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## Po-210 in marine flora and fauna from an area affected by NORM effluents and atmospheric emissions

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Polonium is a radioactive element present in many components of the marine and terrestrial environment.  $^{210}\text{Po}$ , the most abundant naturally occurring radioisotope of polonium, is one of the descendants of the uranium ( $^{238}\text{U}$ ) decay series. Rocks, soil, water, sediment, and biota, contain traces of  $^{210}\text{Po}$  in variable amounts.  $^{210}\text{Po}$  may be radiotoxic to humans and non-human biota if high levels of this radionuclide are detected in the food chain. Polonium may be bio-accumulated by marine organisms, depending on the biogeochemical characteristics of the environment but also due to the contribution derived from human activities. Certain industrial activities generate naturally occurring radioactive materials (NORM); industrial residues and by-products containing significant amounts of polonium and other natural radionuclides are considered NORM. For example, some effluents and atmospheric emissions associated with the production and processing of oil and gas, introduce variable, but sometimes, elevated levels of natural radionuclides to the near environment. Monitoring and evaluation of the activity concentration levels of polonium in ecosystems affected by the discharge of NORM residues are needed. In this contribution, a survey of the levels of  $^{210}\text{Po}$  measured in different species of flora and fauna around an oil and gas facility in the southern Gulf of Mexico is presented. Alpha-particle spectrometry with passivated implanted planar silicon (PIPS) detectors was used for radiochemical analysis of polonium. The obtained results show that  $^{210}\text{Po}$  is been bio-accumulated by flora (algae, seagrass, and mangrove) and fauna (molluscs, crustacean, and fish) from the studied region. An assessment of the  $^{210}\text{Po}$  levels in the different flora and fauna analysed samples is performed.

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