

**OFFICIAL USE ONLY - SECURITY RELATED INFORMATION**

STATE OF ILLINOIS  
 ILLINOIS EMERGENCY MANAGEMENT AGENCY AND OFFICE OF HOMELAND SECURITY  
 OFFICE OF NUCLEAR SAFETY  
 1035 OUTER PARK DRIVE  
 SPRINGFIELD, ILLINOIS 62704  
 (217) 785-9947

**RADIOACTIVE MATERIAL LICENSE**

CORRECTED COPY

Pursuant to the Illinois Radiation Protection Act and the rules and regulations in 32 Illinois Administrative Code promulgated thereunder, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess and transfer radioactive material(s) listed herein; and to use such radioactive material(s) for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Agency now or hereafter in effect and to any conditions specified in the license.


<u>LICENSEE</u>	<u>LICENSE NUMBER</u>	<u>EXPIRATION DATE</u>
Microbac Laboratories, Inc. Midwest Laboratory 700 Landwehr Road Northbrook, IL 60062	IL-01574-01	June 30, 2031
	<u>AMENDMENT NUMBER</u>	
	8	

Attention: Ashok D. Banavali, Ph.D.  
 Laboratory Director

In accordance with application dated February 24, 2023, License Number IL-01574-01 is renewed as follows.  
 Previous amendments are void.

<u>ITEM</u>	<u>RADIONUCLIDE</u>	<u>CHEMICAL and/or PHYSICAL FORM</u>	<u>MAXIMUM ACTIVITY* PER SOURCE</u>	<u>MAXIMUM POSSESSION LIMIT</u>
A.	Any radioactive material with atomic numbers 1 thru 82	Liquid or Solid		50 mCi
B.	Any radioactive material with atomic numbers 83 thru 105, except source or special nuclear material	Liquid or Solid	500 µCi	5 mCi
C.	Special nuclear material	Liquid or Solid		5 g
D.	Ra-226	Sealed Source - American Radium Corp., Serial Number 37852		93 µCi
E.	U-238	Liquid		1 mCi

\* µCi-microcurie; mCi-millicurie; Ci-Curie; MBq-Megabecquerel; GBq-Gigabecquerel; TBq-Terabecquerel; g-gram; µg-microgram; kg-kilogram

APPROVED BY:	DATE	PAGE of PAGES
	October 30, 2023	1 3
Mary E. Burkhardt, Supervisor of Materials Licensing IL 473-0059		

OFFICIAL USE ONLY - SECURITY RELATED INFORMATION

STATE OF ILLINOIS  
IEMA-OHS OFFICE OF NUCLEAR SAFETY  
RADIOACTIVE MATERIAL LICENSE

CORRECTED COPY

<u>LICENSEE</u>	<u>LICENSE NUMBER</u>	<u>AMENDMENT NUMBER</u>	<u>EXPIRATION DATE</u>
Microbac Laboratories, Inc.	IL-01574-01	8	<b>June 30, 2031</b>

AUTHORIZED USE:

- A. thru C., and E. For sample analysis and laboratory radiotracer analysis as a service.
- D. For efficiency determination of thermoluminescent dosimeters.

CONDITIONS

1. Radioactive material shall be used only at the licensee's facilities located at 700 Landwehr Road, Northbrook, Illinois in accordance with statements, representations and procedures listed in other conditions of this license.
2. Radioactive material shall be used by, or under the direct supervision of Ashok D. Banavali, Ph.D.
3. The Radiation Safety Officer for this license is Ashok D. Banavali, Ph.D.
4. A. Each sealed source possessed under this license shall be tested for leakage and/or contamination as specified in 32 Ill. Adm. Code 340.410. Tests for leakage and/or contamination shall be performed by persons specifically licensed to provide such services.  
B. Tests for leakage and/or contamination performed by the licensee shall be performed in accordance with procedures described in the application dated May 26, 2015 and letters, with attachments dated December 18, 2015 and March 11, 2016. This license does not authorize this licensee to provide leakage and/or contamination tests as a service for other licensees.
5. The licensee shall not use radioactive material in or on humans or in applications where radioactive material is released to the environment except as provided otherwise by specific condition of this license.
6. Individuals who work in, or whose duties may require them to work in, areas where radioactive materials are used or stored, shall be instructed in the items specified in 32 Ill. Adm. Code 400.120, application dated May 26, 2015, and letter with attachments dated December 18, 2015, prior to performing duties in the area and at least annually thereafter. The licensee shall maintain records of initial and annual training for Agency inspection for 5 years from the date on which the training was given.
7. This license does not authorize distribution to persons exempted from 32 Ill. Adm. Code 330 or licensed pursuant to 32 Ill. Adm. Code 330.30, 330.40, 330.210, or 330.220(b) or equivalent regulations of an Agreement State or the U.S. Nuclear Regulatory Commission.

\*  $\mu$ Ci-microcurie; mCi-millicurie; Ci-Curie; MBq-Megabecquerel; GBq-Gigabecquerel; TBq-Terabecquerel; g-gram;  $\mu$ g-microgram; kg-kilogram

APPROVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ PAGE of PAGES

Mary E. Burkhardt, Supervisor of Materials Licensing  
IL 473-0059

October 30, 2023

2 3

OFFICIAL USE ONLY - SECURITY RELATED INFORMATION

STATE OF ILLINOIS  
IEMA-OHS OFFICE OF NUCLEAR SAFETY  
RADIOACTIVE MATERIAL LICENSE

CORRECTED COPY

LICENSEE	LICENSE NUMBER	AMENDMENT NUMBER	EXPIRATION DATE
Microbac Laboratories, Inc.	IL-01574-01	8	June 30, 2031

8. Sealed sources containing radioactive material shall not be opened.
9. In addition to the possession limits stated in License Schedule Items A. and B., the licensee shall further restrict the possession of licensed material to quantities not to exceed the applicable limits referenced in Appendix A to 32 Ill. Adm. Code 326. For combinations of radionuclides, the licensee must maintain a record for Agency inspection demonstrating for all possessed radionuclides that the sum of the ratios of the quantity authorized and the limit established in Appendix A is not greater than one.
10. In accordance with 32 Ill. Adm. Code 620, the licensee shall register with the Agency as a waste generator if any activity conducted under this radioactive materials license results in the generation or possession of low-level radioactive waste as defined in 420 ILCS 20/3. In addition, the licensee must maintain for Agency inspection for a period of five (5) years, all annual reporting records required under 32 Ill. Adm. Code 620 and all records generated in compliance with 32 Ill. Adm. Code 340.1060 (e).
11. Except as specifically provided otherwise by the license, the licensee shall possess and use radioactive material described in all schedules of this license in accordance with statements, representations and procedures contained in, referenced in, or enclosed with the documents listed below. The regulations contained in 32 Ill. Adm. Code: Chapter II, Subchapters b and d shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations. The most recent statements, representations and procedures listed below shall govern if they conflict with previously submitted documents.
  - A. Applications dated May 26, 2015 and February 24, 2023.
  - B. Letters, with attachments, dated December 18, 2015, March 11, 2016, April 20, 2016, May 30, 2023, and May 31, 2023.

MEB:RCH:kjc

\*  $\mu$ Ci-microcurie; mCi-millicurie; Ci-Curie; MBq-Megabecquerel; GBq-Gigabecquerel; TBq-Terabecquerel; g-gram;  $\mu$ g-microgram; kg-kilogram

APPROVED BY: \_\_\_\_\_ DATE \_\_\_\_\_ PAGE of PAGES

Mary E. Burkhart, Supervisor of Materials Licensing  
IL 473-0059

October 30, 2023

3 3