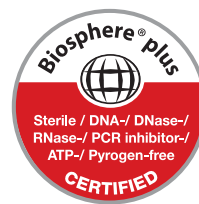


# Micro tubes

The versatile solution



*It is impossible to imagine a laboratory routine these days without the small, tapered plastic tubes with a snap lid - the reaction tubes. Quick to open and leak-tight when closed, they are used in a myriad of applications. They are essential components of scientific investigations and diagnostic tests or in the storage and filling of reagents. They are as resistant to heat and subzero temperatures as they are to chemicals and mechanical stress.*

*With over 55 years of experience in plastics technology, SARSTEDT has developed and perfected the ideal reaction tubes for use in a volume range from 0.5 to 5 millilitres. Precise, robust and made from high-quality polypropylene, they are the optimal companions in all everyday laboratory applications.*

*We present a brief introduction to our range of reaction tubes and related lab accessories on the following pages in order to help you easily choose the right tubes.*

*Your Sarstedt team*



Cleanroom conditions, skilled personnel wearing protective clothing, and automated production processes are the prerequisites for the certified SARSTEDT "PCR Performance Tested" and "Biosphere® plus" quality standards.

Since 1995, we have provided our customers with a level of product quality that is tailored to their applications to ensure maximum reproducibility in their analyses. Our certifications are continuously adjusted to the current state of research, so that we can offer the user the required level of reliability in their routine work at all times.



**PCR Performance Tested quality • The SARSTEDT quality and purity standard**

PCR Performance Tested was specially tailored to the demands and requirements of work with nucleic acids (e.g. qPCR, PCR, purification and storage). This quality grade allows customers to use SARSTEDT consumables with confidence, directly in nucleic acid analysis.

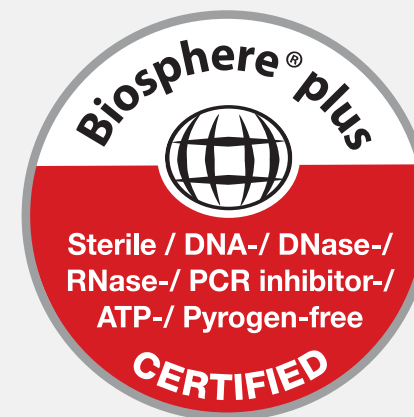
PCR Performance Tested products meet the following purity criteria, which are certified by an independent laboratory:

- ✓ DNA-free
- ✓ DNase/RNase-free
- ✓ PCR inhibitor-free

We guarantee compliance with the following limits:

Human DNA <0.5 pg/µl · Bacterial DNA <0.02 pg/µl · DNase <1x10<sup>-5</sup> U/µl  
RNase <1x10<sup>-9</sup> Kunitz units/µl

Technical modifications reserved



**Biosphere® plus quality • An extra degree of certainty**

In recent years, scientific analysis methods have been continuously refined to the point where even individual molecules can be identified. This increased sensitivity means that consumables are required to meet significantly more exacting requirements compared with just a few years ago, so that users can be certain that even the smallest contamination will be reliably excluded.

The newly developed Biosphere® plus quality achieves a purity standard that gives users the utmost protection against any possible contamination.

In addition to the high-purity production conditions, all Biosphere® plus certified products undergo a validated decontamination process. The limits are thus significantly lower than those of the PCR Performance Tested quality. Biosphere® plus items are also free from ATP and endotoxins, non-pyrogenic and sterile in accordance with ISO 11135.

Biosphere® plus items fulfil the following purity criteria, which are certified by an independent laboratory:

- ✓ Sterile
- ✓ DNA-free
- ✓ DNase/RNase-free
- ✓ PCR inhibitor-free
- ✓ ATP-free
- ✓ Pyrogen-free/endotoxin-free

We guarantee compliance with the following limits:

Human DNA <5.0 fg/µl · Bacterial DNA <0.2 fg/µl · DNase <5x10<sup>-7</sup> U/µl  
RNase <5x10<sup>-11</sup> Kunitz units/µl · ATP <1x10<sup>-12</sup> mmol/µl · pyrogens <0.002 EU/ml  
Sterility validated according to ISO 11135

Technical modifications reserved

### Wide lid connection – easy closing

The specially developed reinforced, extra-wide lid hinge makes it easier to close the reaction tubes. The lid can be guided precisely and securely closed even using just one hand.



