

## Stericup® E and Steritop® E Sterile Filters

Stericup® E and Steritop® E sterile filters were developed using our Design for Sustainability framework to reduce the amount of plastic waste associated with sterile filtration, by eliminating the plastic filter funnel and threading directly onto any commercial media bottle or glass bottle.

Across all product versions since their launch in 2019, we have prevented 1.9 metric tons of plastic and corrugated cardboard from entering our customers' laboratories.



### Facts you need to know

- Save up to **860 g** of plastic, up to **73%** storage volume, and up to **14.4 kg** CO<sub>2</sub> emission reduction per box by switching to Steritop® E Filters
- Save **840 g** of plastic, **39%** storage volume, and **13.2 kg** CO<sub>2</sub> emission reduction per box by switching to 1000 mL Stericup® E Filters
- Save **560 g** of plastic, **26%** storage volume, and **7.8 kg** CO<sub>2</sub> emission reduction per box by switching to 500 mL Stericup® E Filters

Process Volume	Stericup® E Product Code	Standard Product	Product Plastic Reduction (g) per Box	Total Plastic Packaging Reduction (g) per Box	Storage Volume Saved (%) per Box	Potential Annual GWP Emission Reduction (kg CO <sub>2</sub> eq) per Box
<b>Stericup® E Sterile Filter - Eliminates disposable filter funnel</b>						
500 mL	SEGPU0538 or SEGPU0545	S2GPU05RE	<b>500</b>	<b>60</b>	<b>26</b>	<b>7.8</b>
1000 mL	SEGPU1138 or SEGPU1145	S2GPU11RE	<b>750</b>	<b>90</b>	<b>39</b>	<b>13.2</b>
<b>Steritop® E Sterile Filter - Eliminates disposable filter funnel &amp; receiver bottle</b>						
From 150 to 1000 mL	SEGPT0038 or SEGPT0045	S2GPT05RE	<b>500</b>	<b>60</b>	<b>56</b>	<b>8.4</b>
		S2GPT10RE	<b>770</b>	<b>90</b>	<b>73</b>	<b>14.4</b>

## Too much plastic in laboratories

Stericup® and Steritop® sterile filtration devices are trusted in tissue culture labs worldwide for their legendary performance in achieving consistent, reliable sterilization of media and buffers. But when we asked our customers what they wanted to change in sterile filtration, they answered: “Find a way to reduce plastic!”

Cell culture plastic waste is one of the most significant environmental impacts in research because of the need for single use, sterile products. Industry data shows that approximately seven million disposable plastic filter devices are used each year globally for sterile filtration. This doesn't include flasks, pipettes, and other disposable plastic used during the sterile filtration process. This plastic could go to biohazardous waste, and is difficult to recycle.



## Raw material in product manufacture

The new Stericup® E filter was designed so that the user can directly connect a commercial media or other bottle containing the liquid to be filtered to the Stericup® E filtration unit, eliminating the need for a plastic filler funnel. Two diameters of threaded couplings were developed to meet the two most common commercial bottle formats.

Thanks to this innovative design, the amount of plastic used per unit was reduced by 23% and 48% (depending on the product volume).

## Packaging and paper reduction

The packaging of the new Stericup® E and Steritop® E filters was developed in alignment with our SMASH Packaging plan. Thanks to the new product design, not only was the amount of plastic and corrugated packaging reduced (from 11% to 69%, depending on the product version), but the sustainability characteristics of these packaging items were improved as well:

- The boxes and inserts have Sustainable Forestry Certification, so that our wood-based packaging does not contribute to deforestation.
- The plastic pouches are now made of polyethylene, which contributes to our goals of increasing sustainability and recyclability of plastic packaging.
- We save even more materials by providing electronic versions of the product user guide and certificate of quality, instead of printing these documents on paper and shipping them in the product box.

## Product performance

Our goal was to reduce plastic waste in sterile filtration without compromising the performance that labs worldwide have come to expect from Stericup® and Steritop® filter devices.

The design of the Stericup® E and Steritop® E devices provides the same reliable sterile filtration as our

## Distribution and storage

Because the Stericup® E and Steritop® E devices are lighter than traditional filters, they require less fuel for shipping, resulting in reduced greenhouse gas emissions.

The compact product design enabled us to reduce the volume of the product boxes by 26% and 73% (depending on the product volume). This means more products per transportation vehicle, and less storage space required by the user.

## End of life

Due to their application, sterile filters generally go to biohazard waste and are incinerated. The new design of the Stericup® E and Steritop® E filters allows you to significantly reduce the amount of biohazardous waste and the associated cost of treatment and disposal.

See the next page for instructions on how to dispose of product and packaging parts responsibly.

Learn more about our commitment to responsible life science tools at [SigmaAldrich.com/greener](https://SigmaAldrich.com/greener)



## How can I dispose of this device responsibly?

When considering responsible disposal of laboratory plastics, here are some important issues to consider:

- What material(s) is the product made of?
- Which parts of the device become biohazardous during use?
- What waste streams are available for the components?

Separating any non-hazardous from biohazardous product components is already a major step towards disposing of the used product responsibly. Where separation is possible, consider transitioning from standard disposal to a preferred waste stream in the "Waste Hierarchy" that may include recovery or even recycling.

