

**Long term stability study on a *Perna perna* mussel candidate reference material**

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The *Perna perna* is the most abundant mussel species in the Brazilian seashore. This mussel is important not only due to its consumption as seafood but also because it has been used as a bioindicator in marine pollution studies. In order to provide a quality assurance tool for environmental studies undertaken in Brazil, a *Perna perna* candidate reference material for toxic and trace elements was prepared and is under characterization. In this study, an isochronous design was used for the long term stability assessment of the material after gamma ray sterilization. Vials of the material were chosen at random and were stored at room temperature (20°C) for periods varying from 2 to 12 months to be compared to a control vial kept at -20°C, a temperature considered safe to avoid degradation of the material matrix during the study period. Four aliquots from each vial were used for the determination of the mass fractions of Ag, As, Br, Co, Cr, Cs, Eu, Fe, La, Na, Rb, Sc, Se, Th and Zn by Instrumental Neutron Activation Analysis. The mean results for the vials stored at room temperature were compared to the corresponding results obtained for the control vial. No significant differences at the 95 % confidence level were observed for all the element mass fractions during the whole test period, taking into account the uncertainties of the measurements.