

Elemental analysis of *Ostreopsis ovata* microalgae by EDXRF technique

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Ostreopsis ovata is a toxic marine benthic dinoflagellate responsible for harmful blooms affecting ecosystem and human health. This microalgae was first observed in France (1972). Originating in tropical areas, they are believed to have reached temperate regions of the planet due to climate change. Now they are regularly also found in subtropical regions of the globe, including the Brazilian coast and in summertime along the Mediterranean coastlines of France, Italy and Spain. If climatic conditions are favorable, *Ostreopsis ovata* proliferates and releases a toxin that can harm marine biodiversity and infect swimmers and those who practice water sports. When present in large quantities during flowering, these toxins can be assimilated by the trophic chain, presenting risks of poisoning in marine and human organisms (via the respiratory or food route). Symptoms caused in humans can include fever, difficulty breathing and conjunctivitis, in the case of airborne exposure, even neurological disorders. Aiming to make the proliferation of harmful algae in Brazilian coastal and marine ecosystems understandable, this microalgae was investigated by XRF technique. Samples from Arraial do Cabo region (a coastal city in the Lakes Region of the state of Rio de Janeiro) were analyzed using a X-Ray spectrometer (X-123 SDD, Amptek) constituted by a SDD detector coupled a mini X-ray tube. The measurements were performed using Au, Ag and Rh targets. These data are the first estimates of the multielemental scope and provide knowledge about its toxicity.