

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.

<p style="text-align: center;">Licensee</p> <p>1. Department of Commerce NOAA/MASC</p> <p>2. 325 Broadway Boulder, Colorado 80305-3328</p>	<p>In accordance with letter and E-mails dated October 17, 2006, and November 20, 2006</p> <p>3. License number 05-11997-01 is amended in its entirety to read as follows:</p>
	<p>4. Expiration date October 31, 2011</p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Nickel-63</p> <p>B. Hydrogen-3</p> <p>C. Polonium-210</p>	<p>7. Chemical and/or physical form</p> <p>A. Foils or plated sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible gas chromatograph as specified in Item 9 of this license</p> <p>B. Foils or plated sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible gas chromatograph as specified in Item 9 of this license</p> <p>C. Foils or plated sources registered either with NRC under 10 CFR 32.210 or with an Agreement State and incorporated in a compatible chemical ionization mass spectrometer as specified in Item 9 of this license</p>
	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 2.7 curies total. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.</p> <p>B. 8.4 curies total. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.</p> <p>C. 300 millicuries total. No single source to exceed the maximum activity specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission or an Agreement State.</p>

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9. Authorized use

- A. and B. To be used for sample analysis in compatible gas chromatography devices and/or chemical ionization mass spectrometers that have been registered either with NRC under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with an NRC or Agreement State specific license authorizing distribution to persons specifically authorized by an NRC or Agreement State license to receive, possess, and use the devices.
- C. To be used for sample analysis in compatible chemical ionization mass spectrometers that have been registered either with NRC under 10 CFR 32.210 or with an Agreement State and have been distributed in accordance with an NRC or Agreement State specific license authorizing distribution to persons specifically authorized by an NRC or Agreement State license to receive, possess, and use the devices.

CONDITIONS

10. Licensed material may be used or stored at the licensee's facilities located at 325 Broadway, Boulder, Colorado; 1750 Foote Drive, Idaho Falls, Idaho; and at temporary job sites of the licensee anywhere in the United States.
11. A. Licensed material shall be used by, or under the supervision of, James Elkins, Fred Fehsenfeld, Paul Goldan, Bill Kuster, James Roberts, Tom Ryerson, John Nowack, Andy Neuman, Michael O'Neill, and Roger Carter.
- B. The Radiation Safety Officer for this license is Rhonda S. Carpenter.
12. Sealed Sources or detector cells containing licensed material shall not be opened or the sources removed from the source holders by the licensee.
13. 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 under equivalent regulations of an Agreement State.
- B. 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 received from another person shall not be put into use until tested and the test results received.
- C. 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.

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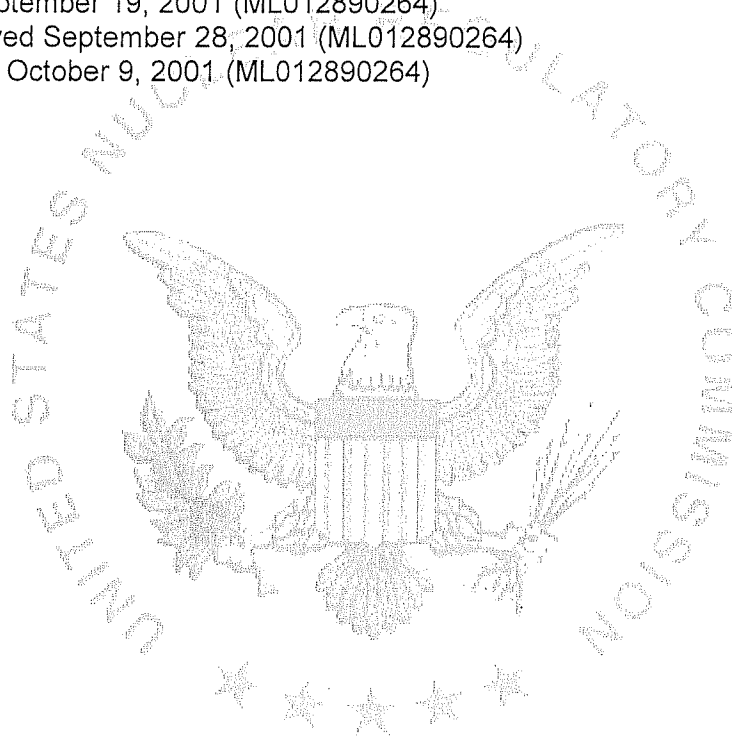
- D. Sealed sources need not be tested if they are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
- E. 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. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, ATTN: Director, Division of Nuclear Materials Safety. The report shall specify the source involved, the test results, and corrective action taken.
- F. Tests for leakage and/or contamination, limited to leak test sample collection, 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.
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. 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 in the certificate of registration issued by the NRC pursuant to 10 CFR 32.210 or equivalent regulations from an Agreement State.
- B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside.
16. 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 sources and/or devices received and possessed under the license.
17. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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18. 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 May 15, 2001 (ML011980468)
- B. Letter dated September 19, 2001 (ML012890264)
- C. Facsimile received September 28, 2001 (ML012890264)
- D. Facsimile dated October 9, 2001 (ML012890264)



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date December 12, 2006

By

A handwritten signature in black ink, appearing to read "Roberto J. Torres", is written over a horizontal line.

Roberto J. Torres, Senior Health Physicist
Nuclear Materials Licensing Branch
Region IV
Arlington, Texas 76011