

A Simple Apparatus for Elementary Classes for Determining Partial Pressures of Gases from their Aqueous Solutions by a Static Method.

By U. MUDLAGIRY NAYAK AND S. LAKHMINARAYANAN.

The bottle (A) is fitted with an inverted burette (B), having an inclined side-tube (C), which may be closed by a rubber tube and glass plug (D). After the capacity of the apparatus has been determined, a known volume of a solution of sulphur dioxide of known strength (determined by standard iodine and thiosulphate) is introduced through (C), which is then closed. The bottle is shaken several times and after about 20 minutes, while (A) is in an inverted position, a known volume of the solutions is withdrawn and titrated. From the laboratory temperature and the concentrations of the original and residual sulphur dioxide solution, the weight of sulphur dioxide in the gaseous phase is obtained and the partial pressure of sulphur dioxide calculated. The results given below show the accuracy. For two solutions containing 1.782 g. and 1.923 g. of SO_2 respectively per 1000 g. of water, the partial pressures 10.53 and 12.63 mm. of Hg were obtained. The values given by Sherwood (*Ind. Eng. Chem.*, 1925, 17, 745) are respectively 10.4 and 11.9 mm.



