



MEASUREMENT OF RADIOACTIVITY IN SEAFOOD IMPORTED FROM JAPAN FOLLOWING THE RELEASE OF ALPS-TREATED WATER

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Abstract:

Consequence of the Fukushima Daiichi nuclear power plant accident in Japan in 2011, the Advanced Liquid Processing System (ALPS)-treated water with tritium levels not exceeding 1,500 Bq/kg has released into the sea. Since first release on 24 August 2023 more than 40,000 m³ of treated water have been discharged. The Office of Atoms for Peace (OAP), in collaboration with the Department of Fisheries (DOF), the Food and Drug Administration (FDA), and the Thailand Institute of Nuclear Technology (Public Organization) (TINT), has analyzed radioactivity concentrations of tritium (H-3), strontium-90 (Sr-90), cesium-134 (Cs-134), and cesium-137 (Cs-137) of randomly collected of imported seafood and food products containing marine ingredients samples to monitor the radioactivity contamination. In this work, H-3, Sr-90, and Cs-134/137 levels were measured using Liquid Scintillation Counting (LSC), Cherenkov counting coupled with LSC, and gamma spectrometry, respectively. The results show that tritium concentration of 65 imported seafood samples ranged from below the Minimum Detectable Concentration (MDC) to 40.3 Bq/kg. Strontium-90 concentration of 47 imported seafood samples ranged from below the MDC to 0.3 Bq/kg. Additionally, cesium-134 and cesium-137 concentrations of 264 imported seafood and food products containing marine ingredients samples were below the MDC (0.16 to 2.32 Bq/kg and 0.21 to 2.33 Bq/kg, respectively). It concludes that concentration of interested radionuclides of all randomly collected of imported seafood and food products containing marine ingredients samples are complied with the general standards for contaminants and toxins in food and animal feed established by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) (CODEX STAN 193-1995).