

# Catalog 2023



**THINK!** Development and production of customized products



**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



**Life science** products for microbiology and biotechnology



**Cryo** products for deep-freeze applications

**ratiolab**<sup>®</sup>  
disposables for sciences



ratiolab® was established in 1975 in Dreieich-Buchsschlag nearby Frankfurt. Since then, ratiolab® develops and produces high-quality plastic products for the laboratory and medicine.

Users from research, medical, science and industry appreciate and trust our products worldwide. These are characterized by constantly high quality as well as a high level of efficiency and innovation.

We supply everything that facilitates daily work routines, increases accuracy and improves process safety – in fact, those items that help to make the laboratory all that more efficient!





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### ratiolab® subsidiaries:

- In **Dreieich-Buchsschlag, Germany**, the headquarters with development, sales, logistics and administration. Here a built-up area of 2.500 m<sup>2</sup> is available.
- In **Szada, Hungary**, the highly modern production of plastic injection mouldings is located. Here an area of overall 6.500 m<sup>2</sup> is available.
- In **Dubai, United Arab Emirates** we have a distribution office for the MENA region.

Our approximately 75 employees are the basis foundations for our sustainable success. Their competence, motivation and a high degree of social competence are the guarantees for our future growth. Our team lives our values every day.



Dreieich-Buchsschlag, Germany



Dreieich-Buchsschlag, Germany



Szada, Ungarn

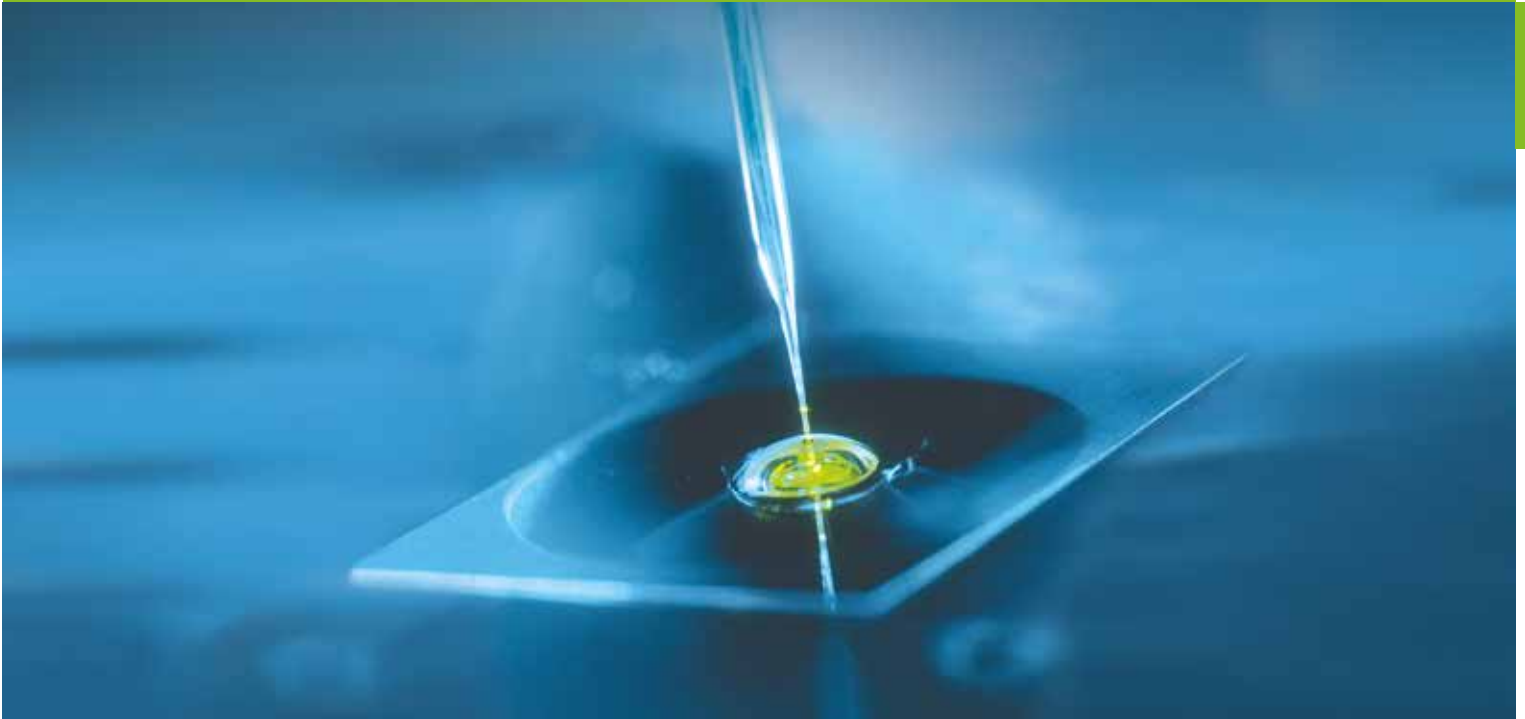


Szada, Ungarn





# Think!



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**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



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**Cryo** products for deep-freeze applications

# Think!

## **We give reality to your ideas!**

Disposables often have to be as individual and sophisticated as their future field of application.

