



High Quality  
Pipette Tips  
for Consistent  
and Reliable Results

Simplifying Progress

**SARTORIUS**

imLab



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# Excellence in Quality and Convenience

Sartorius pipette tips ensure the performance of Sartorius pipettes and repeatability of your results like no other tip can. They have been designed and manufactured to meet the highest quality and purity standards and to be the inert protectors of your samples. Moreover, correctly fitting tips protect the pipette's tip cone from wear and tear.

Sartorius tip packages are designed to make the daily work of lab professionals easier. Our offering covers a variety of functional tip package options with various purity ratings.

The high purity and consistent quality of Sartorius tips provide your valuable samples with the ultimate protection from contamination. We adhere to strict quality standards and control procedures – from raw material to automated manufacturing and packaging.

## Pure Quality

- Tips are manufactured using a fully automated process in ISO class 8 cleanroom conditions to ensure purity
  - Strict standards, followed from R&D to production: ISO 9001, ISO 140001, and ISO 13485
  - Tips are tested and certified to be free of DNase, RNase, human DNA and endotoxins
  - Using Sartorius tips with Sartorius pipettes guarantees perfect tip sealing, ensuring reliable results with high precision and accuracy
  - Tip-purity certificates can be easily downloaded from our website
- Tips are manufactured using virgin polypropylene without any additives





## Convenient

- Smart color codes make it quick and easy to find the right tip for your pipette
- Versatile package options are available for various needs
- Sartorius pipettes feature Optiload and Optiject functions for smooth tip attachment and ejection
- Pre-sterilized tips with or without filters are available for demanding applications
- Universal design optimized for Sartorius pipettes

## Fully Compliant

- Every tip package is clearly marked with the volume, color code, purity grade, expiry date, product code, and lot number
- The lot number enables full traceability

# High Quality Tips for Various Pipetting Applications

## Optifit Tips – Standard Multipurpose Tips for Various Applications

Optifit Tips are high-quality standard tips and an excellent choice for various applications. Non-filter Optifit Tips are available in various purity levels and package options. Optifit Tips are also fully autoclavable at 121 °C for 20 minutes with 1 bar / 100 kPa pressure.

### Optifit Tip Range

- Extended and wide-bore tips for specific applications
- Pre-sterilized and non-sterile
- Purity certified Single Tray racks and Refill Packs
- Sustainable and Purity Certified Light Pack
- Refill Towers and Bulk packages
- Volume range from 10 µL to 10 mL

## Safetyspace® Filter Tips – Filter Tips for Contamination Protection

Safetyspace® Filter Tips offer optimal protection for your samples from cross contamination and enable you to use the full volume of the tip with any pipetting mode. They feature the unique Safetyspace® air gap that leaves additional space between the liquid and the filter that conventional filter tips do not have. This extra space prevents the liquid from touching, and permeating, the filter and thus guarantees the pipetting accuracy and prevents contamination.

Safetyspace® Filter Tips provide protection from contamination for pipettes and samples in the following applications:

- Molecular biology
- Microbiology
- Cell culture
- Radioactive work

### Safetyspace® Filter Tip Range

- Pre-sterilized
- Purity certified Single Tray racks and Light Packs
- Volume range from 10 to 5,000 µL



## Unique Safetyspace® Feature



Safetyspace® – the additional space between the sample and filter.

Safetyspace® Filter Tips have additional space between the sample and filter. Any liquid types and pipetting techniques can be applied without the risk of the liquid permeating the filter.

