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# Assessment of Radiological Dose for Th-232 Laboratory Accumulated in Tropical Freshwater Fish

**Authors :** Zal U'yun Wan Mahmood, Norfaizal Mohamed, Nita Salina Abu Bakar, Yii Mei Wo, Abdul Kadir Ishak, Mohamad Noh Sawon, Mohd Tarmizi Ishak, Khairul Nizam Razali

**Abstract :** The study of thorium radiotracer bioaccumulation in the whole body tropical freshwater fish (Anabas testudeneus; climb pearch) was performed. The objective of this study was to evaluate the effect of different Th-232 activity concentration andradiological dose in Anabas testudeneus under the laboratory bioaccumulation condition. Anabas testudeneus adults were exposed to different waterborne Th-232 levels: 0 BqL-1 (control), 50 BqL-1, 100 BqL-1,150 BqL-1and 200 BqL-1for 30 days. Radionuclide concentration ratios between the whole body levels and water levels were calculated and; total dose rates and risk quotients using ERICA Assessment Tool were also estimated. The results showed the increase of waterborne Th-232 concentration corresponded to a progressive decrease of Th concentration ratio. Meanwhile, the total dose rate (internal and external) in the whole body of Anabas testudeneus less than the ERICA dose rate screening value of 10 µGyh-1 and the risk quotient less than one. Thus, the findings can be concluded that the radiological dose of Th-232 to Anabas testudeneus is a very low probability and the situation may be considered to be of negligible radiological concern.

**Keywords :** Anabas testudeneus, bioaccumulation, radiological dose, Th-232
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