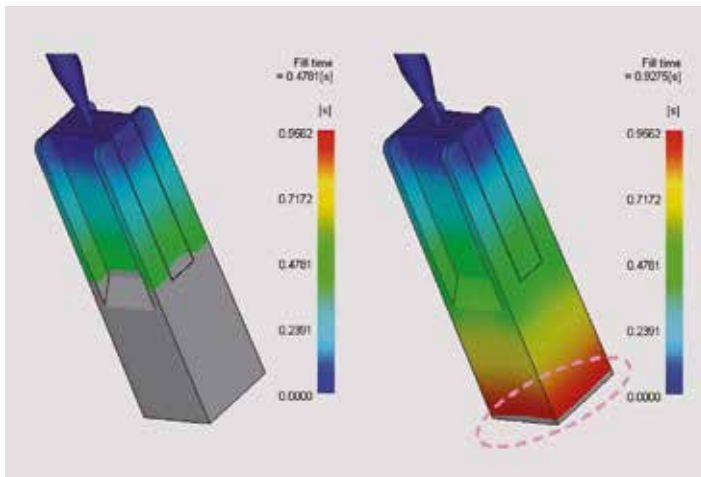
This is where we come in with our "Think" division. Together with our customers, we develop high quality, individual plastic articles. For this purpose, our entire know-how, many years of experience and state-of-the-art technology are at your disposal. Our range of services includes the following areas:



## Development and Design

Together with you, we develop your product according to your ideas and requirements. The goal is to provide you with a production-ready and cost-conscious design that considers your customer standards.

- deliberation and transfer of know-how in joint workshops
- creation of a specification sheet based on your requirements
- 3D-CAD design with state-of-the-art programs
- prototyping - production of initial and manual samples using 3D printing and other selected processes
- creation of initial sample reports using 3D measuring machines



## Tool and Mold Making

Intelligently designed tools are decisive for successful serial production. Especially for consumables produced in large quantities, factors such as process stability and long tool life are crucial.

- production of tools for plastics processing
- jig and fixture construction
- maintenance and repair of tools

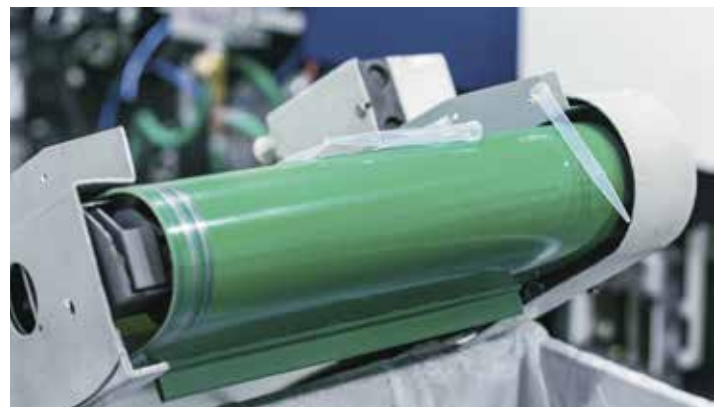


# Think!

## Plastics Processing

With a highly modern machine park and in a controlled dust-free environment, we manufacture complex and precise plastic products from small to large series in 3-shift operation at our location in Szada. The automated removal, as well as the subsequent handling of the products, are also our competence.

- plastic injection molding production on highly modern machines
- Class 8 clean room capacities
- state-of-the-art removal systems ensure the safe handling of the products
- highly automated handling systems for efficient further processing of the products in large quantities and fast cycles



## Packaging

Our packaging is the individual post-processing of products. Here, we offer the following services for small and large series:

- Quality control
- Packaging of bulk goods as well as manual loading of packaging devices
- Pad printing
- Ultrasonic welding of plastic products



## Logistics

We have a large, well-organized warehouse facility. Every day we pick and dispatch numerous shipments all over the world. We are happy to organize the shipping to you or directly to your customers!

Dreieich-Buchschlag, Germany



Szada, Hungary





# Slamed



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# Slamed Precision Pipets

## Slamed Precision Single Channel Pipet New

The Slamed Precision Pipette – one of the safest and most economic mechanical pipettes.

It requires lower insertion and ejection forces for tips to attach and detach. Therefore it reduces the risk of Repetitive Stress Injury (RSI). Meeting the highest needs of precision and accuracy while providing high flexibility via large number of variants. Slamed Precision series is remarkably light in terms of weight and pipetting force helping to avoid hand and arm strain.

