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The Manufacture of Oxalic Acid from Corn Cobs

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THE ELECTROMETRIC DETERMINATION OF LIME

H. V. WRIGHT AND R. B. MORRIS

Because of the inaccuracies of the Scaife method for the determination of lime, the hydrogen electrode has been tried as an instrument for analyzing lime. It is found that a characteristic curve may be obtained which will enable the analyst to distinguish between the Ca O, Ca Co₃ and the Mg O present in a sample of lime. Hydrochloric or oxalic acid may be used for titration, but the hydrochloric seems to give best results.

METHOD OF PREPARING SILICA ABSORBENTS

O. R. SWEENEY, FREDERIC D. PFEFFER AND ARTHUR
L. REDSTONE

In the manufacture of phosphate fertilizer, compounds of fluorine are evolved. The amount of fluorine occurring in the phosphate rock used each year in the United States is about 8000 tons. It is proposed to utilize this material industrially. If the tower gases are passed through the water, reaction $3 \text{SiF}_4 + 3 \text{H}_2\text{O} \rightarrow \text{H}_2\text{SiO}_3 + 2 \text{H}_2\text{SiF}_6$ takes place. The solution is treated to recover the silicon fluoride as MgSiF_4 . The precipitated silicic acid is filtered out, dried and has good adsorptive properties. The adsorption value depends upon the acidity and other conditions. The silica obtained has better adsorption properties than "Silica Gel".

THE MANUFACTURE OF OXALIC ACID FROM CORN
COBS

H. A. WEBBER

Oxalic acid is obtained from corn cobs by subjecting the cobs to the oxidizing action of nitric acid (sp.gr.1.5) in the presence of catalysts, as V_2O_5 , MnO , O_3 .

The cobs, ground to $\frac{1}{8}$ " mesh, are treated either hot or cold. In the hot method, the heat is removed after decomposition of the cobs (about 5 minutes.) In the cold process, the mixture of cobs, acid, and catalyst is allowed to stand three days. An average yield of 70% is obtained by either method, but greater yields are obtained occasionally. About 5% of the yield remains in the mother liquor.

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