### Durable label fields – secure labelling

Slightly rough, frosted fields on the lid allow for long-lasting labelling of the samples. All reaction tubes with volumes of 1.5 ml and 2.0 ml also have frosted spaces on the side for additional labelling.



### Clear graduation – quick volume estimations

Easy estimation of the sample volume means additional certainty. Clear, frosted graduations on the 1.5 ml and 2.0 ml reaction tubes make it easy to estimate the fill level of the sample, even with dark or cloudy liquids.



### Coloured options – individual coding

Reaction tubes in different colours make it easier to reliably identify samples or stored reagents. Colour coding reduces the risk of confusing samples and increases efficiency in the lab.



As an important material in day-to-day lab work, reaction tubes have to meet the highest demands of the users. SARSTEDT reaction tubes feature the following outstanding characteristics:

- Easy handling – the optimised design makes it easier to open and close the tubes and facilitates efficient handling in any application
- Chemical-resistant – the processed materials are resistant to a wide range of the most commonly used solvents, acids and bases
- Temperature-resistant – polypropylene reaction tubes can be autoclaved at 121 °C and withstand temperatures as low as -80 °C
- Transparent – highly polished tools and premium raw materials guarantee that you will always be able to see your sample inside the tube
- Durable – the optimal combination of design and materials enables the reaction tubes to be centrifuged up to 20,000 x g, and some variants can even be centrifuged up to 30,000 x g (tested at 20 °C for 20 minutes in a fixed-angle rotor, filled to nominal capacity)

SARSTEDT reaction tubes are suitable for various purposes, and are as diverse as the applications for which they are designed:

- 0.5 ml, 1.5 ml, 2.0 ml or the intermediate 5 ml – four tube volumes that are tailor-made for any application
- Biosphere® plus, PCR Performance Tested or standard quality – three purity grades, optimally tailored to your application
- SafeSeal, standard or easy-fit caps – three tube designs for secure handling
- Low binding, coloured or transparent – three material variants for protein or DNA analytics, light-sensitive applications or automated processing





As the trend towards decreasing volumes continues, it is increasingly important to minimise any interactions between the analytes and the tubes used. SARSTEDT has therefore developed reaction tubes and screw-cap micro tubes that ensure a maximum recovery rate and are specially optimised to meet the requirements of protein and DNA analytics. Minimising sample loss - especially for costly and valuable reagents - is essential to save costs, achieve accurate analysis results, and ensure secure storage over a long period of time.

Special high-quality plastics are used for SARSTEDT low binding vessels. A repellent coating, for example with silicones, which could distort the analyses is not necessary.

Product benefits of the low binding reaction tubes at a glance:

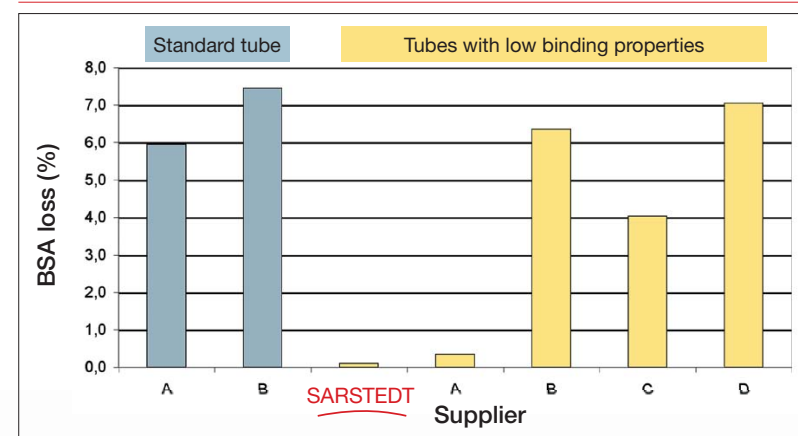
- Available in three volumes – 0.5 ml, 1.5 ml and 2.0 ml
- Sturdy polypropylene – Low protein binding tubes can be centrifuged up to 20,000 x g\*, low DNA binding tubes can be centrifuged up to 30,000 x g\* (2 ml up to 25,000 x g\*)
- Certified PCR Performance Tested quality – DNA-free, DNase/RNase-free and free from PCR inhibitors
- Small, practical pack sizes – 50 tubes in a re-sealable bag to reduce risk of contamination

\*Filled with demineralised water (low surface tension) up to nominal volume, at 20 °C for 90 minutes in a fixed-angle rotor.