- magnet assisted piston for consistently precise results
- innovative spring and seal design for one of the lowest plunge force requirements
- durable tip ejector made of stainless steel with unique silicon shock-absorbing mechanism
- ergonomic design with proper weight distribution
- volume lock setting
- large & clear 4-digit display
- precise volume setting
- highly durable PVDF tip cone
- made of highly durable material for protection against chemical corrosion and physical shocks
- UV resistant and fully autoclavable at 121°C for 20 minutes
- color coding for easy identification
- universal tip compatibility
- calibrated per ISO 8655-6 in ISO 17025 accredited lab
- 3 year warranty

Volume range $\mu\text{l}$	Accuracy max. vol %	Precision < %	Quantity per Pack	Order No.
0,1-2,5	2.5	0.7	1	47 60 001
0,5-10	1.0	0.4	1	47 60 002
2-20	0.9	0.3	1	47 60 003
5-50	0.6	0.3	1	47 60 004
10-100	0.8	0.2	1	47 60 005
20-200	0.6	0.2	1	47 60 006
100-1000	0.6	0.2	1	47 60 007
500-5000	0.6	0.2	1	47 60 008
1000-10000	0.6	0.15	1	47 60 009

## Slamed Precision 8-channel Pipet

Volume range $\mu\text{l}$	Accuracy max. vol %	Precision < %	Quantity per Pack	Order No.
0,5-10	2.0	1.0	1	47 60 010
2-20	2.0	1.6	1	47 60 011
5-50	1.0	0.7	1	47 60 012
10-100	0.8	0.3	1	47 60 013
20-200	0.7	0.25	1	47 60 014
30-300	0.6	0.3	1	47 60 015

## Slamed Precision 12-channel Pipet

Volume range $\mu\text{l}$	Accuracy max. vol %	Precision < %	Quantity per Pack	Order No.
0,5-10	2.0	1.0	1	47 60 016
2-20	2.0	1.6	1	47 60 017
5-50	1.0	0.7	1	47 60 018
10-100	0.8	0.3	1	47 60 019
20-200	0.7	0.25	1	47 60 020
30-300	0.6	0.3	1	47 60 021





# Slamed Single Channel Pipets L



## Slamed Single Channel Pipets L

The Pipet L meets all the demands for sterile liquid handling in microbiological and molecular biological laboratories. It is fully autoclavable and resistant to UV light. Easy volume setting by turning the pushbutton avoids jamming the gloves in the knurled screw.

Low spring forces of pipetting stroke and tip ejector accommodate the daily work without hand fatigue. With ten pipet models, the volume range is covered from 0.1 µl up to 10 ml.

- perfect measuring results
- directive calibration ISO 8655
- fully autoclavable and UV-light resistant
- volume setting by turning the pushbutton
- grooved handle reduces the influence of hand warmth
- fatigue-free operation because of the ergonomically designed handle and reduced spring forces
- adjustable length of the tip ejector enables the use of any brand of pipet tips
- maintenance free: components are manufactured from stainless steel and chemical-resistant plastic
- filters in the shafts protect the 5 ml and 10 ml pipets against overfilling and contamination
- 3 year warranty

Volume range µl	Model	Accuracy max. vol %	Precision < %	Quantity per Pack	Order No.
0.1-2	L2	+1.5	0.7	1	47 70 001
0.5-10	L10	+0.5	0.4	1	47 70 002
2-20	L20	+0.8	0.3	1	47 70 003
5-50	L50	+0.8	0.4	1	47 70 004
10-100	L100	+0.8	0.2	1	47 70 005
20-200	L200	+0.6	0.2	1	47 70 006
50-250	L250	+0.6	0.3	1	47 70 007
100-1000	L1000	+0.6	0.15	1	47 70 008
1000-5000	L5000	+0.5	0.15	1	47 70 009
1000-10000	L10000	+0.5	0.2	1	47 70 010

# Slamed Fix Volume Pipets CP



## Slamed Fix Volume Pipets CP

Fixed volume pipet with tip ejector. For every laboratory in every field. Highest performance for the best price.

33 Pipet CP models within the range of 2 to 1000  $\mu$ l.

- excellent precision and accuracy in the measurement of liquids
- directive calibration ISO 8655
- ergonomic design of handle for easy and pleasant work
- easy removal of tip ejector when working with narrow test tubes
- piston made of chemically resistant material
- built-in special system eliminating pipetting error
- maintenance free
- fully autoclavable and UV light resistant
- individual quality certificate with each unit
- the pipet is made of materials resistant to corrosive agents
- 3 year warranty

Volume range $\mu$ l	Model	Accuracy < $\pm$ %	Precision < %	Quantity per Pack	Order No.
2	CP2	3.0	1.5	1	47 70 031
5	CP5	2.0	1.0	1	47 70 032
7	CP7	1.5	0.7	1	47 70 033
10	CP10	1.2	0.5	1	47 70 034
15	CP15	1.0	0.5	1	47 70 035
20	CP20	0.9	0.4	1	47 70 036
25	CP25	0.9	0.4	1	47 70 037
30	CP30	0.9	0.3	1	47 70 038
40	CP40	0.9	0.3	1	47 70 039
44.7	CP44.7	0.9	0.3	1	47 70 040
50	CP50	0.9	0.3	1	47 70 041
60	CP60	0.9	0.3	1	47 70 042
70	CP70	0.9	0.3	1	47 70 043
75	CP75	0.9	0.3	1	47 70 044
80	CP80	0.9	0.3	1	47 70 045
90	CP90	0.9	0.3	1	47 70 046
100	CP100	0.9	0.3	1	47 70 047
120	CP120	0.8	0.3	1	47 70 048
150	CP150	0.7	0.3	1	47 70 049
200	CP200	0.6	0.2	1	47 70 050
200	CP200A	0.6	0.2	1	47 70 051
220	CP220	0.6	0.2	1	47 70 052
250	CP250	0.6	0.2	1	47 70 053
300	CP300	0.6	0.2	1	47 70 054
400	CP400	0.6	0.2	1	47 70 055
450	CP450	0.6	0.2	1	47 70 056
500	CP500	0.6	0.2	1	47 70 057
600	CP600	0.6	0.2	1	47 70 058
700	CP700	0.6	0.2	1	47 70 059
750	CP750	0.6	0.2	1	47 70 060
800	CP800	0.6	0.2	1	47 70 061
900	CP900	0.6	0.2	1	47 70 062
1000	CP1000	0.6	0.2	1	47 70 063

