

U. S. NUCLEAR REGULATORY COMMISSION
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 1, Parts 30, 31, 32, 33, 34, 35, 36, 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); and to import such byproduct and source material. 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.

Licensee		
1. E.I. DuPont de Nemours & Co., Inc.	3. License number	07-00455-37
2. 1007 Market Street Wilmington, Delaware 19898	4. Expiration date	November 30, 1986
	5. Docket or Reference No.	030-19346
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 3 through 83, inclusive, excluding Strontium 90 and alpha emitters.	A. Any	A. Not to exceed 10 millicuries per radio- nuclide and 2 curies total, except as listed below:
B. Hydrogen 3	B. Any	B. 5 curies
C. Carbon 14	C. Any	C. 500 millicuries
D. Sulfur 35	D. Any	D. 500 millicuries
E. Phosphorus 32	E. Any	E. 500 millicuries
F. Chromium 51	F. Any	F. 200 millicuries
G. Iodine 125	G. Any	G. 100 millicuries
H. Iodine 131	H. Any	H. 100 millicuries
I. Chlorine 36	I. Any	I. 100 millicuries
J. Calcium 45	J. Any	J. 100 millicuries
K. Cesium 137	K. Any	K. 50 millicuries
L. Nickel 63	L. Metal foil	L. Not to exceed 15 millicuries per source

Authorized use

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REG1 LIC30
07-00455-37 PDR

- A. through K. Research and development including animal studies.
L. For use in gas chromatograph units.

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MATERIALS LICENSE

Supplementary Sheet

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(Continued)

CONDITIONS

Docket or

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10. Licensed material shall be used only at the licensee's Glenolden Laboratory, 500 South Ridgeway Avenue, Glenolden, Pennsylvania.
11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."
12. Licensed material shall be used by, or under the supervision of, individuals designated by the licensee's Radiation Safety Committee.
13. A. (1) Each sealed source acquired from another person and containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage prior to use. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source received from another person shall not be put into use until tested.
(2) Notwithstanding the periodic leak test required by this condition, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
B. Each sealed source containing licensed material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas, and each chromatograph detector cell containing Nickel 63, shall be tested for leakage and/or contamination at intervals not to exceed six months except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed three months.
C. 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 or semipermanently 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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Supplementary Sheet

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13. Continued

CONDITIONS

- D. If the test required by Subsection A. or B. of this condition 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 U. S. Nuclear Regulatory Commission, Region I, Office of Inspection and Enforcement, 631 Park Avenue, King of Prussia, Pennsylvania 19406, describing the equipment involved, the test results, and the corrective action taken.
14. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in Section 20.203(a)(1), Title 10, Code of Federal Regulations, Part 20, the licensee is hereby authorized to label detector cells and cell baths, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols without a color requirement.
15. The licensee shall not use licensed material in or on human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.
16. Experimental animals administered licensed materials or their products shall not be used for human consumption.
17. Except as specifically provided otherwise by this license, the licensee shall possess and use licensed material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in application dated September 16, 1981 and letter dated October 21, 1981. The Nuclear Regulatory Commission's regulations shall govern the licensee's statements in applications or letters, unless the statements are more restrictive than the regulations.

Original Signed By
John E. Glenn, Ph.D.

For the U. S. Nuclear Regulatory Commission

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Date

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by

Material Licensing Branch

Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555