

Graphite.—Dissolve one gram sample in 35 cc. nitric acid (1.13 sp. gr.) filter on asbestos, wash with hot water, then potassium hydroxide (1.1 sp. gr.) and finally with hot water. The graphite is then ignited as specified in the determination of total carbon.

H. E. DILLER, Secretary.

Analysis of Fuming Sulphuric Acid.—The following method of analysis for fuming sulphuric acid has given excellent results for both speed and accuracy. Put about 15 cc. distilled water into a small Erlenmeyer flask, and then introduce a piece of 6 mm. glass tubing with a narrow constriction as shown in the cut. Allow a few drops of water to



trickle down the glass tube. Now weigh the sample in a Lunge pipette, and introduce the sample through the glass tube. The acid runs down through the tube and is absorbed by the water without spattering. Some fumes remain in the tube. By allowing a few drops of water to trickle down the tube, these fumes are completely absorbed. The analysis of one acid was checked within 0.05 per cent. ten times in succession by this method.

T. J. BREWSTER.

E. I. DU PONT DE NEMOURS POWDER CO.,
Pinole, California.

NEW BOOKS

RADIOAKTIVE UMWANGLUNGEN. BY E. RUTHERFORD. Translated by M. Levin. (Die Wissenschaft, No. 21). Braunschweig: F. Vieweg and Sohn. 1907. IX. 285 pp. Unbound, Mark 8.00; Bound, Mark 8.60.

The Silliman lectures, at Yale University, for the year 1905, were delivered by Prof. Rutherford. These lectures were published, in English, under the title, *Radioactive Transformations* (New York: Charles Scribner's Sons, 1906). The present work is a translation, into German, by Dr. Max Levin. It is less comprehensive than the author's book, *Radioactivity*, the second edition of which appeared in 1905. The new work deals especially with the marvelous spontaneous transformations which are taking place continuously in radioactive matter.

After an historical introduction, in which a general resumé of the development of radioactivity is given, the transformations of the element thorium are discussed. With clear and convincing argument, the author presents the facts which lead to the conclusion that thorium is very slowly decomposing. The first product of the decomposition is radiothorium; this, in turn, yields another radioactive product, thorium X., etc. The successive changes which have so far been established are as follows: Thorium \rightarrow Radiothorium \rightarrow Th X \rightarrow Th Emanation \rightarrow Th A \rightarrow