

STATE OF COLORADO

RADIOACTIVE MATERIALS LICENSE



Colorado Department
of Public Health
and Environment

Pursuant to the *Colorado Radiation Control Act*, Title 25, Article 11, *Colorado Revised Statutes*, and the State of Colorado *Rules and Regulations Pertaining to Radiation Control* (the Regulations) and in reliance on statements and representations heretofore made by the licensee designated below; a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material(s) designated below; 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 now or hereafter in effect of the Colorado Department of Public Health and Environment and to any conditions specified below.

1. Licensee: ACZ Laboratories, Inc.
2. Mailing Address: 2773 Downhill Drive, Steamboat Springs, Colorado 80487
3. License Number: Colo. 799-01, Amendment Number: 15
4. Expiration date: May 31, 2010
5. Authorized Storage/Use Locations: 2773 Downhill Drive Steamboat Springs, Colorado 80487
6. Designated Radiation Safety Officer: David H. Cline
Designated Alternate Radiation Safety Officer: Mark McNeal
7. Radiation Safety Officer Contact Number: (970) 879-6590
8. Fee Category: 3.N
9. Reference Number:

CONDITIONS

10. Authorized Radioactive Material and Uses:

- A. The licensee is authorized to possess and use the following materials as reference sources for laboratory instrument calibration in quantities not to exceed:
 - i. 185 kBq (5 μ Ci) of Cobalt-60
 - ii. 37 kBq (1 μ Ci) of Strontium-90
 - iii. 740 kBq (20 μ Ci) of Cesium-134
 - iv. 740 kBq (20 μ Ci) of Cesium-137
 - v. 74 kBq (2 μ Ci) of Lead-210
 - vi. 740 Bq (0.02 μ Ci) of Polonium-209
 - vii. 37 kBq (1 μ Ci) of Polonium-210

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- viii. 18.5 kBq (0.5 μ Ci) of Radium-226
- ix. 37 kBq (1 μ Ci) of Radium-228
- x. 3.7 kBq (0.1 μ Ci) of Thorium-228
- xi. 3.7 kBq (0.1 μ Ci) of Thorium-229
- xii. 148 kBq (4 μ Ci) of Thorium-230
- xiii. 3.7 kBq (0.1 μ Ci) of Uranium-232
- xiv. 3.7 kBq (0.1 μ Ci) of Americium-241
- xv. 3.7 kBq (0.1 μ Ci) of Natural Uranium

B. The licensee is authorized to possess and use the following materials in the form of environmental samples for qualitative and quantitative analysis in quantities not to exceed:

- i. 3.7 kBq (0.1 μ Ci) of Lead-210
- ii. 3.7 kBq (0.1 μ Ci) of Polonium-210
- iii. 370 kBq (10 μ Ci) of Radon-222
- iv. 7.4 kBq (0.2 μ Ci) of Radium-226
- v. 7.4 kBq (0.2 μ Ci) of Radium-228
- vi. 370 Bq (0.01 μ Ci) of Thorium-228
- vii. 7.4 kBq (0.2 μ Ci) of Thorium-230
- viii. 370 Bq (0.01 μ Ci) of Thorium-232
- ix. 55.5 kBq (1.5 μ Ci) of Uranium-234
- x. 3.7 kBq (0.1 μ Ci) of Uranium-235
- xi. 55.5 kBq (1.5 μ Ci) of Uranium-238
- xii. 74 kBq (2 μ Ci) of Gamma Emitting Radionuclides

C. The licensee is authorized to possess and use not more than four (4) sources, each source not to exceed 555 MBq (15 mCi) of Nickel-63, to be used as components (foils) of electron capture devices (ECDs) in laboratory gas chromatographs.

D. The licensee is authorized to possess and use not more than one (1) source not to exceed 1.11 MBq (30 μ Ci) of Cesium-137, to be used in a Beckman model LS-6000TA Liquid Scintillation Counter.

E. The licensee is authorized to possess and use Electroplated multinuclide sources not to exceed 11.1 kBq (0.3 μ Ci) total activity and 3.7 kBq (0.1 μ Ci) per isotope of Plutonium-239, Americium-241, and/or Curium-244, to be used as reference sources for laboratory instrument calibration.

11. Authorized Radioactive Material Users:

- A. Radioactive material authorized shall be used by or under the direct supervision of Mark H. McNeal, Michael T. Beaty, or David H. Cline.
- B. Radioactive material may also be used by individuals, designated as users by the Radiation Safety Officer, who have successfully completed the ACZ Laboratory in-house training program.

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- C. The Radiation Safety Officer shall maintain written records indicating the date and basis of approval of designated users.

11. General Requirements :

- A. The licensee shall comply with the provisions of the State of Colorado *Rules and Regulations Pertaining to Radiation Control*: Part 3, "Licensing of Radioactive Material"; Part 4, "Standards for Protection Against Radiation"; Part 10, "Notices, Instructions and Reports to Workers; Inspections"; and Part 17, "Transportation of Radioactive Material".
- B. The licensee shall not transfer possession and/or control of radioactive materials or items contaminated with radioactive material except: by transfer of waste to an authorized recipient; by transfer to a specifically licensed recipient; or, as provided otherwise by specific condition of this license pursuant to the requirements of Part 3, Section 3.22 of the Regulations.
- C. Radioactive material authorized by Condition 10 of this license shall be stored and used in a manner that will preclude use by unauthorized personnel.
- D. The licensee shall ensure that information listed in this license is correct and accurate. The licensee shall notify the Department in writing within ten (10) days whenever the information contained in Items 1 through 7 above is no longer current or determined to be incorrect.
- E. The licensee may transport radioactive material or deliver radioactive material to a carrier for transport in accordance with the provisions of Part 17 of the Regulations and the requirements of U.S. Department of Transportation (49 CFR).
- F. The licensee shall not make any false statement, representation, or certification in any application, record, report, plan, or other document regarding radiation levels, tests performed or radiation safety conditions or practices.

12. Occupational Dose Monitoring:

- A. All users of radioactive material who are likely to receive an occupational dose exceeding 10% of any applicable limit specified in Part 4 of the Regulations must be equipped with personnel monitoring devices capable of detecting both gamma and neutron radiation.
- B. If personnel monitoring devices will not be used, the Radiation Safety Officer must maintain written records demonstrating that personnel dose monitoring was not required pursuant to Part 4, Section 4.18 of the Regulations. In addition, the licensee shall include an assessment of individual dose monitoring needs as part of the annual program review required under Section 4.5.

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13. Special License Requirements:

- A. In addition to the possession limits in Item 10, the licensee shall further restrict the possession of radioactive materials to quantities less than the quantities which require financial assurance, as stated in Part 3, Section 3.9.5.3.5 of the Regulations.

14. Licensee Commitments and Reference Documents:

The State of Colorado *Rules and Regulations Pertaining to Radiation Control* shall govern unless the licensee's statements, representations, and procedures contained in the application and correspondence are more restrictive than the Regulations. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Condition 10 of this license in accordance with the statements, representations, and procedures contained in:

- A. the application and attachments dated May 25, 2005; and
- B. the license correspondence and attachments dated November 13, 2006 (FAX); July 21, 2008; August 14, 2008 (FAX); August 19, 2008 (FAX); August 19, 2008 (e-mail); and February 2, 2009.

FOR THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Date: 7/9/09 By: 