

Analysis of Ca and Fe in supplements by EDXRF technique

Thales Zanin dos Santos de Oliveira, Cibele Bugno Zamboni

Instituto de Pesquisas Energéticas e Nucleares

Measurements of the elemental composition of supplements is relevant in the nutritional context for the consumer, as well as for the professional for the correct prescription, since the national legislation still does not oblige the manufacturer to determine the content of minerals, with the exception of sodium. According to Euromonitor (market research on consumer products, commercial industries, demographics trends and consumer lifestyles in Brasil) the most consumed minerals were calcium (13%), followed by iron (4%). Another market research carried out at the end of 2020 by “Associação Brasileira da Indústria de Alimentos para Fins Especiais e Congêneres” (Abiad) also emphasizes that consumption of dietary supplements increased by 10% in the last five years in Brazil. In this study, the Ca and Fe content in food supplements commercially available at São Paulo city were evaluated using the Energy Dispersion X-Ray Fluorescence (FRX-ED) technique. The data were obtained using a compact X-Ray spectrometer (X-123 SDD, Amptek) constituted by a SDD detector coupled a mini X-ray tube (Ag). Concentration results were compared with those provided by the manufacturer.