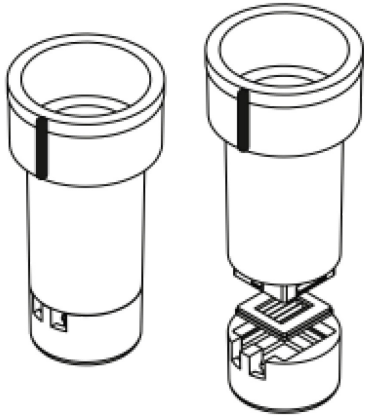


# **SepCon™ Spin Vial**

## **for Microparticle Separation & Concentration**



### **Cut-Off Sizes**

0.5, 1.0  $\mu\text{m}$

### **Capacity**

20 - 500  $\mu\text{L}$

**SepCon™ Spin Vials are for research use only**  
and not for use in diagnostic nor clinical applications.

**SC400 Series SepCon™ Spin Vial Product Manual**

**Customer Service**

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## OPERATION

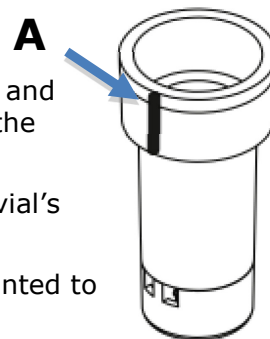
### Required Equipment

- ◆ Centrifuge with swinging bucket or fixed rotor that accepts standard 1.5 or 2.0 mL microcentrifuge tubes.
- ◆ Pipette with 200 or 1000  $\mu\text{L}$  tips

### Instructions

#### *Particle Separation*

1. Remove SepCon™ vial from supplied microcentrifuge tube and pipette sample solution (20-500  $\mu\text{L}$ ) into upper portion of the vial.
2. Place SepCon™ vial in microcentrifuge tube and align the vial's ridge with cap (**A**).
3. Place microcentrifuge tube in rotor with the vial's ridge pointed to the center of the rotor.
4. Operate centrifuge at up to 600 x g for 20 minutes or until the sample has cleared the upper portion of the vial.



#### *Particle Recovery*

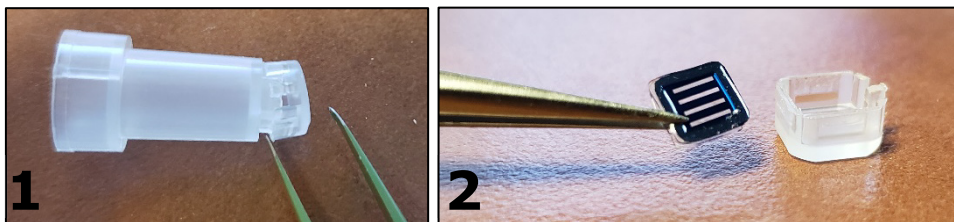
1. Pipette a sufficient volume of the desired elution buffer into the upper portion of the vial; for example, 100-200  $\mu\text{L}$ .
  - Note:** Optionally wash the membrane bound material with a suitable buffer by repeating the separation protocol above.
2. To recover material from the membrane surface, pipet the elution buffer carefully and successively across the membrane.
3. Aspirate all the elution buffer via pipette and transfer to a new microcentrifuge tube.

#### *Filter Recovery (Optional)*

1. Holding the SepCon™ vial and using tweezers or similar implement, apply pressure on the lower cap part to force it to separate from the upper vial part.
2. Once the cap and vial are separated, carefully recover the filter from the inside of the cap with flat-sided tweezers.

- Transfer the filter to a microscope slide or other substrate for further analysis.

**Note:** If imaging with short working distance lenses, then remove the square silicone gasket from the filter.



### Caution

- ◆ Proteins and high concentrations of unconjugated polymers may cause clogging of SepCon™ spin vials. SepCon™ spin vials are designed for separations of microparticle, cells, and other suspensions ONLY.
- ◆ Do not allow membrane to fully dry once wet.
- ◆ Do not vigorously pipette against the surface of the membrane.
- ◆ Larger particles may sediment and clog the membranes at high G-forces. Re-suspend particles and use a lower speed for longer time if sedimentation occurs.

### Tips

- ◆ If flow rate slows...
  - Pipette remaining sample solution up and down gently on top of the membrane to disrupt 'cake' formation. If flow rates do not improve, reduce starting solution concentration.
  - Alternatively, add a volume of fresh buffer, gently re suspend any material on the membrane, and then continue with centrifugation.
- ◆ Filtered sample solution below the membrane (15 µL) can be recovered by rotating the SepCon™ vial in the rotor so the ridge points away from the center and spinning for <1 minute at 200 x g.

### Operating Parameters

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**Initial Sample Volume:** 20 – 500 µL

**Maximum Centrifugal Force:** 600 x g

**Recommended Starting Concentration:** <0.5% solids

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## SPECIFICATIONS

### Sterilization

SepCon™ Spin Vials are fabricated and packaged under clean conditions, but are not guaranteed sterile. SepCon™ spin vials can be sterilized by steam autoclaving, ethylene oxide, hydrogen peroxide, isopropanol or ethanol solutions. **Do not sterilize with sodium hydroxide (NaOH).**

### Chemical Stability

SiMPore membranes are made of silicon nitride (SiN), which is significantly **more stable** than conventional polymeric membranes in most acids, alcohols and solvents. Avoid prolonged exposure to significantly basic solutions (>10.0 pH) as membrane damage may occur. While SiN is stable against most solvents, the polyethylene vial and polypropylene microcentrifuge tube may not be suitable for prolonged exposure. Reference a compatibility database prior to use.

### Device Storage

SepCon™ spin vials should be stored at room temperature in a clean and dry location and used within 1 year from ship date.

### Physical Properties

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|                                  |                                 |
|----------------------------------|---------------------------------|
| <b>Membrane Composition:</b>     | Silicon Nitride (SiN)           |
| <b>Thickness:</b>                | 400 nanometers                  |
| <b>Pore Size Cut-Off:</b>        | 500, 1000 nanometers            |
| <b>Porosity:</b>                 | 10% (500 nm), 16% (1000 nm)     |
| <b>Surface Charge:</b>           | Neutral to slightly negative    |
| <b>Tube &amp; Vial Material:</b> | High-density Polypropylene      |
| <b>Gasket Material:</b>          | Platinum-cured Silicone, USP VI |

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## STANDARD WARRANTY

**SiMPore Inc.** ("SiMPore") warrants its products will meet their applicable published specifications when used in accordance with their applicable instructions for a period of one year from shipment of the products. **SIMPORE MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED. THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** The warranty provided herein and the data, specifications, and descriptions of SiMPore products appearing in SiMPore's published catalogues and product literature may not be altered except by express written agreement signed by an officer of SiMPore. Representations, oral or written, which are inconsistent with this warranty or such publications are not authorized and if given, should not be relied upon.

In the event of a breach of the foregoing warranty, SiMPore's sole obligation shall be to repair or replace, at its option, the applicable product or part thereof, provided the customer notifies SiMPore promptly of any such breach. If after exercising reasonable efforts, SiMPore is unable to repair or replace the product or part, then SiMPore shall refund to the customer all monies paid for such applicable product or part. **SIMPORE SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, OR ANY OTHER INDIRECT DAMAGES RESULTING FROM ECONOMIC LOSS OR PROPERTY DAMAGE SUSTAINED BY ANY CUSTOMER FROM THE USE OF ITS PRODUCTS.**

## PATENT & TRADEMARKS

**SepCon is a registered trademark of SiMPore Inc.**

**This product is Patent-pending: U.S. Applications No. 62/719,013 and No. 62/754,946.**