Eckert & Ziegler
Analytics

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CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

93050

I-131 5 mL Liquid in Flame Sealed Vial

Customer: LLNS/LLNL (DOE)
P.O. No.: B603807, Item 2 Product Code: 8131

This standard radionuclide source was prepared gravimetrically from a master solution calibrated with an ionization chamber. The ionization chamber was calibrated by the National Physical Laboratory, Teddington, U.K., and is traceable to national standards. Radionuclide calibration and purity were checked by germanium gamma-ray spectrometry, liquid scintillation counting, and/or alpha spectrometry, as applicable. The nuclear decay rate and reference date for this source are given below. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Isotope	Half-Life, Days	Activity (Bq)	Uncertainty* , % Type u_A	u_B	U	Reference Date (12:00 PM EST)
I-131	8.025E+00	2.152E+06	0.1	0.7	1.4	03/15/2013

***Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

Comments:
Impurities: γ-impurities<0.1%.
5.00912 g 0.1M NaOH + 0.006M Na2SO3 solution with approximately 30 µg/g I carrier.

Source Prepared by: _____
Z. Dimitrova, Radiochemist

QA Approved: _____ Date: 15 Mar 13
J.D. McCorvey, Counting Room Manager

ACCREDITED SOURCE CALIBRATION LABORATORY
HEALTH PHYSICS SOCIETY
FOUNDED 1956

ANA Form005 Rev. ---

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