# Slamed Multichannel Pipets ME/MT and Pipet Stand

## Slamed Multichannel Pipets ME/MT

The fully autoclavable Pipets ME/MT are specially designed for working with gloves under sterile conditions. The volume range from 1 µl to 300 µl is covered by 4 models each in the 8- and 12-channel versions.

The patented manifold system ensures individual tight sealing of the pipet tips on each channel.

- perfect measuring results
- directive calibration ISO 8655
- fully autoclavable and UV-light resistant
- volume settings by turning the pushbutton to avoid snatching the gloves
- ergonomic design, the handle can be turned into an individual convenient position
- patented system makes manual corrections of the tip sealing redundant
- maintenance free: components are manufactured from stainless steel or chemical-resistant plastics
- each pipet comes with a quality certificate, holder and calibration key
- 3 year warranty

### Slamed 8-channel Pipet ME

Volume range µl	Model	Accuracy max. vol %	Precision < %	Quantity per Pack	Order No.
1-10	ME10	2.0	1.2	1	47 70 064
5-50	ME50	1.6	0.6	1	47 70 065
20-200	ME200	1.0	0.6	1	47 70 066
50-300	ME300	1.0	0.6	1	47 70 067

### Slamed 12-channel Pipet MT

Volume range µl	Model	Accuracy max. vol %	Precision < %	Quantity per Pack	Order No.
1-10	MT10	2.0	1.2	1	47 70 068
5-50	MT50	1.6	0.6	1	47 70 069
20-200	MT200	1.0	0.6	1	47 70 070
50-300	MT300	1.0	0.6	1	47 70 071

## Slamed Pipet Stands

Convenient and safe storage of pipets.

- rotating stand for up to 6 pipets
- pipet stand made of plexiglass for up to 4 pipettes as well as for multichannel pipettes

Product	Fig. No.	Quantity per Pack	Order No.
Pipet stand for 6 pipets	1	1 <b>New</b>	94 20 029
Pipet stand for 4 pipets	2	1	94 20 026
Pipet stand for 1 pipet	3	1	94 20 027



1



2



3



## ratiopetta®

Pipetting is one of the most frequently used applications in laboratories. This is not only where precision and reliability are important, users also need products that are ergonomic, light and convenient. The ratiopetta® from ratiolab® meets these demands while offering outstanding value for money.

- obtainable in volumes from 0.1 µl – 5000 µl
- fully autoclavable at 121 °C, 20 minutes
- universal cone for standard pipet tips
- easy volume setting by the smooth-running setting ring
- fatigue-free work possible for the analyst over longer pipetting series
- touch-sensitive pressure points for pipetting and discharging
- modern, innovative materials
- individual checking according to ISO8655/DIN12650
- delivery includes a test certificate
- individual serial numbers
- suitable for right- and left-handers
- easy to calibrate
- corrosion-resistant piston and tip ejector
- 2 year warranty

### Delivery includes:

- pipet
- certificate of calibration
- operating instructions
- bench rack
- calibration key
- lubricant

Matching pipet tips can be found on pages 31-34.





### ratiopetta® Single Pipet

Volume Range $\mu\text{l}$	Accuracy $< \pm \%$	Precision $< \%$	Quantity per Pack	Order No.
0.1 – 2.5	3.00	3,00	1	47 80 025
0.5 – 10	1.50	1.50	1	47 80 010
2.0 – 20	1.20	1,00	1	47 80 020
10 – 100	1.00	0.40	1	47 80 100
20 – 200	0.80	0.40	1	47 80 200
100 – 1000	0,70	0.25	1	47 81 000
1000 – 5000	0.60	0.30	1	47 85 000



### ratiopetta® 8-channel Pipet

Volume Range $\mu\text{l}$	Accuracy $< \pm \%$	Precision $< \%$	Quantity per Pack	Order No.
0.5 – 10	2.50	2.50	1	47 80 018
5.0 – 50	1.50	1.00	1	47 80 058
50 – 300	1.00	0.50	1	47 80 308

### ratiopetta® 12-channel Pipet

Volume Range $\mu\text{l}$	Accuracy $< \pm \%$	Precision $< \%$	Quantity per Pack	Order No.
0.5 – 10	2.50	2.50	1	47 80 012
5.0 – 50	1.50	1.00	1	47 90 052
50 – 300	1.00	0.50	1	47 90 302

Matching pipet tips can be found on pages 31-34.



