

## INCREASE IN STRENGTH OF POTASSIUM HYDROXIDE VOLUMETRIC SOLUTION ON STANDING.

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During the course of the investigation on the keeping quality of standard volumetric solutions, and reported during the past three years, and also in practice as well, I noted a peculiar thing regarding the keeping of standard potassium hydroxide V. S.

While the facts, as related, may not be new to many of you, I have been unable to find a statement in the literature covering this particular point. On inquiry I have found but one chemist that has noted the same thing as I have regarding this solution. I believe that wider publicity should be given this important matter, and hence this brief note.

Both normal potassium hydroxide V. S. and fiftieth normal *increase* in strength materially on standing, the latter in particular. The data that I have is not complete, as it was some time before I could bring myself to believe that this is true, and some of the records were not preserved. One normal solution which I now have originally had a factor of 1.0235, and now has a factor of 1.0600. This is about two years old. Others have shown about the same increase, but the figures are not available. In the case of N/50 potassium hydroxide solution, the increase is more marked and rapid. I have seen a solution, 10 cc. of which would exactly neutralize two cc. N/10 acid increase in strength, on standing over night, until but 8.5 cc. were required to neutralize 2 cc. N/10 acid.

The explanation offered by the one chemist mentioned above was that the alkalinity of the glass was taken up by the solution. I am unable to offer anything further in the way of explanation than this. The character of glass from which the container is made may have considerable to do with it. The N/50 solutions, on which I noted such an increase, were kept in a 500 cc. volumetric flask, while the normal solutions were kept in a two-gallon amber bottle.

## THE SAPONIFICATION OF FIXED OILS WITHOUT HEAT.

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While determining the saponification number (Koettstorfer number) of several samples of linseed oil, I found it necessary to leave some of them over night before completing the operation. All of the samples had been treated with N/2 alcoholic KOH. (25 cc.). Some of them had been heated the prescribed half hour, and some had not. While titrating the samples with N/2 HCl the next morning, I titrated a few of the unheated samples before discovering my mistake. Upon redetermining the saponification values of these samples by the usual method, I was surprised to find that the results by both methods checked very closely.

Tests were made on a linseed oil, whose saponification value was known, to