

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.

Licensee 1. Missouri Public Health Laboratory 2. 101 N. Chestnut Street P.O. Box 570 Jefferson City, MO 65102-0570		In accordance with letter dated October 27, 2021, 3. License No.: 24-35208-01 is amended in its entirety to read as follows:	4. Expiration Date: April 30, 2025 5. Docket No.: 030-38804 Reference No.:
6. Byproduct, source, and/or special nuclear material A. Americium-241 B. Lead-210 C. Thorium-230 D. Radium-226 E. Cadmium-109 F. Cobalt-57 G. Cerium-139	7. Chemical and/or physical form A. Sealed Sources B. Sealed Sources C. Sealed Sources D. Sealed Sources E. Sealed Sources F. Sealed Sources G. Sealed Sources	8. Maximum amount that licensee may possess at any one time under this license A. 1 microcurie per source and 20 microcuries total B. 1 microcurie per source and 20 microcuries total C. 1 microcurie per source and 20 microcuries total D. 1 microcurie per source and 20 microcuries total E. 1 microcurie per source and 20 microcuries total F. 1 microcurie per source and 20 microcuries total G. 1 microcurie per source and 20 microcuries total	9. Authorized use A. For calibration of analytical equipment. B. For calibration of analytical equipment. C. For calibration of analytical equipment. D. For calibration of analytical equipment. E. For calibration of analytical equipment. F. For calibration of analytical equipment. G. For calibration of analytical equipment.

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Docket or Reference No.:

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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
H. Mercury-203	H. Sealed Sources	H. 1 microcurie per source and 20 microcuries total	H. For calibration of analytical equipment.
I. Tin-113	I. Sealed Sources	I. 1 microcurie per source and 20 microcuries total	I. For calibration of analytical equipment.
J. Cesium-137	J. Sealed Sources	J. 1 microcurie per source and 20 microcuries total	J. For calibration of analytical equipment.
K. Yttrium-88	K. Sealed Sources	K. 1 microcurie per source and 20 microcuries total	K. For calibration of analytical equipment.
L. Cobalt-60	L. Sealed Sources	L. 1 microcurie per source and 20 microcuries total	L. For calibration of analytical equipment.
M. Plutonium-239	M. Liquid	M. 1 microcurie per source and 3 microcuries total	M. For calibration of analytical equipment and spiking analytical samples.
N. Strontium-90	N. Liquid	N. 1 microcurie per source and 3 microcuries total	N. For calibration of analytical equipment and spiking analytical samples.
O. Americium-241	O. Liquid	O. 1 microcurie per source and 3 microcuries total	O. For calibration of analytical equipment and spiking analytical samples.
P. Yttrium-90	P. Liquid	P. 1 microcurie per source and 3 microcuries total	P. For calibration of analytical equipment and spiking analytical samples.
Q. Strontium-89	Q. Liquid	Q. 1 microcurie per source and 3 microcuries total	Q. For calibration of analytical equipment and spiking analytical samples.
R. Americium-241	R. Solid or Liquid	R. Not to exceed 0.1 microcurie per sample and 1 microcurie total	R. For processing food samples and proficiency testing.
S. Lead-210	S. Solid or Liquid	S. Not to exceed 0.1 microcurie per sample and 1 microcurie total	S. For processing food samples and proficiency testing.
T. Thorium-230	T. Solid or Liquid	T. Not to exceed 0.1 microcurie per sample and 1 microcurie total	T. For processing food samples and proficiency testing.

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U. Radium-226	U. Solid or Liquid	U. Not to exceed 0.1 microcurie per sample and 1 microcurie total	U. For processing food samples and proficiency testing.
V. Cadmium-109	V. Solid or Liquid	V. Not to exceed 0.1 microcurie per sample and 1 microcurie total	V. For processing food samples and proficiency testing.
W. Cobalt-57	W. Solid or Liquid	W. Not to exceed 0.1 microcurie per sample and 1 microcurie total	W. For processing food samples and proficiency testing.
X. Cerium-139	X. Solid or Liquid	X. Not to exceed 0.1 microcurie per sample and 1 microcurie total	X. For processing food samples and proficiency testing.
Y. Mercury-203	Y. Solid or Liquid	Y. Not to exceed 0.1 microcurie per sample and 1 microcurie total	Y. For processing food samples and proficiency testing.
Z. Tin-113	Z. Solid or Liquid	Z. Not to exceed 0.1 microcurie per sample and 1 microcurie total	Z. For processing food samples and proficiency testing.
AA. Cesium-137	AA. Solid or Liquid	AA. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AA. For processing food samples and proficiency testing.
AB. Yttrium-88	AB. Solid or Liquid	AB. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AB. For processing food samples and proficiency testing.
AC. Cobalt-60	AC. Solid or Liquid	AC. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AC. For processing food samples and proficiency testing.
AD. Plutonium-239	AD. Solid or Liquid	AD. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AD. For processing food samples and proficiency testing.