## Low protein binding – minimal protein loss

Low protein binding reaction tubes are particularly suitable for the analysis of antibodies, enzymes and other valuable substances both in the field of proteomics and in many other routine applications. The low protein-binding to the vessel wall ensures maximum recovery, improved analysis and clearer results.

## Low protein binding – Comparative representation of mean BSA loss:



Test procedure:

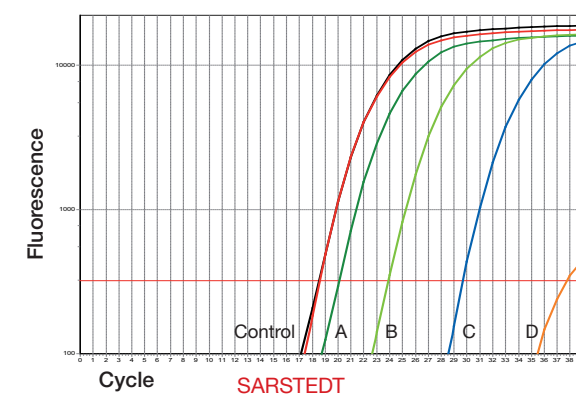
10 test tubes each from various suppliers were filled with an aqueous solution of BSA in a concentration of 10 µg/ml in water and stored at 4 °C. After incubation for 24h, the BSA solution was removed and the concentration determined using a Bradford Assay (Zor, T. and Selinger, Z. 1996, Anal. Biochem. 236, pp. 302–308).

The percentage loss calculation was based on the average value established for the 10 tested tubes.

## Low DNA binding – minimal DNA loss

DNA Low Binding reaction tubes are suitable for all applications involving DNA. For example, they can be used for the analysis of plasmids, oligonucleotides or cell extracts. They allow for maximum DNA recovery even with the smallest volumes.

## Low DNA binding – Comparative representation of DNA loss:



Test procedure:

10 test tubes each from various suppliers were filled with 100 µl of a plasmid DNA solution (concentration: 10<sup>5</sup>/µl) and shaken at 37 °C. After the incubation time of 3 hours, the DNA content was determined via real-time PCR.

One of the 10 test series is shown as an example in this diagram.

- Control
- SARSTEDT
- Supplier A
- Supplier B
- Supplier C
- Supplier D

## Ordering information – Low binding reaction tubes

Order no.	Low Binding	Volume	Packaging: bag / inner box / case
72.704.600	Protein	0.5 ml	50/300/1,200
72.704.700	DNA	0.5 ml	50/300/1,200
72.706.600	Protein	1.5 ml	50/200/800
72.706.700	DNA	1.5 ml	50/200/800
72.695.600	Protein	2.0 ml	50/200/800
72.695.700	DNA	2.0 ml	50/200/800



SafeSeal reaction tubes are especially suitable for use under thermal or mechanical stress. The lid design, with a special retaining cam allows for reliable sealing even at high centrifugation forces, or when mixing or heating samples. The SafeSeal reaction tubes offer additional security when handling especially sensitive reagents, detergents such as SDS or volatile substances.

- Special lid design – secure sealing even under thermal and mechanical stress
- Extremely durable – 2.0 ml reaction tubes withstand up to 25,000 x g\* while 0.5 and 1.5 ml reaction tubes can even be centrifuged up to 30,000 x g\* without the lids opening unexpectedly
- Certified quality – three purity grades to meet all requirements

## Ordering information – 0.5 ml SafeSeal reaction tubes

Order no.	Purity grade	Colour	Packaging: bag / inner box / case
72.704.200		transparent	50/250/500
72.704.400		transparent	250/500/2,000
72.704		transparent	500/500/2,000
72.704.001		brown	500/500/2,000
72.704.002		red	500/500/2,000
72.704.004		yellow	500/500/2,000
72.704.005		green	500/500/2,000
72.704.006		blue	500/500/2,000

## Ordering information – 1.5 ml SafeSeal reaction tubes

Order no.	Purity grade	Colour	Packaging: bag / inner box / case
72.706.200		transparent	50/250/500
72.706.400		transparent	250/1,000/2,000
72.706		transparent	250/1,000/2,000
72.706.001		brown	250/1,000/2,000
72.706.002		red	250/1,000/2,000
72.706.004		yellow	250/1,000/2,000
72.706.005		green	250/1,000/2,000
72.706.006		blue	250/1,000/2,000

## Ordering information – 2.0 ml SafeSeal reaction tubes

Order no.	Purity grade	Colour	Packaging: bag / inner box / case
72.695.200		transparent	50/250/500
72.695.400		transparent	250/1,000/2,000
72.695.500		transparent	250/1,000/2,000
72.695.001		brown	250/1,000/2,000
72.695.002		red	250/1,000/2,000
72.695.004		yellow	250/1,000/2,000
72.695.005		green	250/1,000/2,000
72.695.006		blue	250/1,000/2,000
72.695.007		purple	250/1,000/2,000

\*Filled with demineralised water (low surface tension) up to nominal volume, at 20 °C for 90 minutes in a fixed-angle rotor.



