

UNITED STATES DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS  
WASHINGTON 25, D. C.

# National Bureau of Standards

## Certificate

BETA-RAY STANDARD

Carbon-14

Benzoic Acid in Toluene

This standard consists of radioactive carbon-14 in approximately 3 milliliters of solution in a flame-sealed glass ampoule. The solution consists of 0.047 milligram of benzoic acid ( $^{14}\text{C}$ ) per milliliter of toluene (BP 109.5 to 110.5°C) which had been purified by distillation from sodium.

The activity of the carbon-14 in disintegrations per second per gram of solution was, in July, 1958,

\* 16,500 \*

In preparing these standards, a master solution, as described above, was used to fill a large number of ampoules. The solution, in a number of these, was then calibrated by comparison with the National Bureau of Standards sodium carbonate ( $^{14}\text{C}$ ) standard in an internal-gas-ionization chamber.

The estimated overall accuracy of the standardization is  $\pm 2\%$ .

For the Director

Radioactivity Section  
Radiation Physics Division

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