



EBERLINE

SERVICES

CERTIFICATE OF CALIBRATION

Electroplated Alpha Standard

S.O.# 6002
P.O.# 62122

Description of Standard:

Model No. DNS-11 Serial No. 5205-04 Isotope Th-230

Electroplated on polished SS disc, 0.79 mm thick.

Total diameter of 4.77 cm and an active diameter of 4.45 cm.

The radioactive material is permanently fixed to the disc by heat treatment without any covering over the active surface.

Measurement Method:

The 2pi alpha emission rate was measured using an internal gas flow proportional chamber. Absolute counting of alpha particles emitted in the hemisphere above the active surface was verified by counting above, below, and at the operative voltage. The calibration is traceable to NIST by reference to an NIST calibrated alpha source S/N 4001-02.

Measurement Result:

The observed alpha particles emitted from the surface of the disc per minute (cpm) on the calibration date was:

5,780 + 173

The total disintegration rate (dpm) assuming 1.5% backscatter of alpha particles from the surface of the disc, was:

11,400 + 341 (0.00513 μ ci)

The uncertainty of the measurement is 3 %, which is the sum of random counting error at the 99% confidence level, and the estimated upper limit of systematic error in this measurement.

Calibrated by: ART REUST

Reviewed by: Sharon A. Davis

Calibration Technician: Art Reust Q.A. Representative: Anthony W. Roth

Calibration Date: 3-03-2004 Reviewed Date: 3-4-04