

COLLECTION STANDARD OPERATING PROCEDURE STABLE ISOTOPES

I. Sample collection

- A. Particulate Organic Matter (POM, < 20 μm size fraction)**
- Collect 4-6 L of seawater from the Niskin bottle at the chosen depth in an acid-cleaned tank
 - Store in the shade at room temperature until processing (within 4 h at the latest)
- B. Phytoplankton and Microzooplankton (20-200 μm size fraction)**
- Perform an horizontal net tow (20 μm mesh size)
 - Collect the sample in a clean plastic container
 - Keep on ice or at 4 °C until processing (within 4 h at the latest)
- C. Mesozooplankton (>200 μm size fraction)**
- Perform an horizontal or vertical - depending on the depth of the site - net tow (200 μm mesh size)
 - Record the fluxmeter value
 - Transfer the sample in a clean plastic container
 - Keep on ice or at 4 °C

II. Sample lab processing

Always wear gloves

Rinse spatulas and every tool with ethanol before use

Rinse the sieves with Ultra-pure Water before and after each use

- A. Particulate Organic Matter (POM, < 20 μm size fraction)**
- Pre-combust 25 mm GF/F Whatman filters at 450 °C for 4-5 h
 - Pre-filter the sample through 20 μm nylon mesh
 - Split the sample into 3 equal subsamples
 - Filter each replicate through the pre-combusted GF/F filters. Filters should be “colored” enough
 - Put the filters in 6-wells culture plate appropriately marked
 - Add a “blank” filter (only pre-combusted)
 - Store at -20°C
- B. Phytoplankton and Microzooplankton (20-200 μm size fraction)**
- Pre-filter the sample through 200 μm nylon mesh
 - Concentrate the sample onto a 20 μm sieve

- Transfer the concentrated sample into a Falcon tube
- Store the sample at -20°C.

C. Mesozooplankton (>200 µm size fraction)

- Pre-filter the sample through a 200 µm sieve
- Concentrate the sample using a spatula
- Place the concentrated sample in a Falcon tube
- Store the sample at -20°C.

III. List of material, equipment and supplies

- Sieve 20 µm
- Sieve 200 µm
- Plastic containers (vol 500ml)
- Pre-combusted Whatman GF/F filters 25 mm diameter
- Filtration rigs
- Forceps for filters
- Spatula
- 10L tank (acid cleaned)
- Ultra-pure water
- Falcon tubes (50ml)
- 6-well culture plate