



# Erlenmeyer Shaker Flasks

## Instructions for Use

Greiner Bio-One Erlenmeyer shaker flasks are ideal for suspension culture of mammalian cells, plants, microbes and microorganisms. The shaker flasks feature a patented 2-in-1 DuoCAP® which allows for flexibility between vented and non-vented applications.

Each flask is manufactured utilizing an optically clear, inert polycarbonate resin which can be disposed of after single use or be made reusable when autoclaved.



## Guidelines for Use

The following recommendations should be optimized for your cell type and media conditions.

Flask Size	125mL	250mL	500mL	1L	2L	3L
Fill Volume	31-50mL	62-100mL	125-200mL	250-400mL	500-800mL	750-1200mL
Starting Seeding Density	1x10 <sup>5</sup> cells/mL					
Rotational Speed	50-200 rpm					

## Steam Sterilization Instructions

Greiner Bio-One Erlenmeyer flasks are manufactured with polycarbonate that is designed to withstand at least 10 steam sterilization cycles. Please adhere to the following instructions to successfully use these flasks as an alternative to glass.

**For Filled Flasks:** Loosen the cap so it is barely engaged and sterilize according to the lab protocol. Allow the flasks and content to cool to 55°C or lower before securing the cap. Tightening caps on hot flasks will lead to distortion of the flask as the contents cool down. The recommended sterilization temperature is 121°C at 15 psig, up to 60 minutes.

**For Empty Flasks:** The caps should be removed from the flasks and sterilized in autoclave bags. As with glassware, cover the necks and tops of the flasks with aluminum foil. The foil should be crimped tightly enough so it does not fall off during autoclaving. A small piece of autoclave indicator tape should be used to secure the foil to the flask, and to indicate that the flask has been exposed to steam.

**Caution:** The flasks may “implode” due to rapid exhaust setting (sudden change in temperature and pressure). For best results, use a slow exhaust cycle on the sterilizer.

**DO NOT OVER STERILIZE. POLYCARBONATE SHOULD NOT BE STERILIZED AT TEMPERATURES HIGHER THAN 129°C.**

### What is a DuoCAP™?

The leak-proof patented DuoCAP™ features a 0.2µm membrane for sterile air exchange. The dust cover can be screwed on top of the filter for applications requiring a tight seal. The versatility of the DuoCAP™ enables both aerobic and anaerobic cultures to be performed in the same flask without changing the cap.

### How much air can flow through the membrane in the caps?

The Air Flow Rate for the PTFE vent membrane is 3 L/min/cm<sup>2</sup>.

### When should I use the baffled-bottom Erlenmeyer flasks?

The baffles on the bottom surface of the flask increase agitation and aeration of the culture. Baffles are recommended for microbiology applications as they can improve cell growth.

### What are the DuoCAP™ and Erlenmeyer flask made of?

The cap is made of polypropylene with a 0.2µm vent membrane made of polytetrafluoroethylene (PTFE). The flasks are manufactured from optically clear polycarbonate which provides uninhibited visualization of sample or media.

### How many times can both the flasks and caps be autoclaved?

The DuoCAP™ and flasks are designed to withstand repeated steam sterilization cycles. The flasks and caps have been autoclaved through at least 10 cycles with a fill volume of 25-40% of the nominal flask volume with no damage.

### What is the temperature range of the Erlenmeyer flasks?

The polycarbonate flasks are stable from -40°C to 130°C. The caps are stable from 0°C to 130°C.


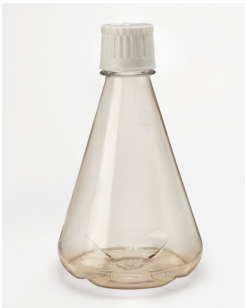
### What shaker tables can be used with the Erlenmeyer flasks?

The flasks are compatible with standard shaking incubator tables and clamps.

### What detergent do you recommend using to clean the Erlenmeyer flasks?

A non-ionic detergent is ideal for cleaning the flasks.

## Sterile Erlenmeyer Cell Culture Shaker Flasks

Design	Cat. No.	Product Description	Pack Qty	Case Qty	
Flat Bottom	679501	125mL		1	24
	679502	250mL		1	12
	679503	500mL		1	12
	679504	1000mL		1	6
	679505	2000mL		1	6
	679506	3000mL, Fernbach Style		1	3
Baffled Bottom	679511	125mL		1	24
	679512	250mL		1	12
	679513	500mL		1	12
	679514	1000mL		1	6
	679515	2000mL		1	6
	679516	3000mL, Fernbach Style		1	3



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