

National Bureau of Standards
Certificate
Standard Reference Material 4235
Radioactivity Standard
KRYPTON-85

This Standard Reference Material consists of krypton-85 and inactive krypton, at a pressure of approximately 1 atmosphere, in a pyrex-glass break-seal ampoule having a volume of approximately 3 cm³.

The activity in nuclear transformations per second as of 1200 EST November 1, 1974, was

$$* \quad \pm 1.24\%*$$

One hundred of these ampoules were mounted on a manifold and filled at the same time. This Standard Reference Material was measured in the National Bureau of Standards "4 π " γ ionization chamber which has been calibrated with sources assayed in the National Bureau of Standards length-compensated internal gas counters.

The uncertainty in the activity, 1.24 percent, is the linear sum of 0.4₂ percent, which is the limit of the random error at the 99-percent confidence level (4.032 S_m, where S_m is the standard error calculated from 6 measurements), and 0.8₂ percent, the estimated upper limit of conceivable systematic errors.

A half life of 10.73 \pm 0.06 years is suggested [(Nuclear Data Tables, 8, 150 (1970))].

This Standard Reference Material was prepared and calibrated in the Center for Radiation Research, Radioactivity Section, W. B. Mann, Chief.

Washington, D.C. 20234
November, 1974

J. Paul Cali, Chief
Office of Standard Reference Materials

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