

In fact, it appears to have a very slight concave upward curvature. This suggests, though we cannot be quite certain, that it is approaching a second unimolecular region at low pressures, a possibility previously discussed by one of us [*Z. physik. Chem.*, **B7**, 226 (1930)]. The temperature coefficient appears to be slightly greater at the lower pressures. We hope to be able to give a more thorough discussion of these phenomena at a later time, when the experimental results will also be presented in full.

It may be well to note that we have verified the effect of hydrogen in increasing the reaction rate. It appears to have the same effect within the limit of error—which is rather large in the presence of excess hydrogen—at the two temperatures, a point which is of some importance in connection with the question of whether hydrogen is really an inert gas, or whether its effect is due to reaction with the ether. We see no reason at present to believe that it is not inert, as far as the decomposition of the ether is concerned—it may, of course, react with the products of the decomposition.

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O. K. RICE
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ACTIVITY COEFFICIENTS OF BARIUM CHLORIDE

Sir:

In a communication from the Laboratory of Yale University [Harned and Nims, *THIS JOURNAL*, **54**, 423 (1932)], it was presented that the evidence obtained indicates a maximum in the activity coefficient-temperature curve for sodium chloride. Direct confirmation of this phenomenon was lacking, however.

Studies in progress at this Laboratory on the activity coefficients of barium chloride from electromotive force data at different temperatures indicate that this phenomenon certainly exists for barium chloride.

Electromotive forces have been measured very satisfactorily using barium amalgam cells of special construction. Activity coefficients calculated from the data at 0 and 45° coincide fairly closely while those at 25° are appreciably higher for the same concentration.

With complete electromotive force data the heats of dilution may be calculated. When experimental work has been completed the data will be submitted for publication.

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