## Individually blister-packed SafeSeal reaction tubes

Highly sensitive applications such as those in the fields of analytics, diagnostics and development call for the highest degree of purity for all consumables used. Individually blister-packed "Biosphere® plus" SafeSeal reaction tubes are the ideal choice for such high demands. The small packages make it easier to quickly remove the tubes from the case and allows for space-saving storage.

## Ordering information – SafeSeal reaction tubes

Volume	Order no.	Purity grade	Colour	Packaging: bag / inner box / case
0.5 ml	72.704.201*		transparent	1/50/100
1.5 ml	72.706.201		transparent	1/60/120
2.0 ml	72.695.201		transparent	1/60/120

\*Available on request

## 5 ml reaction tubes – reliable handling of filling volumes between 2 and 5 ml

Routine applications in the lab such as dilution series, cell disruption or sample backup frequently require filling volumes above 2 ml. Due to their slender design or screw caps, tubes with a larger volume are sometimes not ideally suited for these purposes. The new SARSTEDT reaction tube combines the advantages of the SafeSeal reaction tube and a 5 ml screw-cap tube in a single product. Easy to open with just one hand thanks to the ergonomic design, the snap-on lids with lip seal and retaining cams provide secure sealing characteristics even under thermal strain. The wide hinge enables easy and precise closure, eliminating the risk of mixing up separate screw caps. Certified DNA-, DNase-, RNase- and PCR inhibitor-free, the 5 ml reaction tubes in PCR Performance Tested quality provide particular reliability in nucleic acid analytics and molecular biology.

Advantages of the 5 ml reaction tube at a glance:

- Robust polypropylene – centrifugation to 20,000 x g, autoclavable
- Low height – minimises contamination risk, the cone of the pipette does not have to be immersed in the tube
- Compact size – space-saving backup storage of samples, media or cultures

## Ordering information – 5 ml reaction tubes

Order no.	Purity grade	Description	Packaging
72.701		5 ml reaction tubes	100 / bag 800 / case
72.701.400		5 ml reaction tubes, PCR Performance Tested	100 / bag 800 / case
95.1298		5 ml reaction tubes, centrifuge adapter	8 / bag 96 / case





SARSTEDT reaction tubes in standard quality are the ideal day-to-day companions in any lab. Made of durable polypropylene and easy to handle, they are ideal for any routine application

- Durable standard quality – all reaction tubes can be safely centrifuged at 20,000 x g\*
- Sophisticated design – easy to open, securely sealed when closed
- Larger packaging units – economical storage and backup

## Ordering information – 0.5 ml reaction tubes

Order no.	Colour	Packaging: bag/case
72.699	transparent	1,000 / 5,000
72.699.001	red	500 / 5,000
72.699.002	yellow	500 / 5,000
72.699.004	green	500 / 5,000
72.699.003	blue	500 / 5,000
72.699.005	purple	500 / 5,000

## Ordering information – 1.5 ml reaction tubes

Order no.	Colour	Packaging: bag/case
72.690.001	transparent	500 / 5,000
72.690.004	brown	500 / 5,000
72.690.477	red	500 / 5,000
72.690.478	yellow	500 / 5,000
72.690.476	green	500 / 5,000
72.690.475	blue	500 / 5,000
72.690.007	purple	500 / 5,000

## Ordering information – 2.0 ml reaction tubes

Order no.	Colour	Packaging: bag/case
72.691	transparent	500 / 5,000
72.691.001	brown	500 / 5,000
72.691.002	red	500 / 5,000
72.691.004	yellow	500 / 5,000
72.691.005	green	500 / 5,000
72.691.006	blue	500 / 5,000
72.691.007	purple	500 / 5,000

\*Filled with demineralised water (low surface tension) up to nominal volume, at 20 °C for 90 minutes in a fixed-angle rotor.