### ratiopetta® Pipettor stands

- for the clearly laid out storing of up to 5 pipettors of different brands with finger rest
- compatible with most multi-channel-pipettors with finger rest

Product	Quantity per Pack	Order No.
pipettor stand for ratiopetta®	1	94 20 024

# Micro Centrifuge and Thermocult Incubator



## Micro Centrifuge for PCR Strips and Microcentrifuge Tubes

Space- and energy-saving micro centrifuge with adequate power for routine centrifugations.

- speed 7000/ min, max RCF 2680 x g
- lid must be closed for operation mode
- safety: the lid can only be opened when the rotor is not rotating
- rapid start and stop within seconds
- power supply AC100-240V/50Hz/60Hz
- diameter 150 mm, height 117 mm, weight 0.5 kg
- 2 year warranty
- supplied complete with two rotors:
  - rotor 1 for: 8 microcentrifuge tubes 0.5 ml till 2.0ml
  - rotor 2 for: 16 microcentrifuge tubes 0.2 ml or two pcr strips of 8 tubes 0.2 ml

Product	Quantity per Pack	Order No.
Micro Centrifuge with two rotors	1	71 00 007

## Thermocult Incubator

Compact incubator for bacteriology. Fixed temperature setting at 35 ± 2°C, adjustable up to 42°C, with built-in control thermometer. Glass-clear plasticdoor for visual control. The incubator can be placed on work benches or set up on walls.

- inside size (W x D x H): 210 x 145 x 110 mm, for up to 20 tissue cultures or 8 petri dishes
- outside size (W x D x H): 300 x 170 x 150 mm
- weight: approx. 1.3 kg, power: 230 V, 30 W
- shelf available separately
- 2 year warranty



Product	Quantity per Pack	Order No.
Thermocult Incubator	1	90 22 000
shelf	1	90 22 001

# 5-Channel Coagulometer CC-4000



## Coagulometer CC-4000

We present 5 channels coagulometer CC-4000, which executes all basic coagulational determination by chromometrical method, method of the usage of chrom substrate and immunochemical method (D-dimer).

Range of Determinations:

1. Basic coagulology:

- PT (time, index PT, index Quick, INR, Fibrinogen with PT)
- APTT (time, ratio)
- TT (time, ratio)
- Fibrinogen (Clauss method - g/l, mg/dl)
- Factors.

2. Chrome substrate:

- AT III (% activity)
- Plasminogen
- Protein C
- Alfa-2-antiplasmin ( $\alpha_2$ -AP)

3. D-Dimer

- ( $\mu\text{g/l}$ )

For all determinations the tested material (sample) is taken and prepared as in case of the typical coagulational determinations.

- measurements: length of the light wave: 405 nm, „micro-method“ - 50  $\mu\text{l}$  of the sample and the reagents
- automatic reading of the result
- automatic zero rotation
- storage of 4000 final results, 34 various calibration curves and referential values in the memory supply after the disconnection
- automatic systems of the turbidity compensation (the possibility of the determination of lipemic, hemolysed and icteric plasmas)
- compensation of the sample and cuvette fogging
- short period of the determination for substrata and D-dimer: 30-180s
- programming of the measures, types of results and prints
- display: graphic in English, 4 stop-watches of the incubation, built-in clock with date-marker, „Stand-by“ functions
- printer: built-in quick thermal printer 110 mm, printing of the summary, field results, calibration curves, course of the reaction, control and norms time, indexation of the beyond standards
- interfaces RS232 for the connection with computer's network
- connector USB for barcode leader
- dimensions and weight: 43 x 37 x 12 cm, 5 kg
- 500 cuvettes included
- 2 year warranty

Product	Quantity per Pack	Order No.
Coagulometer CC-4000	1	90 22 028
Test cuvettes	1000	90 22 030

# Slamed Bottle-Top Dispensers



## Slamed Bottle-Top Dispenser

Bottle-Top Dispenser for accurate and rapid dispensing of small and large volumes directly from any original reagent bottle.

The precise bottle dosing apparatus with outparallax errors in volume adjustment.

