

CURRENT METHODS OF TRACE ELEMENTS ANALYSIS

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INTRODUCTION

Currently there are more than a dozen diversified physiochemical and instrumental methods striving towards the same goal viz., analysis of trace elements in a compound sample. A "trace" is defined as any element which has a small but measurable concentration and the other major constituents of the sample are known as the matrix. The matrix does not play a major part in the trace analyses, but is rather a source of nuisance and interferes with the analysis in many ways. In some techniques where the analysis is possible only with trace elements, one can get rid of the matrix by one of the several separation methods suitable to a particular technique, while in others where analyses cannot be carried out with a very small samples, efforts are usually directed towards the elimination of the interference from the matrix.

The design of sampling programmes forms a very important part of trace elements analysis by a particular technique and there are no fixed methods applicable to all situations alike. The application of the technique to given situation is guided jointly by the considerations of several factors such as the accuracy of the method, the sensitivity required, the number of samples and quantity of each sample to be analysed, the presence of background, the rapidity of acquisition of results and the availability of required instruments.

REVIEW OF METHODS

Below we review briefly various methods of trace elements analysis which are either common at present or likely to be so in the near future.