## 0.5 ml reaction tubes with ventilation aperture

Reaction tubes with small apertures in the lid allow for ventilation and pressure balance between the tube and its environment, without having to open the lid. This prevents the lid from popping open even at high gas pressures or excessive heating, and makes it easier to open when there is low pressure in the tube.

## Ordering information – Reaction tubes with ventilation aperture

Volume	Order no.	Cap	Packaging: bag/case
0.5 ml	72.698	PP, with ventilation aperture	1,000 / 5,000

## 1.5 ml EASY CAP reaction tubes

EASY CAP reaction tubes were specially developed for routine applications where an easy-fit cap and large perceable lid membrane are particularly important. The snap-lid can be perforated, for example in order to extract a sample from the tube. The clear polypropylene allows for automated fill-level control and easy sample inspection. The large labelling surface on the lid simplifies labelling.

## Ordering information – EASY CAP reaction tubes

Volume	Order no.	Cap	Packaging: bag/case
1.5 ml	72.690.550	PP, "EASY CAP"	500 / 5,000

## Reaction tubes with soft caps

Easy-fit soft caps are suitable for applications where the reaction tubes are frequently opened and closed. As little force is required to open and close the tubes, there is less stress on the fingers and hands. The colour coding allows for samples to be differentiated more quickly.

## Ordering information – PP reaction tubes with attached, soft LDPE cap

Order no.		Cap colour	Packaging: bag/case
1.5 ml	2.0 ml		
72.688	72.689	transparent	500 / 5,000
72.688.001	72.689.001	blue	500 / 5,000
72.688.002	72.689.002	green	500 / 5,000
72.688.003	72.689.003	red	500 / 5,000
72.688.004	72.689.004	yellow	500 / 5,000
72.688.005	72.689.006	purple	500 / 5,000

## Reaction tubes without caps

For special applications such as purification or aliquoting, reaction tubes without attached caps are a practical solution. With no text space or graduations, the sample can be seen easily. There is space on the surface for labels. Separate push-caps are available to close them.

### Ordering information – reaction tubes without caps

Volume	Order no.	Skirted base	Packaging: bag/case
0.5 ml	72.698.200	no	500 / 5,000
1.5 ml	72.696	no	500 / 10,000
2.0 ml	72.708	no	500 / 5,000
2.0 ml	72.709	yes	500 / 5,000

## Separate caps for 1.5 ml and 2.0 ml reaction tubes

Separate LDPE caps are especially suitable for automated closing or storage of samples in reaction tubes without attached caps. The flat caps allow for space-saving storage, while the raised edge of the tall caps makes it easier to open and close the tubes. The soft caps with a moveable retaining loop for attachment are a flexible alternative when it is crucial not to mix up the lids.

### Ordering information – LDPE caps

Cap type	Order no.	Packaging: bag/case
Flat push-cap	65.697	1,000 / 10,000
Tall push-cap	65.723	1,000 / 10,000
Soft cap with retaining loop	65.109	1,000 / 10,000

## MC 6 centrifuge

With a footprint of less than 25 cm<sup>2</sup> and a speed of up to 6,000 revolutions per minute (rpm), the MC 6 bench centrifuge is ideally suited for fast centrifugation or microfiltration in up to six reaction tubes. The supplied adapter for PCR tubes and the strip rotor for up to sixteen 0.2 ml PCR tubes make it suitable for all applications within a volume range of 0.2 to 2 ml.

### Ordering information – MC 6 centrifuge

Order no.	Description	Accessories included
90.186.100	MC 6 centrifuge, 230 V	Rotor, strip rotor, 2 x 6 adapters for 0.2 ml and 0.5 ml PCR tubes and reaction tubes

## Felt marker

Waterproof felt markers in four different colours allow for clear and reliable labelling of reaction tubes and other consumables and containers in the lab. The alcohol-resistant felt marker is especially suitable for applications where alcohols, e.g. for disinfection or sample processing, are used.

### Ordering information – felt marker

Order no.	Colour	Property	Packaging
95.953	blue	permanent, waterproof	10 / box
95.954	black	permanent, waterproof	10 / box
95.955	green	permanent, waterproof	10 / box
95.956	red	permanent, waterproof	10 / box
95.950	black	permanent, alcohol-resistant	10 / box



## Polycarbonate racks

The rack system, made of crystal-clear, shatter-proof and durable polycarbonate offers space for up to 48 tubes. Available in three different formats, they are ideal for processing and storing all reaction tubes. They can be dismantled, cleaned and easily autoclaved in just a few simple steps.