Five models within the range 0.25ml to 50 ml

- easy and reliable volume adjustment, protected against unintended alteration
- the valve block is 360° rotatable
- 100% drip free system for your safety at work: just turn the discharge tube at 180° to drain it and avoid the further uncontrolled flow of liquid
- fully autoclavable at 121 °C, can be completely disassembled for cleaning
- the components directly in contact with the reagent are made of chemical resistant materials: platinum spring, ceramic valve balls, PTFE piston, borosilicate glass 3.3 cylinder
- use for nearly all liquids
- do not use for PTFE swelling solvents, hydrofluoric acid, chemical solutions which react with platinum-iridium alloys
- each device is tested individually and delivered with conformity certificate
- 2 year warranty
- supplied without bottle

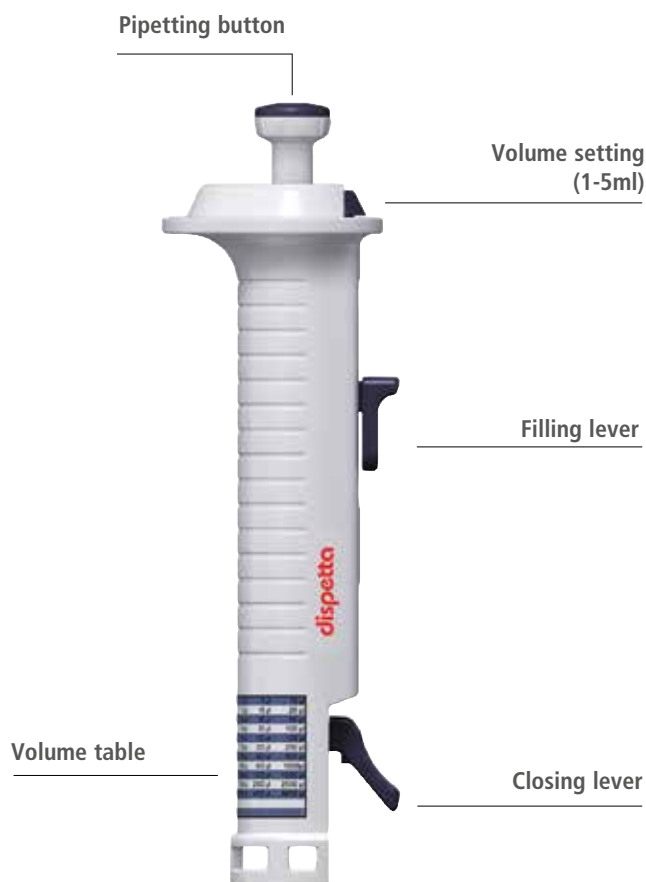
Volume settings ml	Model	Dispensing Steps ml	Inaccuracy A % <sup>1</sup>	Imprecision CV % <sup>1</sup>	Quantity per Pack	Order No.
0.25-2.5	D1	0,05	0,6	≤0,1	1	29 70 001
0.5-5	D2	0,10	0,5	≤0,1	1	29 70 002
1-10	D3	0,20	0,5	≤0,1	1	29 70 003
2.5-25	D4	0,50	0,5	≤0,1	1	29 70 004
5-50	D5	1,00	0,5	≤0,1	1	29 70 005
1-10	HF <sup>2</sup>	0,20	0,5	≤0,1	1	<b>New</b> 29 70 015

<sup>1</sup> from the nominal volume

<sup>2</sup> for Hydrogen Fluoride & Hydrofluoric Acid



# Dispetta Dispenser and Pipetting Aid



## ratiolab® Dispetta Pipettor for Serial Dispensing

The convenient and robust instrument for serial dispensing with Dispenser Tips.

Five volume settings combined with seven Dispenser Tips sizes result in 35 different volumes from 10 µl to 5 ml.

The Dispenser Tip is filled similar to a syringe. After preselecting the dispensing volume the pipet button has to be pressed for each dispensing step.

- ergonomic design and lightweight for convenient handling
- smooth and fatigue-free operation even with long series
- precise and convenient volume setting
- clearly visible volume adjustment, optimized readability
- table with a volume scale fixed directly onto the instrument
- precise gear mechanism for accurate and reproducible pipetting
- safe, rapid and easy exchange of Dispenser Tips
- maintenance-free
- long life due to robust design
- manual dispenser without electronic parts
- 2 year warranty

Suitable dispenser tips see on page 41.

Product	Quantity per Pack	Order No.
ratiolab® dispetta dispenser	1	29 80 200

## ratiolab® Accupetta Electronic Pipetting Aid

- can fill 25 ml pipet in less than 4 seconds
- safety valve and hydrophobic filters provide double protection against fluid penetration
- two different speed modes – high & low along with gravity drain
- the pump speed can also be fine-tuned by varying finger pressure on operating knobs for better control of speed
- cadmium-free environment-friendly NiMH batteries
- intelligent charger prevents over-charging/heating of batteries
- low battery indicator, power 2 x 1.2 V/1000 mAh
- battery service life: 8 hours continuous use
- battery charging time: 2 – 3 hours
- volumetric range: plastic or glass pipets from 0.1 ml to 100 ml
- autoclavable pipet cone
- 2 year warranty

Order No. 32 00 300 Accupetta contains: 1x Accupetta, 2x Rechargeable battery, 1x Adapter for battery charger, 2x Spare filter 0,45 µm, 1x Wall mount for Accupetta.

Suitable serological pipets see on page 36.

