Proceedings of the Iowa Academy of Science

Volume 49 | Annual Issue Article 57

1942

A Measurement of the Magnitude of the Electrokinetic Current in Liquid Flow through a Single Capillary

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DISSOCIATION PRESSURES OF SOME POTASSIUM POLYHALIDES

JACOB CORNOG AND ELDON BAUER

Potassium dichloro iodide ($KLCL_2$ or KCL-ICL, m. p. 195°) and potassium trichloro di-iodide (KCL.2ICL, m. p. 45°) have been prepared and their dissociation pressures measured.

Both of these are new compounds. The potassium dichloro iodide (m. p. 60°) described by Wells and Wheeler (also by Ephraim) has been found to have the formula $KLCL_2.H_2O$.

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A MEASUREMENT OF THE MAGNITUDE OF THE ELECTROKINETIC CURRENT IN LIQUID FLOW THROUGH A SINGLE CAPILLARY.

W. G. EVERSOLE AND W. W. BOARDMAN

The potential difference, E, between the two ends of a capillary, through which a steady flow of liquid was maintained, was measured by means of unpolarizable electrodes connected to a potentiometer circuit, and at the same time shunted through a known resistance, R. The value of R was varied from 1 to 98000 megohms. For each value of R there was a corresponding value of E, and a current, I (=E/R), through the resistance. The electrokinetic current, I_e, was obtained by extrapolating the plot of E/R versus R to the limit R=O.

The value of the electrokinetic potential, ζ, can be calculated from I_e by means of the Helmholtz-Smoluchowski equation,

$$\zeta = \frac{4\ \eta\ l}{r^2 D P}\ I_e\ ,$$

without the use of conductivity data.

The specific surface conductivity can also be evaluated from the same data if the specific conductivity of the liquid in bulk is known.

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