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ANALYSIS OF ARISTOLOCHIA LONGA MEDICINAL PLANT FROM ALGERIA

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Neutron activation analysis was applied to assess trace element concentrations in Aristolochia Longa, Bereztam is the common name, medicinal plant widely used in traditional medicine in Algeria, Morocco and forbidden in several countries. The Cr, Na, La, K, Br, As, Sb have been quantified by long irradiation time with thermal and epithermal flux of 3.98 E13 n / cm^2 / s and 1.49 E12 n / cm^2 / s respectively. This irradiation was performed in the core of NUR Algerian Reactor. Certified reference materials SDM-2TM lake sediment was used for the elemental quantification, the IAEA –V10 Hay Powder and IAEA –SL1 Lake Sediment were analyzed for quality of the analytical results.

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RARE EARTH ELEMENTS CONTENT AND LEACHABILITY IN COAL FLY ASH FROM FIGUEIRA COAL POWER PLANT

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On the last couple of years, Brazilian southeast region has faced a serious drought and hydroelectricity is the main source of power in this country portion. Because of that, coal power plants have been operating in their maximum capacity and have enhanced the production of coal fly ash (CFA) in Brazil. Several studies on its reutilization have been conducted and its chemical characterization is important to point new uses and to improve the existing ones. Recently, CFA has been considered as source of rare earth elements (REEs) and the offspring of this new use of this industrial waste has intensified the number of studies on determination of REEs content and leachability, since dilute acid dissolution has been pointed as a possible alternative of extraction of these elements from CFA. The aim of this study was to evaluate REEs content in coal fly ash from Figueira Power Plant, located at Paraná State, Brazil. Besides that, CFA were leached with a dilute solution composed of HNO_3 and H_2SO_4 (pH = 4.5) over 168 and 336 days. The REEs content was analysed on ashes before and after leaching by Instrumental Neutron Activation Analysis (INAA) and evaluated by statistical tools, such as analysis of variance (ANOVA) and principal component analysis (PCA). The content obtained for non leached ash was compared with those present in commercial REEs ores, such as monazite and bastnaesite, for future commercial purpose.

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SOIL TRACE ELEMENT STATUS IN AN IMPOUDED VEHICLES SCRAPYARD

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The number of motor vehicles has increased by 118% over the past decade in Brazil, which is transforming urban space regarding mobility, parking and disposal capacity of these vehicles. Impounded vehicle scrapyard overcrowding has become a challenge in many Brazilian regions. This now is considered a potential risk to soil quality, since vehicles are