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# Microfibers in the Marine Environment: Delta del Ebro as a case of study.

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## Abstract

Nowadays, microfibers (MF) have become the most abundant type of anthropogenic particulate matter in microplastic pollution studies, also threatening marine ecosystems worldwide. We present the MF concentration in surface water from 7 sampling points around a saltwork in Els Alfacs bay, Ebro Delta (Catalunya, NE Spain, Western Mediterranean Coast). We also present a characterization of the predominant colors found in the samples. The laboratory protocol minimizes environmental pollution during samples manipulation. Such pollution has been quantified between 1.4 and 7.7 MF/sample. In addition, the content of MF per seawater sample oscillates from 6.9 to 154.7 MF/L, with a mean of 47.3 MF/L. Higher concentrations are detected in the sampling points near to the pump that extracts seawater into the saltworks. Such values are higher than previous studies, in part due to the geographical position: bay area, partially isolated from open seawater and highly exposed to anthropic pollution from the closest coastal villages.

MF were visually counted and classified into 12 different colors, Grey, Green, Blue, Violet, Magenta, Pink, Red, Orange, Yellow, Black and White/Transparent, and also by their intensity as Light, Medium and Dark. The most predominant colors found in the samples were Black and White/Transparent, with over 23.3%-71.4% and 5%-41.7% respectively. Followed by other relevant colors as Blue, Green and Red. This study shows the alarming presence and abundance of MF in the coastline of the Occidental Mediterranean. Such MF are pumped to the saltworks where seawater is evaporated until NaCl precipitate, thus enclosing MF in these commercial Table Salts.

**Keywords:** Colors of Microfibers, Bay Seawater, NE Spain

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