

Determination of fluoride content in various matrices an overview

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Methods for the determination of fluorine in a variety of matrices are reviewed with particular attention to those techniques which are widely adapted as routine methods. The fluoride ion-sensitive electrode is a very successful potentiometric titration technique for the determination of fluoride in aqueous solution and it's largely replaced the various colorimetric methods formerly used. However it is apparent that the rapid development of ion-chromatography with its advantage of simultaneous multi ion determination is introducing a new phase into fluoride analysis. The aim and purpose of this review to describe the analytical methods that are available for detecting, measuring, and/or monitoring fluorides, hydrogen fluoride and fluorine and its monities. The intent is not to provide an exhaustive list of analytical methods. Rather, the intention is to identify well-established methods that are used as the standard methods of analysis many of the analytical methods used for the environmental samples are the methods approved by the federal agencies and organizations such as EPA and National institute of occupational safety and Health (NIOSH). Other methods presented in this review are these that are approved by groups such as the Association of Official Analytical Chemists (AOAC) and the American Public Health Association (APAA). Additionally, analytical methods are included that modify preciously used methods to obtain lower detection limits and/or to improve accuracy and precision.

Biography

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Toxicological analysis of drugs using LC-MS

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Liquid chromatography (LC) coupled to mass spectrometry (MS) or tandem mass spectrometry (MS/MS) has become increasingly important. LC-MS may well be the solution to the identification and quantification problems often encountered by analytical toxicologists because it permits the confirmation analysis of polar or non-volatile compounds without the need for derivatization. In LC-MS, there has been an explosion in the range of new products available for solving many analytical problems, particularly those applications in which non-volatile, labile and/or high molecular weight compounds are being analyzed. According to Willoughby et al. LC-MS has progressed from the "innovators" stage through the "early adaptors" and on to the "early majority" stage, and is now open to specialists from a variety of disciplines. This has been as a direct result of the introduction of electrospray ionization (interface) which helped LC/MS/MS develop from a research tool into a routine technique. In clinical and forensic toxicology as well as doping control LC/MS is now a robust and reliable technique for routine analysis in these fields. In recent years, methods for LC-MS(/MS)- based systematic toxicological analysis using triple quadrupole or ion trap instruments have been considerably improved and a new screening approach based on high-resolution MS analysis using bench top time-of-flight MS instruments has been developed. Moreover, many applications for so-called multi-target screening and/or quantification of drugs, poisons, and or their metabolites in various biomatrices have been published. It can also identify components in unresolved chromatographic peaks, reducing the need for perfect chromatography. The present paper will provide an overview and discuss these recent developments.

Biography

D. Hamuthal Vijitha pursuing M.pharmacy (Analysis) from School of Pharmacy, Anurag group of Institutions, JNTU-H; completed graduation from, Joginpally B.R. Pharmacy College JNTU-H; presented a poster on Fourier Transform Infrared Spectroscopy in a National level seminar competition and presented a technical paper on Gene Therapy at Techno Quest in J.B.R. Pharmacy College.

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