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www.elsevier.com/locate/talanta

PII: S0039-9140(18)30839-7
DOI: <https://doi.org/10.1016/j.talanta.2018.08.028>
Reference: TAL18949

To appear in: *Talanta*

Received date: 18 June 2018
Revised date: 6 August 2018
Accepted date: 7 August 2018

Cite this article as: Priyanka Singh, Younus Raza Beg and Gokul Ram Nishad, A REVIEW ON SPECTROSCOPIC METHODS FOR DETERMINATION OF NITRITE AND NITRATE IN ENVIRONMENTAL SAMPLES, *Talanta*, <https://doi.org/10.1016/j.talanta.2018.08.028>

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A REVIEW ON SPECTROSCOPIC METHODS FOR DETERMINATION OF NITRITE AND NITRATE IN ENVIRONMENTAL SAMPLES

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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 spectrophotometric, 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 spectroscopy (NMR) have been reviewed. The basic principle, detection limits, detection range, RSD%, sample throughput/h, advantages and disadvantages have been discussed.

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