

Stericup® E and Steritop® E sterile filters

Stericup® E and Steritop® E sterile filters were developed using Design for Sustainability principles to reduce the amount of plastic waste associated with sterile filtration.

Stericup® E and Steritop® E sterile filtration devices

Our engineers found a way to provide the steadfast performance you've come to expect from Millipore® membrane filtration devices, with a significant reduction in disposable plastic materials.

The new 'E' (eco-friendly) additions to the Stericup® family eliminate the plastic filter funnel entirely by threading directly onto the media bottle.

	Process Volume	Plastic Reduction	Packaging Reduction	Comparable Product
Stericup® E sterile filter Eliminates disposable filter funnel	1000 mL	26%	20%	Stericup®-GP Sterile Vacuum Filtration System (1000 mL)
	500 mL	23%	11%	Stericup®-GP Sterile Vacuum Filtration System (500 mL)
Steritop® E sterile filter Eliminates disposable filter funnel & receiver bottle	From 150 to 1000 mL	37%	58%	Steritop® Threaded Bottle Top Filter (500 mL)
		48%	69%	Steritop® Threaded Bottle Top Filter (1000 mL)



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!"

It's a fact that 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 about 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 all goes to biohazardous waste, and most of it cannot be recycled.

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% to 48% (depending on the product version).

Packaging and Paper Reduction

The packaging of the new Stericup® E and Steritop® E filters was developed in alignment with our SMASH Packaging initiative. 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, which contributes to our Zero Deforestation goal.
- 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® premium filter devices.

The design of the Stericup® E and Steritop® E devices provides the same reliable sterile filtration as our standard Stericup® filters. This means Stericup® E devices can be incorporated into standard sterile filtration workflows.

Distribution and Storage

Because the Stericup® E and Steritop® E devices are more lightweight 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% to 73%, depending on the product version. This means more products per pallet and per transportation vehicle, and less storage space required for 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/green](https://www.sigmaaldrich.com/green)



How can I dispose of the device's plastic parts 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 the 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). 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 them in a recycling bin designated for paper and corrugated materials.

Opportunities for a sustainable future

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.

As we continuously seek opportunities for improving sustainability of our products, we have partnered with [My Green Lab](#), a California non-profit organization that drives sustainability improvement in laboratories.

[My Green Lab](#) developed the ACT Label, the premier comprehensive eco-nutrition label for laboratory products. These labels were designed to help scientists make more sustainable choices for the products they use in their laboratories, from consumables to equipment and chemicals. Please visit the ACT Label database at act.mygreenlab.org to check the score of our Stericup® E products.

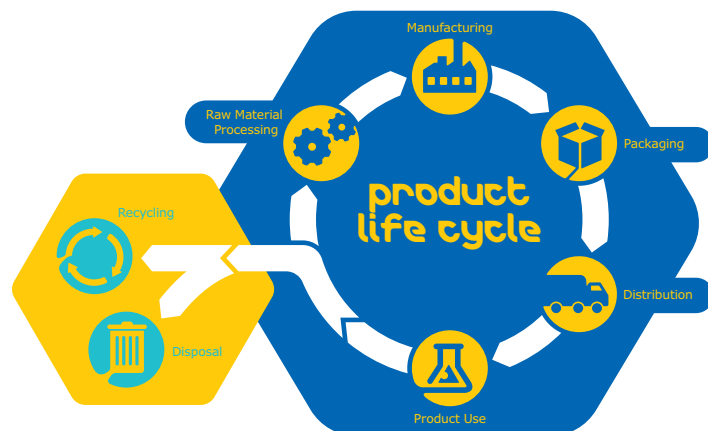
We strongly recommend that you discuss your waste separation practices with your facility's Environmental, Health and Safety (EHS) officer to ensure compliance with the waste regulations that apply where your lab or plant is located.



Design for Sustainability

Design for Sustainability is an approach to product development with the intent to minimize the environmental and health impacts at each stage of the product life cycle, from manufacturing through use and disposal. Our parallel goal is to maximize the product features that improve its performance and ease of use.







We incorporate sustainability considerations early in the design process and use a set of criteria for determining major impact areas (like energy and waste) to measure improvements. These approaches help reduce energy and water consumption, create more productive processes that minimize waste, streamline packaging and reduce associated costs. These benefits are realized both during the manufacturing process, and during product usage.



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. Our Stericup® E and Steritop® sterile filtration devices demonstrate significant sustainability characteristics from our Design for Sustainability scorecard. Therefore, they are classified as greener alternative products under the category "Design for Sustainability (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.

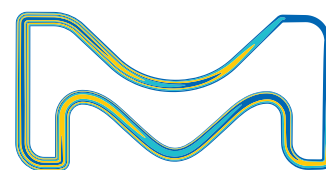
Ordering Information

Product No.	Product Description
SEGPU0538	Stericup® E GP 500 mL, .22 µm, 38 mm thread 
SEGPU0545	Stericup® E GP 500 mL, .22 µm, 45 mm thread 
SEGPU1138	Stericup® E GP 1000 mL, .22 µm, 38 mm thread 
SEGPU1145	Stericup® E GP 1000 mL, .22 µm, 45 mm thread 
SEGPT0038	Steritop® E All Volumes, .22 µm, 38 mm thread 
SEGPT0045	Steritop® E All Volumes, .22 µm, 45 mm thread 

Learn more and order Stericup® E and Steritop® E sterile filters at SigmaAldrich.com/stericup-e

Explore our complete range of Greener Alternative Products at: SigmaAldrich.com/greener

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