Product	Quantity per Pack	Order No.
ratiolab® Accupetta	1	32 00 300
Accessories:		
Spare silicone pipet adapter	1	32 00 301
Spare filter hydrophobic, non-sterile, 0.2 µm	1	32 00 302
Spare filter hydrophobic, non-sterile, 0.45 µm	1	32 00 303
Battery for Accupetta, set of 2	1	32 00 306
Battery charger for Accupetta	1	32 00 309
Adapter for battery charger	1	32 00 311
Wall mount for Accupetta	1	32 00 312

Ultra-light with  
185 grams





# Liquid handling



**Think!** Development and production of customized products



**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



**Life science** products for microbiology and biotechnology



**Cryo** products for deep-freeze applications

# Pipet Tips

## Pipet tips

ratiolab® pipet tips are ideal for all commercially available pipets. Their uniform high quality and precision make today's pipets fully effective. Together with specially developed Multirack, Refill System, and the ratiolab®

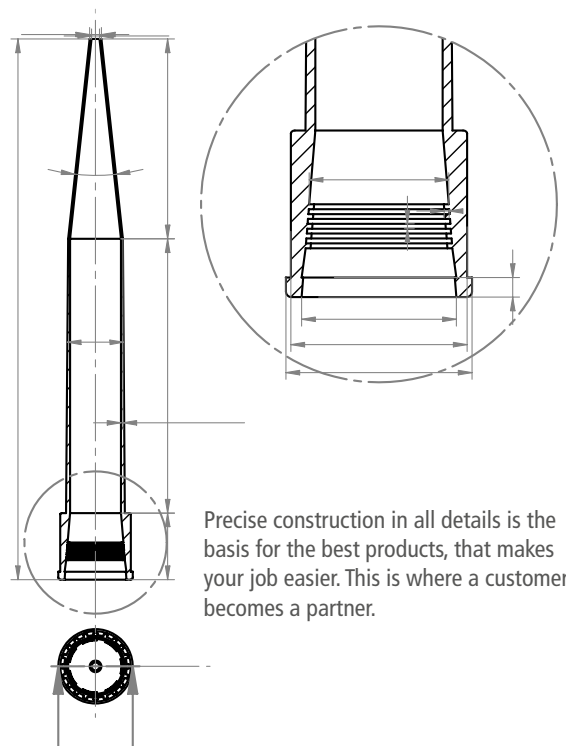


Multibox® with the associated pipet tips in Multitray®, they make pipetting much simpler and safe, also in the most sensitive applications. Our pipet tips are perfectly fit for manual or electronic, single or multichannel pipets.

### Precision in each and every detail – a guarantee for the highest quality.

- made of high-quality polypropylene
- tight fit due to precisely fitting cone
- optimal handling due to stable shape
- autoclavable
- guaranteed dust-free due to special ionization treatment
- available pre-sterilized or non-sterile
- excellent transparency due to high-quality surfaces
- minimal residual wetting due to controlled quality of raw materials
- excellent volume accuracy due to precise tip orifice
- practice-oriented tip volumes
- aroject® tips with special filters made of hydrophobic HD-PE as an aerosol barrier and for protection against contamination
- suitable for all commonly used pipet types

This is why ratiolab® pipet tips always provide perfect results.



# Pipet Tips System and Refill System



## Pipet Tips System

### Multirack

The ratiolab® Multiracks provide even more time-saving, perfect hygienic conditions and simple operation.

- the pipet tips are placed on a robust matrix, in an 8 x 12 format for all tips up to 300 µl, and in a 6 x 10 format for tip size 100 – 1200 µl
- the tips can be picked up by 1, 8 or 12-channel pipettors as well as by pipetting robots contamination-free and without any hand contact
- the Multiracks are durable and steady, and the hinged cover can be opened up to 180°
- after work, the Multibox® can be closed firmly by means of a click closure to protect the tips from dust
- the Multiracks are completely autoclavable at 121 °C, 20 minutes
- Multiracks are available in sterile and non-sterile packs

Order information on pages 31-33.



## Pipet Tips Refill System

### Multibox®plus and -ultra/MultiTray® System

The ratiolab® Multibox®plus and -ultra/MultiTray® system simplifies pipet tips handling and provides more safety.

MultiTray®, the dust-proof refill packs made of plastics for ratiolab® pipet tips, hold the tips in plastic matrices. Up to five plastic matrices filled with tips are stacked on top of each other in the space-saving MultiTray®. For tips up to 300 µl, the matrices contain 96 pipet tips in the 8 x 12 standard format. All 100 – 1200 µl tips are in a 6 x 10 form on the matrices. The matrices can simply be removed from the Multibox® with the two-finger tabs.

The MultiTray® matrices fit securely into the Multibox®plus and -ultra with a soft click. The framework of the Multibox®plus and -ultra provides full support for the MultiTray® matrices – resulting in convenient and safe tip pick-up, even with 8- and 12-channel pipettors. For tip removal, the dustproof, hinged cover of the Multibox®plus and -ultra may be opened completely or partially by using the additional sliding mechanism. For cleaning the lid can be removed.