The extra space is particularly beneficial in the following applications:

- Pipetting foaming liquids such as buffers and proteins
- When using electronic pipettes with multiple dispensing functions
- Reverse pipetting



# A Convenient Range of Package Options



## Single Tray Racks

- 96 tips in convenient and reusable tray racks
- Tips are tested and certified to be free of DNase, RNase, human DNA and endotoxins
- Informative rack labelling enables easy tip identification and traceability
- Hermetically sealed plastic wrapping ensures purity
- Empty racks can be easily reloaded with tips from Refill Towers and Packs



## Light Pack

- 96 tips in a cardboard box with a plastic tray
- Tips are tested and certified to be free of DNase, RNase, human DNA and endotoxins
- Robust, rigid box construction ensures stable tip picking
- Optilid design lets you open and close the lid with ease
- Easy to remove the plastic tray and flatten the box after use for waste disposal
- ACT Label by My Green Lab



## Refill Tower

- Reuse and reload empty racks easily
- Reduce plastic waste
- Save space: 10 × 96 tips in each tower
- Available in the most widely used tip sizes: 10 µL, 200 µL, and 350 µL
- 100% recyclable, FSC-certified cardboard package
- ACT label by My green lab



### Refill Packs

- Reuse and reload empty racks easily
- Tips are tested and certified to be free of DNase, RNase, human DNA and endotoxins
- Individually packed hermetically sealed tip trays for maximum purity
- Pre-sterilized option available



### FlexiBulk®

- Fast and convenient reloading of racks due to orderly packed tips.
- Compact and airtight resealable plastic package
- Tips are tested and certified to be free of DNase, RNase, human DNA and endotoxins







### Bulk in a Bag





- Economic resealable bag of tips ready for reloading of racks
- 100% recyclable, FSC-certified cardboard package
- Available in 10ul, 5ml, and 10ml

# Ordering Information

## Optifit Tips





Volume	Length	Packaging	Purity Level		Tips/Unit	Order Code
			Free of DNase, RNase, human DNA & endotoxins	Pre-sterilized		
 0.1 – 10 µl	31.5 mm	Single Tray	▪		10 × 96	790010
		Single Tray	▪	▪	10 × 96	790011
		Refill Tower			10 × 96	790012
		Refill Pack	▪	▪	20 × 96	790013
		Bulk in Bag			1,000	790014
 0.5 – 200 µl	51 mm	Single Tray	▪		10 × 96	790200
		Single Tray	▪	▪	10 × 96	790201
		Light Pack	▪		10 × 96	LH-G790200
		Light Pack	▪	▪	10 × 96	LH-G790201
		Refill Tower			10 × 96	790202
		Refill Pack	▪	▪	15 × 96	790203
FlexiBulk®	▪		960	LH-B790204		
 5 – 350 µl	54 mm	Single Tray	▪		10 × 96	790350
		Single Tray	▪	▪	10 × 96	790351
		Refill Tower			10 × 96	790352
		Refill Pack	▪	▪	15 × 96	790353
		FlexiBulk®	▪		960	LH-B790354
 10 – 1,000 µl	71.5 mm	Single Tray	▪		10 × 96	791 000
		Single Tray	▪	▪	10 × 96	791001
		Refill Pack	▪		10 × 96	791002
		Refill Pack	▪	▪	10 × 96	791003
		FlexiBulk®	▪		480	LH-B791004

For your guidance the tips are shown here in the actual size.

Volume	Length	Packaging	Purity Level	Pre-sterilized	Tips/Unit	Order Code
			Free of DNase, RNase, human DNA & endotoxins			
■ 1,000 µL Wide bore tip	68.5 mm	Single Tray	■		10 × 96	791020
		Single Tray	■	■	10 × 96	791021
		FlexiBulk®	■		480	LH-B791024
						
■ 1,200 µL	71.5 mm	Single Tray	■		10 × 96	791 200
		Single Tray	■	■	10 × 96	791201
		Refill Pack	■		10 × 96	791202
		Refill Pack	■	■	10 × 96	791203
		FlexiBulk®	■		480	LH-B791204
						
■ 5,000 µL	150 mm	Single Tray	■		50	780304
		Single Tray	■	■	50	780305
		Bulk in Bag			100	780300
		Bulk in Bag			1,000	780308
						
■ 100 - 10,000 µL	164 mm	Single Tray	■		4 x 35	LH-799000
		Bulk in Bag			210	LH-799004
						









