

THE ELECTRICAL CONDUCTIVITY OF CONCENTRATED SOLUTIONS OF SODIUM AND POTASSIUM HYDROXIDE

DURING the course of investigations on the behaviour of amphoteric oxides towards solutions of alkali hydroxides it was found necessary to have values at 30° C. of the electrical conductivities of concentrated solutions of these alkalis. From a search of the literature it was revealed that these values have not been determined and the investigators who have found these values have not done so for the whole range of concentrations at a given temperature. The electrical conductivities of concentrated solutions of sodium and potassium hydroxides were, therefore, determined at $30^{\circ} \pm 0.1^{\circ}$. The data obtained are tabulated below:—

N	NaOH			KOH	
	Observed	Bousfield and Lowry	Gmelin	Observed	I. C. T.
10	30.3	30.0	..	60.4	..
8	49.8	49.4	..	84.9	..
7	60.0	60.0	..	98.0	..
6	75.4	75.8	..	117.7	..
5	92.6	91.0	..	135.6	..
4	110.8	111.0	..	158.1	..
3	130.9	132.5	..	179.5	..
2	158.0	160.0	..	205.3	..
1	197.0	196.0	..	232.9	233.0
0.5	214.4	..	214.4	250.0	248.0
0.2	231.0	..	231.0	261.7	262.0
0.1	240.0	..	239.0	268.5	267.0
0.01	250.8	..	251.0	277.3	278.0
1/a	268.0	..	267.0	292.0	293.0

In the above table some of the values experimentally obtained for sodium hydroxide have been compared with those calculated from the results of Bousfield and Lowry¹ and also with those for dilute solutions calculated from the data available at different tempera-