

# CERTIFICATE OF CALIBRATION

## MODEL CAL2600 GAMMA STANDARD

**Radionuclide:** Co-60                      **Activity:** 3.994 kBq (108.0 nCi)  
**Serial Number:** 124838                      **Reference Date:** 1200 PDT June 1, 2008  
**Half Life<sup>(1)</sup>:** 5.271 ± 0.001 years

### PRINCIPAL EMISSIONS<sup>(1)</sup>

Type	Energy (keV)	Intensity (%)
gamma	1173.237	99.90
gamma	1332.501	99.9824

### SOURCE DESCRIPTION

**Active Diameter:** 1 mm                      **Backing:** 1 mm plastic  
**Overall Diameter:** 25.4 mm                      **Cover:** 1 mm plastic  
**Thickness:** 3.2 mm

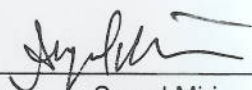
### METHOD OF CALIBRATION

The source was calibrated on a high purity germanium detector using a Co-60 efficiency at 1173.237 keV. This efficiency was established and verified through ongoing intercomparisons with the National Institute of Standards and Technology. This standard is indirectly (implicitly) traceable to the National Institute of Standards and Technology.

North American Scientific, Inc. participates in the Radioactivity Measurements Assurance Program conducted by the National Institute of Standards and Technology in cooperation with the Nuclear Energy Institute.

### TOTAL UNCERTAINTY (99% Confidence Level)

Systematic uncertainty	3.00%
Random uncertainty	0.93%
Total uncertainty (quadratic sum)	<u>± 3.14%</u>



Seyed Miri  
Calibration Laboratory Manager

May 27, 2008

Date

### REFERENCES

(1) Table of Radioactive Isotopes, 7th edition, 1986.

•LEAK TEST CERTIFICATION ON REVERSE•

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