# Ordering Information

## Safetyspace® Filter Tips







Volume	Length	Packaging	Purity Level		Tips/Unit	Order Code
			Free of DNase, RNase, human DNA & endotoxins	Pre-sterilized		
 10 µL	31.5 mm	Single Tray	▪	▪	10 × 96	790011F
 20 µL	51 mm	Single Tray	▪	▪	10 × 96	790021F
 120 µL	51 mm	Single Tray Light Pack	▪	▪	10 × 96 10 × 96	790101F LH-G790101F
 200 µL	52.5 mm	Single Tray Light Pack	▪	▪	10 × 96 10 × 96	790201F LH-G790201F
 300 µL	52.5 mm	Single Tray	▪	▪	10 × 96	790301F
 1,000 µL	78 mm	Single Tray	▪	▪	10 × 96	791001F
 1,200 µL	90 mm	Single Tray	▪	▪	10 × 96	791211F
 5,000 µL	150 mm	Single Tray	▪	▪	50	LH-795001F

For your guidance the tips are shown here in the actual size.  
Filter tips are not recommended to be used simultaneously with Safe-Cone Filters.

## Extended Standard Tips

Volume	Length	Packaging	Purity Level		Tips/Unit	Order Code
			Free of DNase, RNase, human DNA & endotoxins	Pre-sterilized		
 10 µL 	46 mm	Single Tray	▪		10×96	783210
		Single Tray	▪	▪	10×96	783211
 200 µL 	77.5 mm	Single Tray	▪		10×96	LH-X780200
		Single Tray	▪	▪	10×96	LH-X780201
 1,000 µL 	119 mm	Single Tray	▪		10×96	LH-X791000
		Single Tray	▪	▪	10×96	LH-X791001
 1,200 µL 	90 mm	Single Tray	▪		10×96	791210
		Single Tray	▪	▪	10×96	791211
		Refill Pack	▪		10×96	791212
		Refill Pack	▪	▪	10×96	791213

## Extended Filter Tips

 10 µL 	46 mm	Single Tray	▪	▪	10×96	783201
 200 µL 	77.5 mm	Single Tray	▪	▪	10×96	LH-XF780201
 1,000 µL 	119 mm	Single Tray	▪	▪	10×96	LH-XF791001

For your guidance the tips are shown here in the actual size.  
 Extended filter tips are not recommended to be used simultaneously with Safe-Cone Filters.  
 The liquid handling properties of extended tips might differ from standard Optifit tips.

# Protect Your Pipette and Sample with Safe-Cone Filters

Safe-Cone Filters act as a final barrier to prevent any fluids and liquid vapors from coming into contact with the internal components of the pipette. These unique and replaceable filters are made of polyethylene (PE). They:

- Protect the pipette and sample from contamination
- Prolong the pipette's lifetime
- Reduce maintenance intervals

Safe-Cone Filters should not be used together with filter tips.

## Plus Filter

For more demanding applications such as radioactive work, cell culture, bacterial and virological work, and molecular biology.

## Standard Filter

For general applications. These filters can be used for the same applications as the Plus filter, but need to be changed more frequently.



Removing the Safe-Cone Filter

## Safe-Cone Filters

Order Code	Item	Qty/Unit
721008	Standard Ø 2,51 mm PE	50
721007	Standard Ø 3,15 mm PE	50
721006	Standard Ø 5,33 mm PE	50
721005	Standard Ø 6,73 mm PE	50
721014	Standard Ø 1,83 mm Polyolefin	50
721018	Plus Ø 2,51 mm PE	50
721017	Plus Ø 3,15 mm PE	50
721016	Plus Ø 5,33 mm PE	50
721015	Plus Ø 6,73 mm PE	50

