be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal.

    D. A record of each disposal permitted under this License Condition shall be retained for 3 years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.

    E. Radioactive waste being held for decay shall not be stored for a period greater than 4 years.

16. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.

17. A physical inventory shall be conducted by every 6 months to account for all sources and/or devices received and possessed under the license.

18. Licensed material shall not be used in field applications where activity is released except as provided otherwise by specific condition of this license.

19. Licensed material may be transported only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

20. Maintenance, repair, cleaning, replacement, and disposal of foils contained in detector cells shall be performed only by the device manufacturer or other persons specifically authorized by the Commission or an Agreement State to perform such services.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
24-32488-01

Docket or Reference Number
030-36488

21. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Application dated June 13, 2003 (with attachments); and

B. Letters dated June 13, 2003 (with attachments), August 13, 2003, **and June 15, 2010**.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date JUL 12 2010

By _____
James R. Mullauer, M.H.S.
Materials Licensing Branch
Region III