

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

80389-28

5 mL Liquid in Flame Sealed Vial

Customer: LLNS/LLNL/For the U.S. DOE/NNSA
P.O. No.: B585301, Item 2

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated with an ionization chamber that was calibrated by the National Physical Laboratory, Teddington, U.K., and is directly traceable to national standards. Radionuclide purity and calibration were checked with a germanium gamma spectrometer system. The nuclear decay rate and assay 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 1, February, 1979, 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* , %			Reference Date (12:00 PM EST)
			u_A	u_B	U	
I-131	8.025	4.340E+06	0.1	0.7	1.4	08/13/2009

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

Comments:

5.03282 grams 0.1M NaOH + 0.006M Na₂SO₃ solution with approximately 30 ug/g I carrier. Gamma impurities - <0.1%.

Source Prepared by: N. E. Kasate
N. E. Kasate, Radiochemist

QA Approved: D. M. Montgomery QA MT Date: 8/19/09
D. M. Montgomery, QA Manager