PE = polyethylene



# Responsible Manufacturing

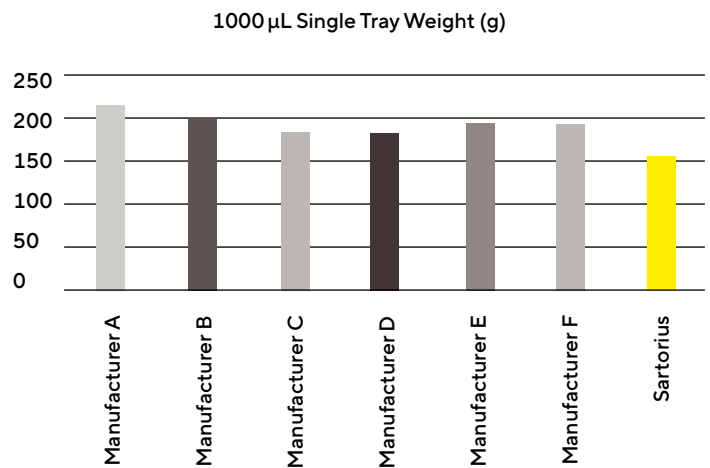
At Sartorius, we understand our responsibility as a single-use plastic consumable manufacturer. This is why we pay particular attention to the environmental impact of our operations and products, throughout their life cycle: from product design, packaging, production technology and all the way through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

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, and to drive this, Sartorius Liquid Handling complies with ISO 14001 environmental standards.

## Environmentally Friendly Design

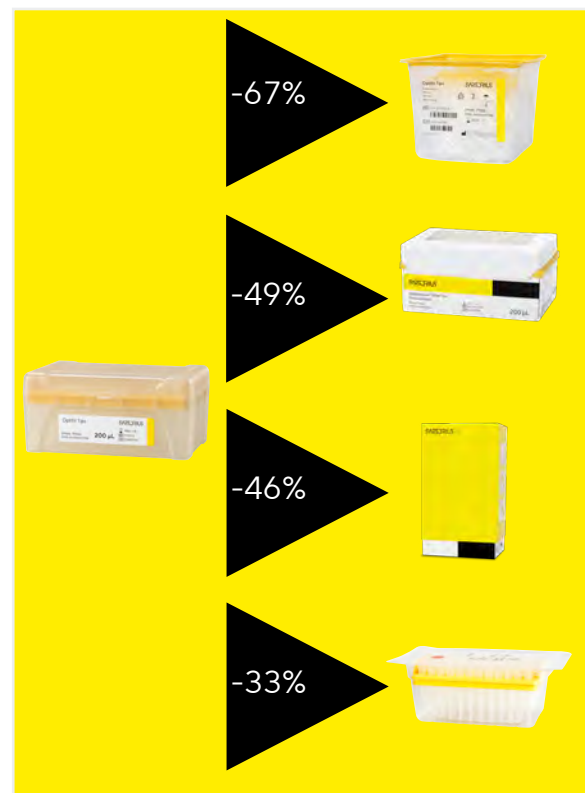
Beginning at the design stage, we look for ways of reducing the number of plastics and hazardous substances and materials we use. Let's look at how the design of the various packaging options can help you choose the best options for your lab:

- The single tray pipette tip rack are intended for applications requiring the utmost purity of products and are designed to have a small plastic footprint (Fig 1.).
- The Refill packages, in contrast, are designed to offer a reduced plastic footprint, while maintaining product purity. The Refill pack has 33% less plastic compared to the single tray product. (Fig 2.).
- 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 46% compared to single tray rack. Thanks to the small footprint of the product, this 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 Light Pack is a carefully engineered sustainable cardboard pipette tip box with a plastic rack, that reduces plastic use by 49% compared to single tray rack, without compromising purity.



**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 L water bottle weighs 10g.



**Figure 2.** Reduced weight of total plastic material per 960 tips when compared to single tray rack. Comparison performed using 200 µL Optifit Tip products.

- 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 rack. The package itself is less than half the size of the single tray package, which further reduces emissions from shipping.

### ACT Label

- The Refill Tower and the Light Pack have 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.

Find more information about pipette tip sustainability and access the ACT Ecolabels with the QR code.

