
A Quantitative Method for the Determination of Montmorillonite in Soils*

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Abstract: A quantitative method for determination of montmorillonite in the soil clay fraction, using X-ray spectrometry, is proposed. The method is based on the fact that polyvinylpyrrolidone (PVP) is adsorbed on the interlayer surfaces of montmorillonite, giving a first order *c*-axis spacing of 26 Å, while it is not adsorbed on other swelling clays. The experimental conditions to obtain a maximum height of the X-ray diffraction peak, and the effect of the mass adsorption coefficient of vermiculite on the intensity of montmorillonite, were investigated. Soil montmorillonite was determined by the method of known additions, measuring the intensity of the X-ray diffraction peak before and after the addition of small and known amounts of Wyoming montmorillonite.

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