Responsible Manufacturing

Simplifying Progress

SARTORIUS

Responsible Manufacturing

At Sartorius, we understand our responsibility as a single-use plastic consumable manufacturer. This is why we pay particular attention to the environmental impact of our operations and products, throughout their life cycle: from product design, packaging, production technology and all the way through product end of life treatment.

Responsible Manufacturing

At our manufacturing sites, we have invested in production technologies that generate less waste. Our pipette tip production facility in Kajaani, Finland uses 100% renewable electricity and has achieved a waste recovery rate of 98%.

Additionally, plastic waste from Sartorius pipette tip manufacturing is recycled for use as raw materials for other plastic products. We are continuously working to reduce our environmental impact. To further drive this, our environmental management system in Finland is certified by an independent third party to meet the ISO 14001 standard.

Our facilities in Finland work with a Carbon Neutral Waste Management service to offset their waste's carbon footprint through certified afforestation projects. In 2023, investments were made in permanent carbon sinks to neutralize waste emissions.

Tip Sustainability

1. The single tray pipette tip boxes are intended for applications requiring the utmost purity of products and are designed to have a small plastic footprint (**Figure 1.**).

2. The refill packages, in contrast, are designed to offer a reduced plastic footprint, while maintaining product purity. The refill pack has 34% less plastic compared to the single tray product. This is equivalent of approximately 38 water bottles per package compared to a single tray box (**Figure 2.**).

3. The refill tower system is an ecological yet practical option that reduces the total waste of all product packaging by up to 61% and plastic by up to 48% compared to single tray box tips. Thanks to the small footprint of the product, his option can help reduce transportation emissions, as the package is only one-third the size of a single tray package, yet it contains the same number of pipette tips.

   The Refill Tower has obtained the ACT-label that is administered by the non-profit organization My Green Lab. The label serves as a sustainability metric for laboratory products, evaluating them across various environmental criteria to provide a clear picture of their ecological impact.

4. Finally, the FlexiBulk tip pack is the most ecological and economical choice. This package uses up to 67% less plastic and weighs 30% less compared to the single tray option. The amount of plastic saved per package is comparable to 75 water bottles and the package itself is less than half the size of the single tray package, which further reduces emissions from shipping.

ACT.
The Environmental Impact Factor Label

Tip Sustainability

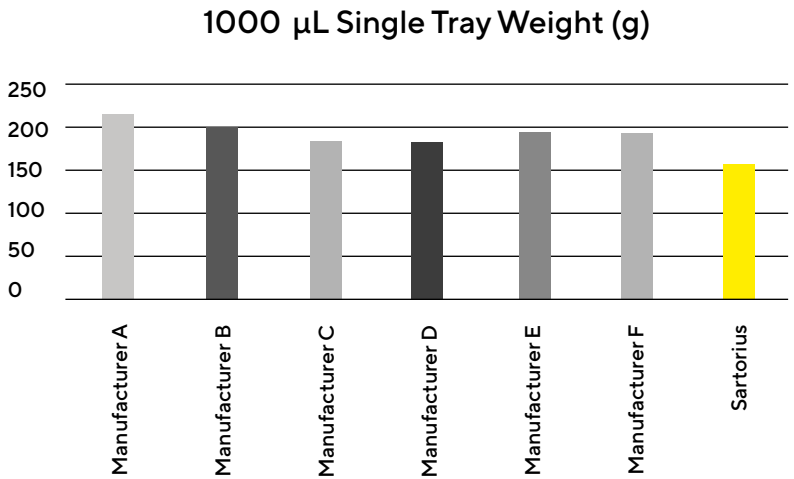

Figure 1. *Amount of plastic in single tray boxes of several single-use pipette tip manufacturers. Sartorius's single tray tip box is designed to use the least amount of plastic possible, while also providing a stable box from which to pick pipette tips.*
Note: the average 0.5 liter water bottle weighs 10g.

