

1939

## Ethyl Etherates of Zinc Bromide

H. H. Rowley  
*State University of Iowa*

Florence V. Olson  
*State University of Iowa*

Copyright © Copyright 1939 by the Iowa Academy of Science, Inc.  
Follow this and additional works at: <https://scholarworks.uni.edu/pias>

---

### Recommended Citation

Rowley, H. H. and Olson, Florence V. (1939) "Ethyl Etherates of Zinc Bromide," *Proceedings of the Iowa Academy of Science*: Vol. 46: No. 1 , Article 31.  
Available at: <https://scholarworks.uni.edu/pias/vol46/iss1/31>

This Research is brought to you for free and open access by UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

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.

DEPARTMENT OF CHEMISTRY,  
COE COLLEGE,  
CEDAR RAPIDS, IOWA.

---

## 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  $35^{\circ}\text{C}$ . 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  $\text{ZnBr}_2$ ) 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  $5^{\circ}$  and between  $15$  and  $25^{\circ}\text{C}$ . Further, analyses of the wet solids in contact with the saturated solutions at  $0$ ,  $15$  and  $25^{\circ}\text{C}$ . 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.

PHYSICAL CHEMISTRY LABORATORIES,  
STATE UNIVERSITY OF IOWA,  
IOWA CITY, IOWA.

---

## 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