

Microplastics Filtration and Analysis: Start-Up Guide for Filtration Apparatus and SiMPore Filter Disks

Introduction

Many laboratories are newly interested in capturing and analyzing microplastics from a variety of samples, and need to acquire and set up the necessary apparatus to do so. This guide outlines the essentials for setting up and using SiMPore Filter Disks with the required filtration equipment.

Using SiMPore Filter Disks

Figure 1 below shows an assortment of basic filtration labware with numbered components.

Table 1 below provides examples of vendors supplying these components.

Note: Not shown is related tubing and a vacuum pump; however, an example vacuum pump is listed in Table 1.

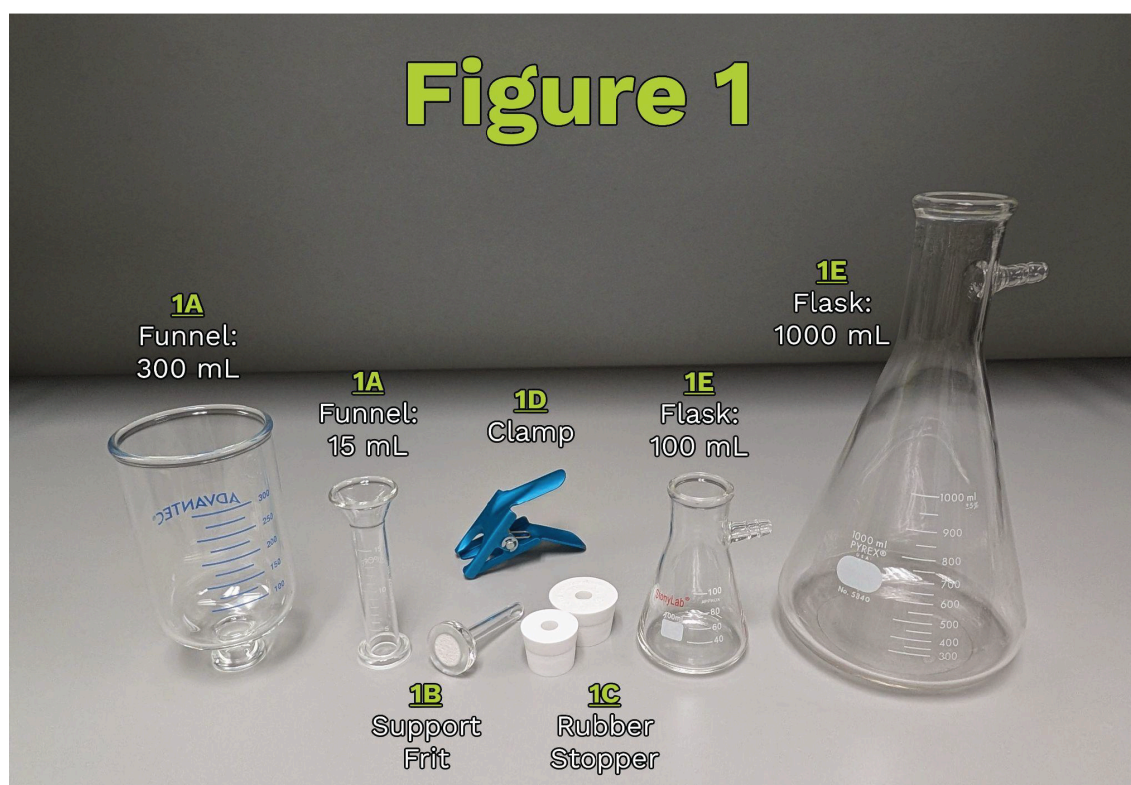


Table 1

Component No.	Item Description	Example/Recommendation
1	Filtration Kits	<i>Kits typically include components #1A-1E Asterisks (*) denote items that also include the filtrate funnel</i>
1A	Sample Funnel	Examples: Sterlitech Cat. No. 311290 Sterlitech Cat. No. 311200 Cole-Parmer Cat. No. UX-06645-25 Southern Labware Cat. No. FHMA25-G CP Lab Safety Cat. No. FX-34R-3001-FLS*
1B	Support Frit	
1C	Stopper	
1D	Clamp	
1E	Filtrate Flask	Glass Erlenmeyer flask: Side-arm barb to mate with vacuum pump line May be included in above kits; sold individually by multiple vendors
2	Tubing	Vacuum-rated tubing: Inner and outer diameter need to match barb fittings on pump and flasks
3	Vacuum Pump	Rated to deliver ~101 kPa (~15 PSI) negative pressure under load Max flow rate < 25 L/min Rocker, Lafil, and Tanker brand pumps sold by Cole-Plamer, MSE Supplies, Sterlitech, Welch, and others

Filtration Apparatus

Figures 2a–2b: below and to the right show how to assemble SiMPore Filter Disks into a filtration set-up, with a QR code linking to additional documentation for use and troubleshooting.

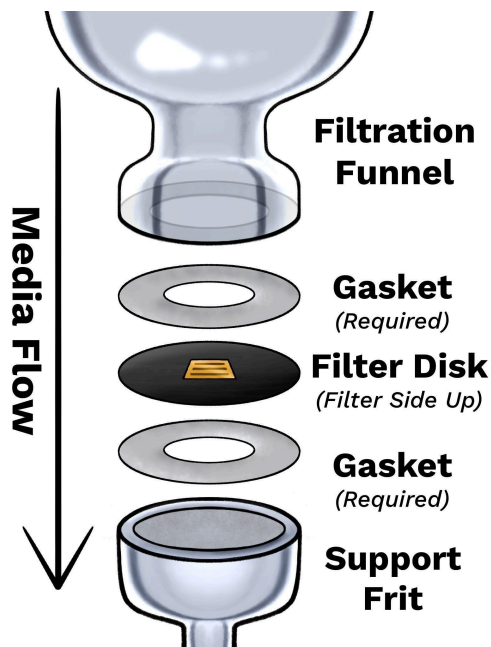
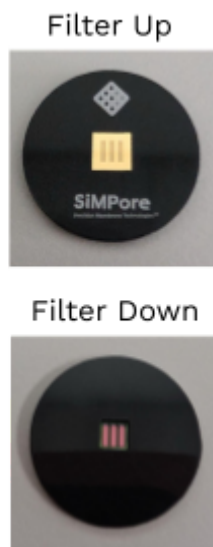
Figure 2a

Filter Disk IFU

Information for Use can be found here:
<https://simpore.com/filters-for-microplastics-capture-and-analysis/>



Figure 2b



For additional guidance on how to establish filtration operations in your laboratory, please contact us and we would be glad to assist you.