

Poster

Fine tuning and interference study in the determination of heavy metals in fishery products by ICP-MS technique



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ABSTRACT

Fish is one of the main protein sources for human diet which is usually affected by the pollution of aquatic ecosystem due to bioaccumulation of heavy metals, among others. For this reason, these pollutants are included in the regulation of the European Community Commission which set the maximum levels for certain contaminants in foodstuff. In order to quantify heavy metals, Inductively Coupled Plasma Mass Spectrometry (ICP-MS) is a great analytical technique due to its high accuracy and precision in detecting metals at low concentrations. The aim of this project is to carry out a fine tuning procedure and interference elimination studies during the determination of mercury (Hg), cadmium (Cd) and lead (Pb) in fishery products using ICP-MS. Linearity was studied by reduction of the curve range in order to increase the accuracy of the method. Moreover, selection of the optimum internal standard in order to correct matrix effect during the standardization process was evaluated. Residuals and percentage of internal standard recovery are the quality controls established to determine if the selected standard (Rh-103) was adequate. Finally, results indicate that Cd-111 was the isotope more suitable in order to avoid the spectral interferences.

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