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The Effect of Gelatin on the Solubility of Hydrogen at 25° C

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THE EFFECT OF GELATIN ON THE SOLUBILITY OF
HYDROGEN AT 25°C.

W. G. EVERSOLE AND ALLEN L. HANSON

The solubility of hydrogen in water and in dilute gelatin solutions has been measured by noting the change in volume of the hydrogen when placed in contact with the gas-free solvent. The latter was freed of all dissolved gases by prolonged boiling under reduced pressure. This solvent (water or gelatin sol), was then sealed hermetically in a glass bulb and transferred to the main apparatus. Hydrogen was prepared electrolytically and purified by passing over platinized asbestos at about 250°C. It was saturated with water vapor and introduced over mercury into a gas burette. By displacement with weighed portions of mercury, known volumes of solvent were placed in contact with the hydrogen. The mercury level in the burette was read before and after solution, and the volume of gas dissolved was computed. By means of a barostat constant pressure was maintained, and the temperature was held at 25°C. The observed volume change of hydrogen was converted to mols per hundred grams of water. The solubility in very dilute (one per cent or less) gelatin sol was compared with that in water. The extent of hydration of gelatin was calculated on the assumption that the water thus bound was not available as solvent for the hydrogen.

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VAPOR DENSITY, LIQUID DENSITY AND SURFACE
TENSION OF SOLUTIONS OF POTASSIUM THIO-
CYANATE IN LIQUID SULFUR DIOXIDE
FROM 10° TO 25°C.

W. G. EVERSOLE AND G. H. WAGNER

The vapor density, liquid density and differential capillary rise of pure liquid sulfur dioxide, and sulfur dioxide solutions of potassium thiocyanate were measured at 10, 15, 20, and 25°C. in a sealed apparatus which allowed the measurement of all these quantities on the same solution.

The apparatus consisted of two Pyrex capillaries sealed on to a