The Heats of Adsorption of Organic Vapors on Charcoal at 25° and 50°

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J. N. PEARCE AND G. H. REED

The heats of adsorption of carbon tetrachloride, chloroform, methylene chloride, and ethyl chloride were determined by the method of Pearce and McKinley. The effect of temperature on the molecular heats of adsorption is very small. The molecular heats of adsorption, ranging from 12.1 kilogram calories for methylene chloride to 15.4 kilogram calories for carbon tetrachloride, seem to increase with the number of substituted chlorine atoms in the molecule.

THE ADSORPTION OF CERTAIN VAPORS BY ACTIVATED CHARCOAL

J. N. PEARCE AND PAUL E. PETERS

Isotherms for the adsorption of ethane, propane, dimethyl ether and diethyl ether by activated charcoal were obtained at temperatures from 0° to 183° and at pressures varying from less than 1 mm. to about 1 atm. With the hydrocarbons equilibrium was attainable only after long periods of time. The isotherms for the hydrocarbons are in general almost rectilinear; those for the ethers have the usual form. At low temperatures the isotherms for the hydrocarbons show a peculiar type of break in the curve. The amount of vapor adsorbed decreases with an increase in the complexity of the adsorbed molecules. Semi-log isotherms, double-log isotherms, isobars and isosteres were calculated from the natural isotherms. The heat of adsorption was calculated from the slope of the isosteres.

THE SOLUBILITY OF COPPER IODATE IN AQUEOUS SALT SOLUTIONS

BEN H. PETERSON AND EARL L. MEYERS

The solubility of copper iodate in pure water and in solutions of potassium chloride, potassium sulphate, magnesium chloride and