Microfibers in marine and non-marine Table Salts

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Abstract

Prevalence of microplastics (MP) in Table Salts has been widely reported by previous authors. This study presents MP contents in Table Salts from different geological origin (conventional marine saltworks and non-marine ones feed by a salty source) from NE Spain. The *Fleur du Sel* (FS) variety has also been considered in both cases. Sampling and samples treatment has been performed following an accurate protocol to reduce any potential MP contamination, which has been quantified as only 0.7-1 MP/sample. All studied salts display large amount of MP, mainly characterised as microfibers (MF) larger than 0.45μm (shorter MF have not been collected). The number of MF in 100 g of salt were manually counted, and discriminated by their colouring. Global concentration varies between 1268 and 5269 MF/kg of salt. Even the non-marine salt sample in which packaging indicates "*Plastic Free*" presents 1939 MF/kg. The non-marine salts (produced after evaporation of a high mountain salty source water) have concentrations between 1939 and 5269 MF/kg, while those formed from evaporations of seawater displays a range of concentrations of 1268-4611 MF/kg. The FS offers the highest values in both cases: 4611 MF/kg (marine) and 5269 MF/kg (non-marine). The most common colours in all cases are white-transparent and black. Other relevant colours are red, green, and blue. The results suggest that the presence of MF in marine salts is less than in non-marine salts, fact that is unexpected, considering the origin of non-marine salts from high mountain salty springs. The greater content in FS, which is salt crystallised at the brine-air surface, is explained by the buoyancy of the MF contained in the brine and greater impact of aerial MP pollution.

Keywords: Table Salts, Geological Origin, Food, Microfibers, Evaporitic sediments, NE Spain.

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