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AE. Strontium-90	AE. Solid or Liquid	AE. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AE. For processing food samples and proficiency testing.
AF. Strontium-89	AF. Solid or Liquid	AF. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AF. For processing food samples and proficiency testing.
AG. Yttrium-90	AG. Solid or Liquid	AG. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AG. For processing food samples and proficiency testing.
AH. Cesium-134	AH. Solid or Liquid	AH. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AH. For processing food samples and proficiency testing.
AI. Chromium-51	AI. Solid or Liquid	AI. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AI. For processing food samples and proficiency testing.
AJ. Iridium-192	AJ. Solid or Liquid	AJ. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AJ. For processing food samples and proficiency testing.
AK. Barium-131	AK. Solid or Liquid	AK. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AK. For processing food samples and proficiency testing.
AL. Lanthanum-140	AL. Solid or Liquid	AL. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AL. For processing food samples and proficiency testing.
AM. Strontium-85	AM. Solid or Liquid	AM. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AM. For processing food samples and proficiency testing.

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AN. Zinc-65	AN. Solid or Liquid	AN. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AN. For processing food samples and proficiency testing.
AO. Cerium-144	AO. Solid or Liquid	AO. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AO. For processing food samples and proficiency testing.
AP. Polonium-209	AP. Liquid	AP. Not to exceed 1 microcurie per source and 3 microcuries total.	AP. For calibration of analytical equipment and spiking analytical samples.
AQ. Polonium-210	AQ. Liquid	AQ. Not to exceed 1 microcurie per source and 3 microcuries total	AQ. For calibration of analytical equipment and spiking analytical samples.
AR. Polonium-209	AR. Solid or Liquid	AR. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AR. For processing food samples and proficiency testing.
AS. Radium-226	AS. Solid or Liquid	AS. Not to exceed 0.1 microcurie per sample and 1 microcurie total	AS. For processing food samples and proficiency testing.
AT. Polonium-210	AT. Solid or Liquid	AT. Not to exceed 1 microcurie per sample and 3 microcuries total	AT. For processing food samples and proficiency testing.
AU. Barium-140	AU. Solid or Liquid	AU. Not to exceed 1 microcurie per sample and 3 microcuries total	AU. For processing food samples and proficiency testing.
AV. Barium-133	AV. Solid or Liquid	AV. Not to exceed 1 microcurie per sample and 3 microcuries total	AV. For processing food samples and proficiency testing.
AW. Europium-152	AW. Solid or Liquid	AW. Not to exceed 1 microcurie per sample and 3 microcuries total	AW. For processing food samples and proficiency testing.

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10. Licensed material may be used or stored at the licensee's facilities located at 101 North Chestnut Street, Jefferson City, Missouri, 65102.
11. The Radiation Safety Officer (RSO) for this license is Alan Schaffer.
12. Licensed material shall only be used by, or under the supervision of, the following individuals:
- | <u>Authorized Users</u> | <u>Material and Use</u> |
|-------------------------|-------------------------|
| Alexa Gunter | All |
| Brianna Medrano | All |
| Thad Rehmer | All |
| Alan Schaffer | All |
| Amber Smith | All |
| Kaitlyn Sowerwine | All |
13. 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.
14. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. The licensee shall not use licensed material in or on human beings.
16. The licensee shall not use licensed material in field applications.

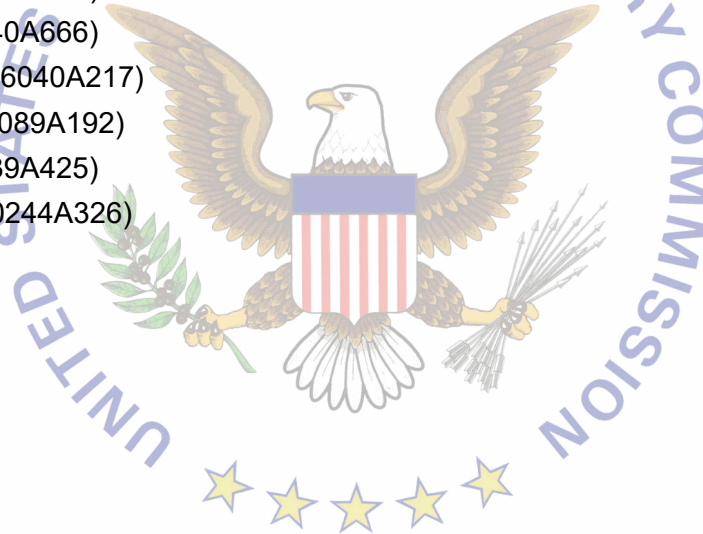
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17. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. This license condition applies only to those 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 are more restrictive than the regulations.
- A. Application dated January 5, 2015 (ML15028A483)
 - B. Letter dated April 21, 2015 (ML15120A626)
 - C. Letter dated May 20, 2015 (ML15140A666)
 - D. Letter dated February 4, 2016 (ML16040A217)
 - E. Letter dated March 29, 2016 (ML16089A192)
 - F. Letter dated May 18, 2016 (ML16139A425)
 - G. Letter dated August 31, 2020 (ML20244A326)



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: December 21, 2021By: _____
Magdalena R. Gryglak
Region 3