

## RESIDUES OF SOLAR PRODUCTS ON LAS CANTERAS BEACH: INFLUENCE OF COVID-19

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**Abstract:** UV filters (UVFs) and UV stabilisers (UVSs) are emerging pollutants frequently used in personal care products (PCPs) (Wu et al., 2018), like cosmetics or sunscreens, to protect the skin from radiation (Picot-Groz et al., 2018). Since some of these compounds have been classified as toxic, bioaccumulative and persistent in the environment (Fivenson et al. 2021) and given the few existing preliminary studies (Montesdeoca-Esponda et al., 2021), it is imperative to examine them and provide extensive monitoring.

In this study, a fifteen-month monitorization was carried out to determine twelve UVFs and UVSs in different matrices of the coast of Bahía del Confital in Gran Canaria (Canary Islands, Spain) in order to observe their presence and distribution. Comparison among the found concentrations of the selected compounds during and after the confinement by COVID-19, shows how the use of PCPs could cause a direct increase of their presence in the environment.

Seawater, sediments and algae were sampled along the coast of “Bahía del Confital” at eight different locations. Extraction methods based on solid phase extraction (SPE) and microwave-assisted extraction (MAE) followed by ultra-high performance liquid chromatography with mass detection (UHPLC MS/MS) were used to quantify the analytes in the liquid and solid samples.

Target UVFs and UVSs were measured in water, sediments and algae, at concentrations in the ranges 3.50-56.1 ng/L, 0.64-368 ng/g and 0.06-601 ng/g, respectively. The compounds studied had different trends of accumulation in liquid and solid samples due to their octanol/water partition coefficient ( $K_{ow}$ ). Most of the samples with highest concentrations corresponded to the areas where there was more touristic activity and bathers. The obtained results showed an increase in the presence of these compounds when the population was allowed back in the beach after lockdown.

**Key words:** UV filters and stabilizers, seawater, sediment, algae, Las Canteras, COVID-19

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