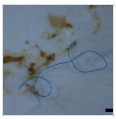

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Seawater sample preparation for microplastic determination

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1 Works for me dx.doi.org/10.17504/protocols.io.bcfyitpw

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ABSTRACT

The following protocol is fit for seawater sample preparation prior to its observation under a stereomicroscope for the determination or microplastic particles.

GUIDELINES

The airborne contamination is proved to be reduced as the preventive methodology is improved, as it is recommended on the study of Norén and Naustvol (2010).

Potential microplastics can be identified following Lusher et al. (2014) guidelines, based on features such as colour and form, and on thickness and three dimensional bending in the case of fibres.

MATERIALS

NAME	CATALOG #	VENDOR
MilliQ water		
Glass microfibre filter (0.7 µm; GF/F ø=47 mm)		

STEPS MATERIALS

NAME	CATALOG #	VENDOR
MilliQ water		

MATERIALS TEXT

Glass beakers, petri dishes, vacuum filtration device.

BEFORE STARTING

Take into consideration the following common measures to prevent contamination of the samples during lab processing:

(i) Wear cotton clothes while manipulating the samples,
(ii) clean all containers using distilled water prior to its reuse,
(iii) perform blank controls filtering MilliQ water,
(iv) place a clean petri dish with a filter paper close to the manipulation area to register possible airborne contamination.

1 Clean the glass beaker where your seawater sample is transfered: rinse it thoroughly three times with 2m

MilliQ water

Note down the volume.

2 Prepare the **vacuum filtration** system with a glass microfibre filter (**0.7 µm**; GF/F ø=47 mm) and filter the full volume. 15m

3 **Rinse** the vacuum filtration system three times while it continues filtrating to the microfibre filter, **so no particles are left behind.** 5m

4 Place the filter on a petri dish and let it **dry overnight** in the oven at **60 °C** . 1d

5 Observe the filter under a **microscope**. 10m
Take pictures and measures of the identified particles following Lusher et al (2014) guidelines.