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J.F. Cadiou, O. Gerigny, Š. Koren, C. Zeri, H. Kaberi, **C. Alomar**, C. Panti, M.C. Fossi, A. Adamopoulou, N. Digka, **S.**

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[Lessons learned from an intercalibration exercise on the quantification and characterisation of microplastic particles in sediment and water samples.](#)

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Abstract: An intercalibration exercise on the characterisation of microplastics in marine sediment and water samples was carried out among five laboratories involved in the implementation of the Marine Strategy Framework Directive (MSFD) in their country. The samples were prepared by mixing cleaned natural sediment and sea water with microplastics sets made of particles of various polymers, shapes and colours. Overall, the errors on total counts were under 25% in absolute value. The risk of non-detection and loss of particles is greater than the risk of contamination during sample analysis. Significant differences are observed among particle types. It appears difficult to obtain reliable and comparable data on the colour of microplastics. A comparison of the errors with regards to the protocols used led to recommend NaCl [1.2 g/cm³] density separation for sediment and one filtering step (200 µm). The operators' experience appears as a key factor for the quality of the results.

Keywords: Microplastics, Intercalibration, Protocols, Sediment, Seawater