

# National Bureau of Standards

## Certificate of Analysis

### Standard Reference Material 949d

#### Plutonium Metal

Plutonium assay, percent .....  $99.99 \pm 0.05$

This plutonium metal is issued to provide material for the chemical assay of plutonium. The atomic weight of the plutonium is 239.08.

Each unit of SRM 949d consists of several pieces of metal sealed in a glass tube under a reduced-pressure argon atmosphere. The unit number and weight are given on each tube. An overall accuracy of 0.05 mg is claimed for each unit weight. Because of the method used to fabricate the material, very small pieces of metal may be separated from the larger pieces in the tube. These small pieces may be left behind unless the tube is carefully washed out, preferably with dilute hydrochloric acid.

The americium resulting from the decay of 14-year plutonium -241 is approximately 23 ppm at the date of issue, and will increase less than 28 ppm per year. The total of all detected impurities is about 100 ppm. The limit indicated for the assay is at least as large as the 95-percent confidence level for a single determination. Impurity determinations indicate that the material is quite homogeneous and that the plutonium content should approximate 99.99 percent.

These samples were prepared and analyzed by the Los Alamos Scientific Laboratory of the University of California, Los Alamos, New Mexico, under the direction of G. R. Waterbury, in collaboration with the National Bureau of Standards.

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J. Paul Cali, Chief  
Office of Standard Reference Materials