### Ordering information – polycarbonate racks

Order no.	for reaction tubes	Capacity/format	Length	Width	Height
93.870	2.0 ml	18/3 x 6	137	70	40
93.826	1.5 ml	18/3 x 6	137	70	40
93.849.100	1.5 ml and 2.0 ml	20/2 x 10	257	62	40
93.48.011	0.5 ml	48/4 x 12	257	90	40
93.837	1.5 ml	48/4 x 12	257	90	40
93.868	2.0 ml	48/4 x 12	257	90	40
93.850.001	5 ml	18/3 x 6	137	70	40
93.1431.001	5 ml	48/4 x 12	257	90	40

## IsoFreeze® rack

Many sample preparations require consistent and reliable sample cooling. For temperature-sensitive applications, such as the analysis of enzymes, PCRs or cell-based assays, but also for the careful thawing of samples and the stopping of reactions, SARSTEDT offers the IsoFreeze® Rack, a pipetting and storage station with reliable temperature control. After freezing, the rack keeps the sample temperature at 4 °C for up to 3.5 hours with the lid in place. If the IsoFreeze® Rack heats up to more than 7 °C, the colour noticeably changes from purple to pink. An additional advantage of the IsoFreeze® Rack is a minimised contamination risk, since the samples no longer have to be stored on ice.

### Ordering information – IsoFreeze® rack for 1.5 ml and 2.0 ml reaction tubes and screw-cap micro tubes

Order no.	Capacity/format	Length	Width	Height
95.983	24/4 x 6	146	105	70



## Plastic storage boxes

For the convenient storage of screw-cap micro tubes and reaction tubes with a volume of 1.5 ml and 2.0 ml, SARSTEDT offers high-quality polypropylene storage boxes which are suitable for long-term storage down to -90 °C.

Advantages of the plastic storage boxes:

- Hinged or slip-on lids – suitable handling for all types of storage
- Alphanumeric marking in the box – easysample identification
- Autoclavable – simple hygienic cleaning (121 °C, 20 min.)
- Cold resistant – reliable storage down to -90 °C
- Six colours – quick identification of the desired storage box

### Slip-on lid boxes

- dimensions: 130 mm x 130 mm x 45 mm (L x W x H)
- 81 tube storage capacity
- grid format 9 x 9

### Hinged lid boxes

- dimensions: 150 mm x 140 mm x 55 mm (L x W x H)
- 100 tube storage capacity
- grid format 10 x 10

### Ordering information – Plastic storage boxes

Colour	Slip-on lid	Hinged lid	Packaging unit/bag/case
transparent	93.876	93.877	5/20
pink	93.876.281	93.877.210	5/20
orange	93.876.381	93.877.310	5/20
yellow	93.876.481	93.877.410	5/20
green	93.876.581	93.877.510	5/20
blue	93.876.681	93.877.610	5/20



## Cardboard storage boxes

SARSTEDT cardboard storage boxes enable the safe and light-protected storage of screw-cap micro tubes of all sizes. Their grid inserts with storage space for 100 or 81 tubes and the large inscribable lid allow for neat organisation of the samples. Storage at -80 °C is easily possible, even over a long period, due to the resistance of the moisture-repellent, sealed, stable and cold-resistant cardboard material.

### Ordering information – Cardboard storage boxes

Order no.	Capacity/format	Suitable for	Length	Width	Height
95.64.923	100/10 x 10	0.5 ml	135	135	34
95.64.997	100/10 x 10	1.5 ml / 2.0 ml	135	135	45
95.64.981	81 / 9 x 9	1.5 ml / 2.0 ml	135	135	45

## Styrofoam containers

Due to their insulating properties, Styrofoam containers are particularly suitable for storing temperature-sensitive reagents and samples. The small container in particular, with a storage capacity of 20 screw-cap micro tubes, can also be used as a practical rack on the laboratory bench.

### Ordering information – Styrofoam container for 1.5 ml and 2.0 ml reaction tubes

Order no.	Capacity/format	Lid	Length	Width	Height
95.1439	100/5 x 20	without	390	80	50
95.64.249	100/5 x 20	✓	340	100	65
95.64.253	20/5 x 4	✓	100	85	65





If you have any questions,  
we'll be happy to help!

Visit our website: [www.sarstedt.com](http://www.sarstedt.com)



Brochure 362



Brochure 471



Brochure 537



Brochure 215



Brochure 683



Brochure 681



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This document may contain information on products that may not be available in particular countries

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