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ABSTRACT

Nitrate is an important pollutant found in environmental samples. Nitrate and nitrite pose various environmental as well as health hazards. Different methods of determining nitrate in various environmental samples developed during previous years include spectrohotometric, chemiluminescence, electrochemical detection, chromatographic, capillary electrophoretic, spectrofluorimetric methods. Out of these, methods based on spectroscopic detection of nitrate have been discussed in this review article due to their easy availability, high sensitivity, low detection limit, economical and facile nature. Methods based on spectrophotometry, Raman Spectroscopy, IR and FTIR Spectroscopy, atomic absorption spectroscopy (AAS), fluorescence spectroscopy, chemiluminescence, mass spectroscopy, molecular emission cavity analysis (MECA), electron paramagnetic resonance spectrometry (EPR) and nuclear magnetic resonance spectrocopy (NMR) have been reviewed. The basic principle, detection limits, detection range, RSD%, sample throughput/h, advantages and disadvantages have been discussed.