The Stericup® E bottle is made from polystyrene (PS) plastic.

## Responsible disposal of Stericup® E and Steritop® E packaging

Stericup® E and Steritop® E filters arrive individually wrapped in plastic pouches made from polyethylene (PE) to maintain sterility. Please inquire whether a plastic film recycling stream is available or could be implemented at your site.

The shipping box and box insert are made of corrugated cardboard. Please flatten them and place in a recycling bin designated for paper and corrugated materials.

## Partnering for sustainability

Our commitment to product sustainability is a never-ending journey. We welcome your partnership and feedback as we continue to improve our Stericup® and Steritop® sterile filters, as well as other products.

The information and statements in this document should not be used for comparison with environmental and health impacts or improvements of other sterile filters.

**We strongly recommend** that you discuss your waste separation practices with your facility's Environmental, Health and Safety (EHS) officer to ensure compliance with the waste regulations that apply where your lab or plant is located.



## Usage Guidelines

Choose a collar thread (38 mm or 45 mm) that is compatible with your glass or plastic media/ buffer bottle.

- The 38 mm thread is recommended for our media bottles and majority of other standard commercial media bottles.
- The 45 mm thread is recommended for wider neck media bottles (such as Gibco® or glass bottles).
- Use only glass or plastic bottles designed for vacuum applications. For the Steritop® E filter funnel, use a 45 mm threaded glass or plastic receiver bottle no larger than 2 liters.

## Greener Alternative Products

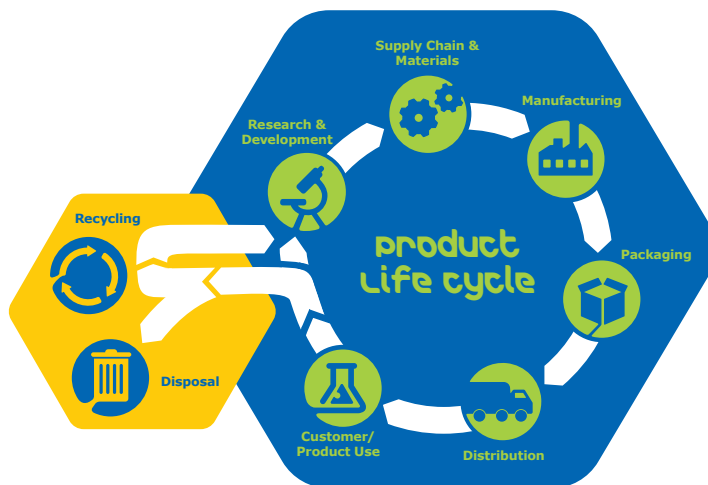
We believe that Green Chemistry will contribute to a better tomorrow. With a growing portfolio of greener alternatives, there are now more choices to reduce the ecological impact of your research while still delivering quality and efficacy, so your results are not compromised. Greener Alternative Products help reduce the environmental impact of our customers' work without compromising their results. Greener Alternatives are identified with a small green icon and fall into four categories.

### Design for Sustainability

One of the four categories of Greener Alternative Products is "DfS-Developed Products". The products in this category like Stericup® E and Steritop® E are newly developed products that demonstrate significant sustainability improvement, and are reflected on our DfS scorecard.

Design for Sustainability is a holistic approach to reducing the environmental impact across the entire product life cycle. The result: minimizing environmental and health impacts, and improving performance and ease of use.

Our Stericup® E and Steritop® E sterile filtration devices demonstrate significant sustainability characteristics from our Design for Sustainability scorecard. Therefore, they are classified as Greener Alternative Products under the category "DfS-Developed Products". Our Stericup® E and Steritop® E sterile filtration devices also adhere to the principles of SMASH Packaging, our plan that drives improvement in sustainability through less packaging, more sustainable materials and easier recycling.



Learn more and order Stericup® E and Steritop® E sterile filters at [SigmaAldrich.com/stericup-e](https://SigmaAldrich.com/stericup-e)

Explore our complete range of Greener Alternative Products at: [SigmaAldrich.com/greener](https://SigmaAldrich.com/greener)

### Stericup® E and Steritop® E Eco-Friendly Filter Units

Description	Membrane/Application	Pore Size (µm)	Receiver Bottle (mL)	Thread Size (mm)	Qty/Pk	Cat. No.
Stericup® E-GP Sterile Vacuum Filtration System	Millipore Express® PLUS (PES)/fast filtration of tissue culture media and buffers	0.22	500	38	12	SEGPU0538
			500	45	12	SEGPU0545
			1000	38	12	SEGPU1138
			1000	45	12	SEGPU1145
Steritop® E-GP Sterile Vacuum Filtration System	Millipore Express® PLUS (PES)/fast filtration of tissue culture media and buffers	0.22	Not included	38	12	SEGPT0038
				45	12	SEGPT0045

### To place an order or receive technical assistance

In Europe, please call Customer Service:

France: 0825 045 645

Germany: 069 86798021

Italy: 848 845 645

Spain: 901 516 645 Option 1

Switzerland: 0848 645 645

United Kingdom: 0870 900 4645

For other countries across Europe and the world, please visit: [SigmaAldrich.com/offices](https://SigmaAldrich.com/offices)

For Technical Service, please visit: [SigmaAldrich.com/techservice](https://SigmaAldrich.com/techservice)

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