### End Of Life - Recyclable Materials

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



**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 rack, tray and pipette tips are made from polypropylene. These materials, including the pipette tips, can be recycled if they have not been in contact with hazardous materials. Sales unit packages, Light Pack and Refill Tower packages are made from recyclable material. 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.

# Sartorius Design and R&D – The Driving Force Behind Our High-Quality Products

Customer needs are always the starting point when developing and manufacturing Sartorius pipettes and pipette tips. As our customers have their own unique preferences and because pipetting needs vary between applications and users, we provide our customers with liquid handling equipment that matches their applications precisely and fulfills even the strictest quality standards. Ergonomics, performance, and reliability are the cornerstones of our design and product development processes. Strong technical innovation and the latest design and manufacturing technologies ensure the high quality and performance of our products.

Sartorius has a rich and extensive history in liquid handling. Our experience and knowledge of pipette and pipette tip design has resulted in several award-winning innovations and products. The Sartorius liquid handling competence center masters the entire value chain, from customer needs

and product design to manufacturing. Our in-house R&D capabilities with experienced liquid handling experts enable continuous product and process development and the creation of new, innovative solutions. Designing Sartorius tips goes beyond mere tip geometry: our R&D team also designs the tip molds in order to ensure the highest possible quality and consistency.

Sartorius has modern production facilities for pipettes and tips. Our highly automated tip manufacturing facility allows us to maintain the highest quality and purity standards by selecting the best plastic materials and controlling the manufacturing process from beginning to end. Our quality management system follows not only ISO 9001 and ISO 14001, but also ISO 13485. Tip production also complies with the ISO 14644-1 standard, in order to fulfill ISO Class 8 cleanroom conditions for guaranteed tip purity.



# Ensure the Highest Pipetting Performance and Precision

Sartorius pipettes and tips fit seamlessly together and provide you with maximum pipetting performance and exact accuracy and precision. They are a single system as required by ISO8655:2022.

## Pipette Tip Selection Guide for Electronic Pipettes

		Picus® 2										
		1-ch					8 & 12-ch					
	Color Code	µL	0.5-10	5-120	10-300	50-1,000	100-5,000	500-10,000	0.5-10	5-120	10-300	50-1,200
Optifit Tips	■	10	■						■			
	■	10 Ext.	■						■			
	■	200		■						■		
	■	200 Ext.		■						■		
	■	350			■						■	
	■	1,000				■						
	■	1,000 Ext.				■						
	■	1,000 WB				■						
	■	1,200										■
	■	1,200 Ext.										■
	■	5,000					■					
	■	10 mL						■				
Safetyspace® Filter Tips	■	10	■						■			
	■	10 Ext. <sup>1</sup>	■						■			
	■	20										
	■	120		■						■		
	■	200										
	■	200 Ext. <sup>1</sup>		■						■		
	■	300			■						■	
	■	1,000				■						
	■	1,000 Ext				■						
	■	1,200										■
Safe-Cone Filters <sup>2</sup>	Ø 1.83 mm											
	Ø 2.51 mm		■							■		
	Ø 3.15 mm			■							■	
	Ø 5.33 mm				■							■
	Ø 6.73 mm					■	■					

<sup>1</sup> Filter tip with standard air gap. In tests, 10 µL extended tip's systematic error and random error results, deviated slightly from those of the 10 µL tip.

<sup>2</sup> It is not recommended to use Safe-Cone filters and Safetyspace® Filter tips at the same time.

