



Spectrophotometric Determination of Phenol in Water[#]

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Abstract:The determination of phenolic compounds in water is an important part of water quality measurement. The levels of phenol and phenolic compounds give an indication of the presence of pollution from industrial sources such as petroleum products and insecticide, herbicide, fungicide and pesticide residues. The presence, even in concentration of 1 ppb, of some phenols in drinking water supplies may lead, on chlorination, to the formation of objectionably tasting and odoriferous chlorophenols. A spectrophotometric method for the determination of phenol in tap water or ground water samples was developed. The method is based on the oxidative coupling of phenols with 4-aminoantipyrine (4AAP) in alkaline solution in the presence of potassium ferricyanide. The optimum determination wavelength is at 506 nm. The linear dynamic range is 0.1 – 6.0 mg l⁻¹. The relative standard deviation of the standard solution of phenol is 1.5 % (n = 6, C = 1 mg l⁻¹).

Key words: *Phenol, spectrophotometric method, tap water*

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