

U. S. DEPARTMENT OF COMMERCE

National Bureau of Standards

Certificate of Analysis

OF

STANDARD SAMPLE 136

POTASSIUM DICHROMATE

(OXIDIMETRIC STANDARD)

ANALYSIS ^a

PURITY ON BASIS OF EFFECTIVE OXIDIZING POWER 100.00, Percent

This lot of potassium dichromate was prepared to insure material of high purity and uniformity. It meets the American Chemical Society's specification for analytical reagent grade material, but should not be considered as entirely free from traces of impurities.

Drying. The sample, as issued, shows no loss in weight when dried at 110° C. for several hours. If the crystals are crushed to about 100 mesh and dried for 4 hours at 240° C., the loss on drying approximates 0.01 percent. By the vacuum-fusion method 0.011 percent of water is indicated (J. Research NBS 33, 121 (1944) RP1600).

Effective oxidizing power. On the basis of titration, by comparison with pure iron and the NBS standard sample of arsenic trioxide 83a, an oxidizing power equivalent to a potassium dichromate having a purity of 100.00, percent was obtained with samples dried for 1 hour at 110° C. The weights of arsenic trioxide and potassium dichromate were corrected to vacuum standard, weight burettes were used and all calculations based on the 1941 International Table of Atomic Weights of the chemical elements. A limited number of experiments indicate that a very slight loss of oxidizing power occurs if the material is fused for 10 minutes at approximately 450° C.

E. U. CONDON, *Director.*

May 11, 1948. WASHINGTON, D. C.

^a By Howard B. Knowles, National Bureau of Standards.