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Ethyl Etherates of Zinc Bromide

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perature and others a lower transition temperature than that of corresponding hydrates, suggests tentative conclusions as to the relative degree of hydration on the cations and anions.

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ETHYL ETHERATES OF ZINC BROMIDE

H. H. ROWLEY AND FLORENCE V. OLSON

The solvation of solid zinc bromide in contact with diethyl ether solutions has been studied by vapor pressure measurements and solubility determinations from -10 to 35°C . The existence of two solvates, believed to be the dietherate of zinc bromide, $\text{ZnBr}_2 \cdot 2(\text{C}_2\text{H}_5)_2\text{O}$ and the monoetherate of zinc bromide, $\text{ZnBr}_2 \cdot (\text{C}_2\text{H}_5)_2\text{O}$, was indicated by the following results: Definite changes in slope occurred in the curves obtained by plotting the logarithm of the vapor pressure of ether for systems of varying mol ratios (mols $(\text{C}_2\text{H}_5)_2\text{O}$ /mols ZnBr_2) against the reciprocal of the absolute temperature and by plotting the logarithm of the solubility of zinc bromide in ether against the reciprocal of the absolute temperature. These changes in slope, which are caused by changes in the solid phases, appear between 0 and 5° and between 15 and 25°C . Further, analyses of the wet solids in contact with the saturated solutions at 0 , 15 and 25°C . indicate that the stable solid phases in equilibrium with the saturated solutions at these temperatures are the dietherate, the monoetherate and the unsolvated zinc bromide, respectively.

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BINARY SYSTEMS WITH ACETAMIDE (1) ACETAMIDE — WATER (2) ACETAMIDE — NAPHTHALENE

BEN H. PETERSON

The binary system acetamide and water, investigated by the solubility method, shows the formation of a hydrate of acetamide