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Study of the Three Component System Diethyl Ether-Water-Magnesium Bromide at 25 C. (Abstract)

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COPPER CONTENT IN VARIOUS WATER SUPPLIES
DUE TO COPPER PLUMBING

(ABSTRACT)

R. RUPERT KOUNTZ, CHIEF WATER ANALYST

C. H. BURMAN, SENIOR WATER ANALYST

The survey covers different types of waters, including treated and untreated well and surface supplies, and softened water (private and municipal).

In each case the copper values are correlated with the age of the plumbing and the analysis of the water.

The copper was determined by the modified diethyldithio-carbamate method.

Although amounts of copper such as were found are toxic to many kinds of fish, they are not harmful for human consumption.

WATER DIVISION,
STATE HYGIENIC LABORATORY,
IOWA CITY, IOWA.

STUDY OF THE THREE COMPONENT SYSTEM DIE-
THYL ETHER—WATER—MAGNESIUM BROMIDE

AT 25° C.

(ABSTRACT)

H. H. ROWLEY AND M. H. BARTZ

Varying amounts of the three components were brought together in a tube and allowed to come to equilibrium at 25° C. and at atmospheric pressure. The composition of each of the condensed phases, solid and liquid, was determined by analysis and a triangular three component diagram of the phases in equilibrium was made. From the areas, lines and points of the phase diagram, the following information was obtained. Two independent pairs of partly miscible liquids were found: one consisting of a water and an ether layer with a small amount of magnesium bromide dissolved in the ether layer, the other pair consisting essentially of two ether layers, with considerable magnesium bromide in one of the layers. Two solids were found that can exist in equilibrium with liquid phases at 25° C., these being magnesium bromide hexahydrate and magnesium bromide di-etherate. No evidence was found for the existence of a "mixed solvate" or the basic magnesium bromide di-etherate as claimed by Menshutkin.

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