Tip Sustainability

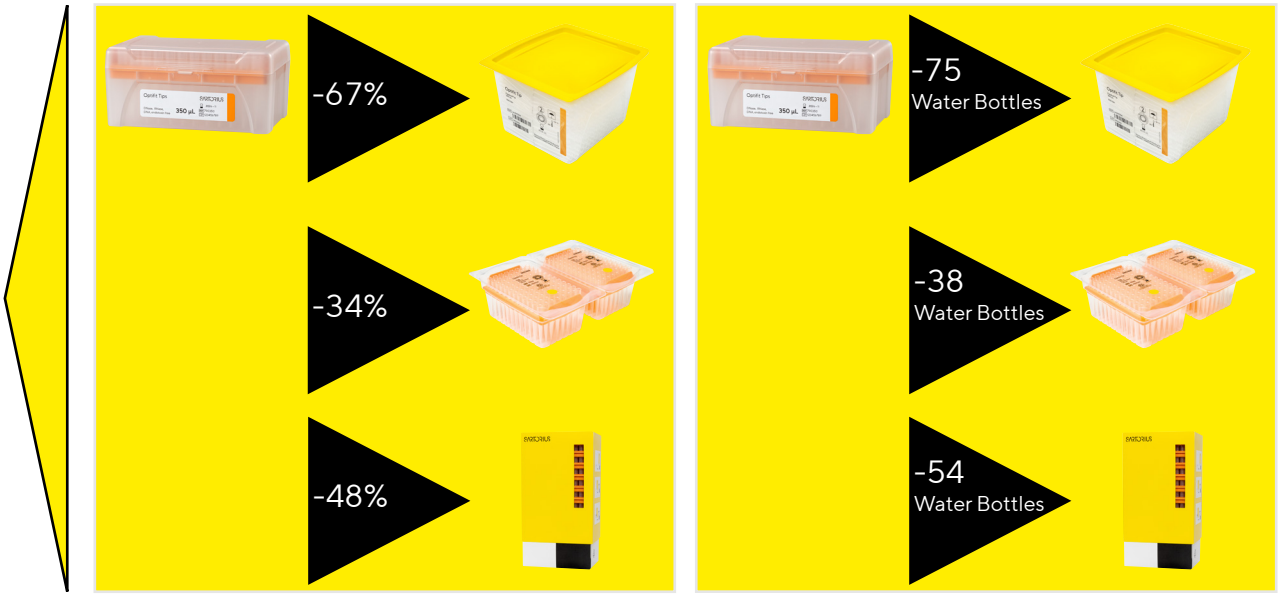

Figure 2. *Reduced weight of total plastic material per 960 tips when compared to single tray package. Comparison performed using 350 µl Optifit Tip products.*

Recylable Materials

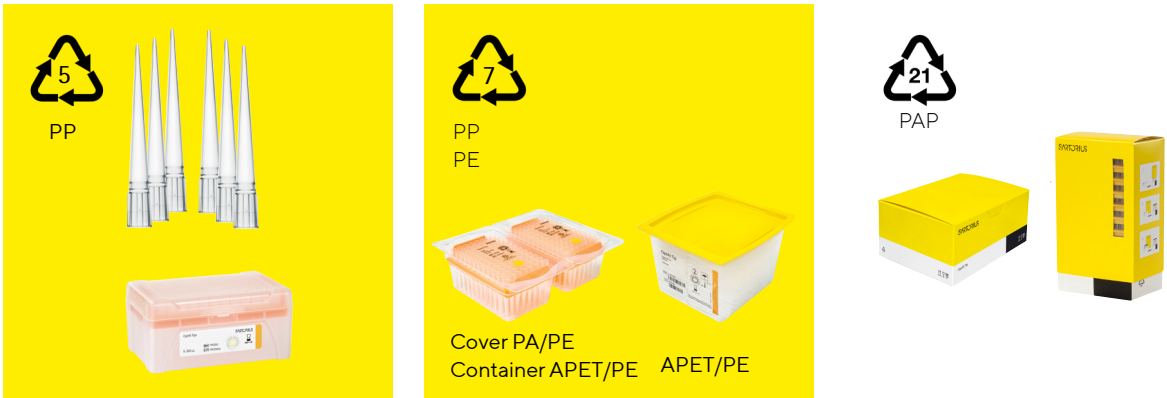

Figure 3. *The plastic material used in the products and their packaging is suitable for recycling or use in waste-to-energy facilities. For example, tips and tip racks made of 100% polypropylene (PP) can be fully recycled as energy waste.*

The tip box, tray and pipette tips are made from polypropylane. These materials, including the pipette tips, can be recycled if they have not been in contact with hazardous materials.

Sales unit packages and refill tower packages are made from recyclable cardboard. The FlexiBulk and refill package material are mixed plastic; therefore, follow local guidelines for recycling. The air-tight wrapping of the tip boxes, flexiBulk and refill package material are mixed plastic; therefore, follow local guidelines for recycling.

Resin identification codes (RIC) defined by the European Commission.

Pipette Sustainability

Sartorius pipettes are manufactured in the Kajaani manufacturing site with responsible manufacturing practices. Just as with tips, already from design the materials used for the pipettes are considered that they do not include any hazardous materials and to be of as lean design as possible, not using excessive or unnecessary amounts of materials. All while the pipette is reliable and durable.

Pipettes are precision instruments that uses tips to form a complete and reliable system. By ensuring optimal fit between Sartorius pipettes and tips, the user can be sure that there is no leaking or other inconsistencies while dispensing, avoiding repeating tests that uses e.g. extra tips and reagents.

However, as pipettes are not single-use items, they should be cleaned, maintained and serviced while in use. This practice can extend the lifetime of your pipette with several years, while still functioning accurately, precisely and reliably. Therefore, Sartorius also recommends setting up a cleaning and maintenance program to ensure this is done regularly.

The availability of service also encourages users to a circular economy mindset and practices. This promotes a responsible and sustainable way to use the pipette, avoiding the need for premature disposing and purchase of a new one.

When the pipette eventually reaches end-of-life, Sartorius service can offer proper disposal of the pipette and its components to ensure it is done in an environmentally friendly manner. The pipette packaging is completely made of recyclable cardboard, which can be recycled according to local practices.

Summary

100% renewable energy used by manufacturing sites in Finland	Waste heat rerouted to heat the manufacturing sites in Finland	WEEE | ROHS compliant electronic pipettes
100% recyclable or combustible pipette tips, trays and boxes	Outer packaging 100 % recyclable and partly made from recycled materials	Service and spare parts are available to extend your pipette's lifetime
ISO 14001 Environmental management certified	98% waste recovery at manufacturing sites in Finland	Local recycling partnerships & Carbon Neutral Waste Management at sites in Finland