# Pipette Tip Selection Guide for Mechanical Pipettes

		Tacta®							Proline® Plus																
		1-ch							8 & 12-ch			1-ch							8 & 12-ch						
	Color Code	μL	0.3-3	1-10	2-20	10-100	20-200	100-1,000	500-5,000	1-10 mL	1-10	10-100	30-300	0.3-3	0.5-10	2-20	5-50	10-100	20-200	100-1,000	500-5,000	1-10 mL	1-10	10-100	30-300
Optifit Tips	■	10	■	■						■			■	■									■		
	■	10 Ext.	■	■						■				■	■								■		
	■	200			■	■	■				■					■	■	■	■					■	
	■	200 Ext.			■	■	■				■					■	■	■	■					■	
	■	350											■												■
	■	1,000						■													■				
	■	1,000 Ext.						■													■				
	■	1,000 WB						■													■				
	■	1,200																							
	■	1,200 Ext.																							
	■	5,000							■													■			
	■	10mL								■													■		
	Safetyspace® Filter Tips	■	10	■	■						■			■	■									■	
■		10 Ext. <sup>1</sup>	■	■						■			■	■									■		
■		20			■										■										
■		120				■					■					■	■							■	
■		200					■												■						
■		200 Ext. <sup>1</sup>			■	■					■					■	■	■						■	
■		300											■												■
■		1,000						■													■				
■		1,000 Ext.						■													■				
■		1,200																							
Safe-Cone Filters <sup>2</sup>		Ø 1.83 mm			■										■										
		Ø 2.51 mm				■					■					■	■							■	
		Ø 3.15 mm					■					■							■						■
		Ø 5.33 mm						■												■					
		Ø 6.73 mm							■	■											■	■			

<sup>1</sup>Filter tip with standard air gap.

<sup>2</sup> It is not recommended to use Safe-Cone filters and Safetyspace® Filter tips at the same time.



### Services for Liquid Handling Products

Sartorius offers certified and accredited services to keep your liquid handling instruments performing with precision every day.

From mechanical and electronic pipettes to dispensers, our experts ensure accuracy, reliability, and full regulatory compliance, whether service is performed on-site or in our accredited calibration labs. We support devices from any manufacturer and deliver optimized performance, audit-ready documentation, and consistently reproducible results, all with short turnaround times.

# Sartorius ABC of Tip Purity

## **Additive-free**

Manufacturing tips from pure virgin polypropylene minimizes the risk of substances from the tip material leaching into samples. This is why Sartorius tips are free of colors, clarifying agents, and plasticizers.

## **DNase-free**

DNases are powerful enzymes (nucleases) that degrade DNA by hydrolyzing it into short fragments. Even trace amounts of DNases can lead to low or no yields in DNA techniques such as PCR. DNase contamination sources are human contact and bacteria. DNase-free tips are tested for DNase activity with fluorometric assay by detecting degradation of labeled DNase substrate. DNase-free pipette tips show no evidence of DNase activity in the assay with a detection level of  $< 6,25 \cdot 10^{-5}$  U/ $\mu$ L when DNase I was used as a standard.

## **Endotoxin-free**

Endotoxins are lipopolysaccharides that are part of the outer membrane of Gram-negative bacteria. They cause fever in humans and impair the growth of cell cultures. Endotoxins are very durable and are present wherever bacteria are able to grow, i.e. air, water, soil, skin, raw materials, and in any non-sterile environment. When certified endotoxin free, the tips are tested according to FDA guidelines for medical devices. The Ph. Eur. 2.6.14, Method D. Validated test result for endotoxin-free tips is  $< 0,005$  IU/mL (EU/mL).

## **Human DNA-free**

Sartorius purity certified tips are analyzed for the presence of DNA using quantitative PCR and human DNA specific primers. The determined detection limit of the assay is  $< 1$  pg/ $\mu$ L.

## **RNase-free**

RNases are enzymes that catalyze the degradation of RNA into short fragments. These very stable enzymes are difficult to remove and originate from human skin, hair, and saliva, as well as from bacteria. Tips are tested for RNase activity using fluorometric assay. RNase-free tips show no evidence of RNase activity with a detection level of  $< 1 \cdot 10^{-8}$  U/ $\mu$ L.

## **Sterilization**

The destruction of all microbial life, including bacterial endospores. Sterility can be accomplished using, for example, steam, heating, chemicals, or radiation. Sartorius pre-sterilized tips are sterilized with an electron beam (beta irradiation) in accordance with ISO 11137-1 and ISO 13004 standards and the process is validated by using 20 kGy as the minimum dose, with an SAL (sterility assurance level) of  $10^{-6}$ .