

**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, 37, 39, 40, 70 and 71, 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.

<p style="text-align: center;">Licensee</p> <p>1. U.S. Department of Commerce National Oceanic and Atmospheric Administration</p> <p>2. 325 Broadway Street Boulder, CO 80305</p>		<p>In accordance with application dated December 29, 2021; and E-mail dated September 29, 2022 with attachments.</p>	<p>4. Expiration Date: September 30, 2037</p>
		<p>3. License No.: 05-11997-01 is renewed in its entirety to read as follows:</p>	<p>5. Docket No.: 030-03746 Reference No.:</p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Nickel-63</p> <p>B. Polonium-210</p>	<p>7. Chemical and/or physical form</p> <p>A. Foils or plated sources (Foils or plated Sources registered either with NRC under 10CFR32.210 or with an Agreement State and incorporated in a compatible or custom- made gas chromatograph), Model Various)</p> <p>B. Foils or plated sources (Foils or plated Sources registered either with NRC under 10CFR32.210 or with an Agreement State and incorporated in a compatible or custom- made gas chromatograph, Model Various)</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 15 millicuries per source and 2.7 curies total</p> <p>B. 30 millicuries per source and 400 millicuries total</p>	<p>9. Authorized use</p> <p>A. Measure Physical properties of Materials and Research and Development.</p> <p>B. Measure Physical properties of Materials and Research and Development.</p>

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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

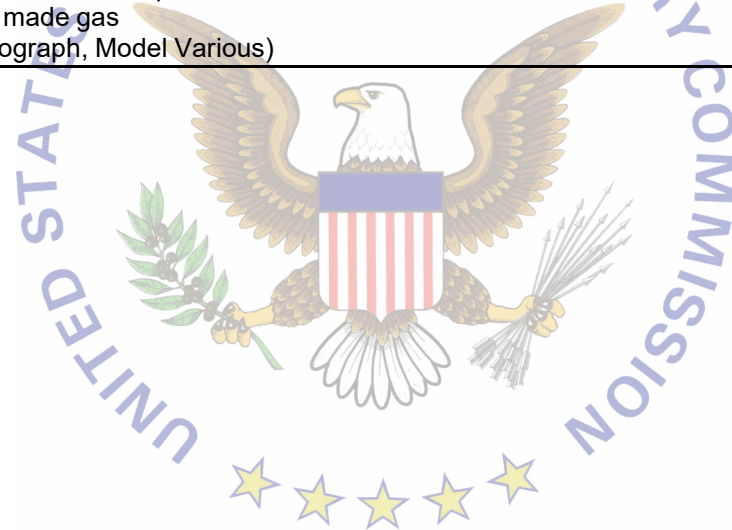
9. Authorized use

C. Americium-241

C. Foils or plated sources (Foils or plated Sources registered either with NRC under 10CFR32.210 or with an Agreement State and incorporated in a compatible or custom- made gas chromatograph, Model Various)

C. 20 millicuries per source and 100 millicuries total

C. Measure Physical properties of Materials and Research and Development.





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Authorized Users

Troy Thornberry, Ph.D.  
Brian A. Vasel, B.S.  
Patrick R. Veres, Ph.D.

Material and Use

All, research and development as defined in 10 CFR 30.4.  
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B. The Radiation Safety Officer (RSO) for this license is Brian A. Vasel, B.S.

12. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State. In the absence of a registration certificate, sealed sources shall be tested for leakage and/or contamination at intervals not to exceed 6 months, or at such other intervals as specified.
- B. Notwithstanding Paragraph A of this Condition, detector cells containing Nickel-63 located in remote geographic locations that are inaccessible due to adverse weather conditions shall be tested for leakage and/or contamination at intervals not to exceed 1 year as specified in the application dated December 29, 2021 and E-mail dated September 29, 2022 with attachments.
- C. 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 by an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
- D. 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 shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

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- E. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcuries) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 microcuries) 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.
- F. Analysis of leak test samples and/or contamination shall be performed by persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services. The licensee is authorized to collect leak test samples but not perform the analysis.
- G. Records of leak test results shall be kept in units of becquerels (microcuries) and shall be maintained for 3 years.
13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.
14. 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 U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
15. A. The licensee is authorized to perform non-routine maintenance involving the installation of electron capture detectors (ECDs) containing Nickel-63 into custom-made Oven Assemblies (OAs), replacement and repair of electronic components on the exterior of ECDs, removal and replacement of ECDs from custom-made OAs, and removal from service of ECDs taken from custom-made OAs as described in the procedures included with application dated December 29, 2021 and procedures included in E-mail dated September 29, 2022 with attachments. This non-routine maintenance does not authorize opening the ECDs or removing the sealed sources from the ECDs.
- B. The following individuals are authorized to perform the non-routine maintenance described in Paragraph A of this Condition: Geoffrey S. Dutton, Bradley D. Hall, Fred L. Moore, and James M. Roberts.

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16. The licensee shall comply with the temperature limits and with the section titled "Limitations and/or other considerations of use" described in the corresponding Sealed Source and Device Registration certificate of each registered electron capture detector and/or of each registered sealed source used in custom-made gas chromatographs.
17. The licensee shall comply with the temperature limits and with the section "Limitations and/or other considerations of use" described in the corresponding Sealed Source and Device Registration certificate of each registered electron capture detector and/or of each registered sealed source used in compatible gas chromatographs.
18. The licensee shall not use the licensed material in or on humans.
19. This license does not authorize disposal of licensed material in land or at sea.
20. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
21. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.
22. The licensee shall conduct a physical inventory every 6 months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 3 years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.

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23. Notwithstanding the requirements of License Condition Number 24, the licensee is authorized to make program changes and changes to procedures specifically identified in the application dated December 29, 2021 and E-mail dated September 29, 2022 with attachments, which were previously approved by the U.S. Nuclear Regulatory Commission and incorporated into the license without prior Commission approval as long as:
- A. The proposed revision is documented, reviewed, and approved by the licensee's Radiation Safety Committee in accordance with established procedures prior to implementation;
  - B. The revised program is in accordance with regulatory requirements, will not change the license conditions, and will not decrease the effectiveness of the Radiation Safety Program;
  - C. The licensee's staff is trained in the revised procedures prior to implementation; and
  - D. The licensee's audit program evaluates the effectiveness of the change and its implementation.

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24. 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. This license condition applies only to those statements, representations, and procedures that are required to be submitted in accordance with the regulations. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence impose on the licensee requirements that are more restrictive than or in addition to the regulations.

A. Application dated December 29, 2021 (ML21364A102)

B. E-mail dated September 29, 2022 with attachments (ML22272A529)



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

**Latischa M. Hanson**Digitally signed by Latischa M.  
Hanson

By: \_\_\_\_\_

Date: 2022.09.30 17:47:33 -05'00'

Latischa M. Hanson  
Region IVDate: September 30, 2022