**The ratiolab® Multibox®plus and -ultra/MultiTray® system is space- and cost-saving. It clearly reduces the amount of waste, and it provides more convenient and safe pipetting and sterilization.**

# Pipet Tips Refill System

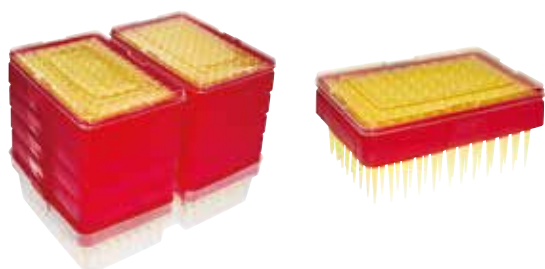


## Multibox® plus and -ultra for MultiTray® pipet tips

Reusable pipet tip boxes for the ratiolab® MultiTray® refill systems.

- Multibox® plus, PC, with dust-proof hinged and sliding lid, completely removable
- Multibox® ultra, PP, with hinged lid
- can be autoclaved several times at 121 °C, 20 min
- quantity per pack: 1 pc.
- scope of delivery: Multibox®plus or -ultra without MultiTray® and without pipet tips

Product	Fig. No.	Volume	Order No.
ratiolab® Multibox® plus, PC, empty, for all MultiTray® pipet tips	1	up to 1200 µl	80 10 161
ratiolab® Multibox® ultra PP, empty, for all MultiTray® pipet tips	2	up to 300 µl	80 30 160
ratiolab® Multibox® ultra PP, empty, for all MultiTray® pipet tips	3	up to 1200 µl	80 30 170



## MultiTray® for Multibox®plus and Multibox®ultra

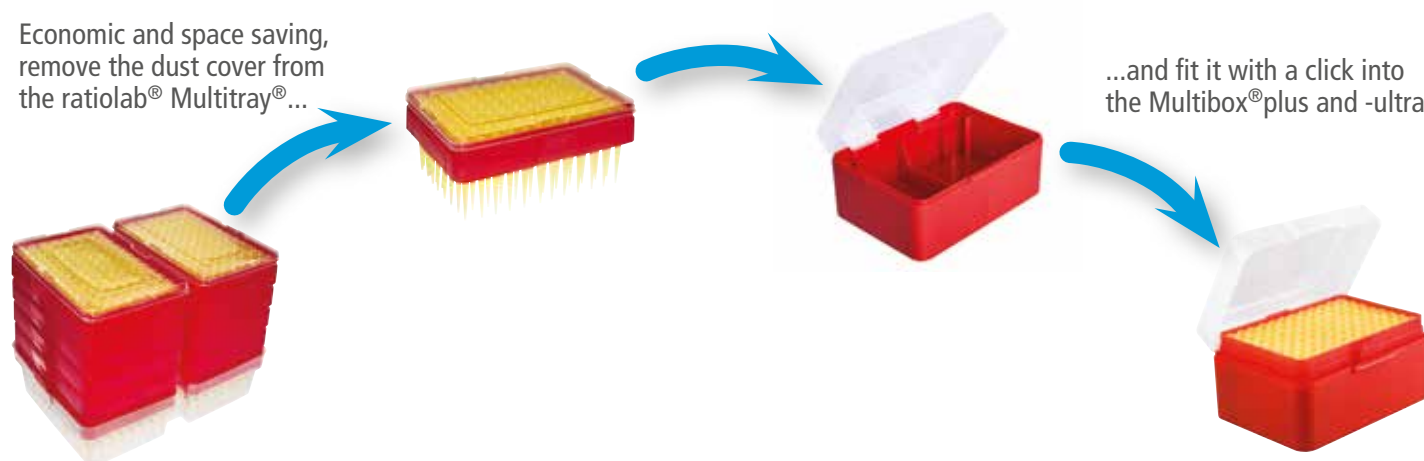
- dust-proof refill pack with several plastic matrices filled with tips
- the most functional, environmentally-friendly, space and cost-saving packaging
- autoclavable up to 121 °C

Order information on pages 31-33.

Economic and space saving, remove the dust cover from the ratiolab® Multitray®...

...lift a single dust-proof tip matrix,...









...and fit it with a click into the Multibox®plus and -ultra





Scan here for pipette tip compatibility chart

## Pipet Tips

Type	Volume Range $\mu$ l	Length mm	Packaging	Fig. No.	Quantity per Pack	Order No.
Crystal pipet tip "E", for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	0,5-20	45,80	bag 1 x 1000	1	1000	25 00 170
			Multiracks 10 x 96	2	960	25 13 172
			Multiracks, sterilized 10 x 96	2	960	25 53 172
			MultiTray <sup>®</sup> 10 x 96	3	960	25 30 172
Crystal pipet tip "G", for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	0,1-10	38,30	bag 1 x 1000	1	1000	25 00 190
			Multiracks 10 x 96	2	960	25 13 192
			Multiracks, sterilized 10 x 96	2	960	25 53 192
			MultiTray <sup>®</sup> 10 x 96	3	960	25 30 192
Crystal pipet tip xl, for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	0,1-10	45,50	bag 1 x 1000	1	1000	21 00 500
			Multiracks 10 x 96	2	960	25 13 502
			Multiracks, sterilized 10 x 96	2	960	25 53 502
			MultiTray <sup>®</sup> 10 x 96	3	960	25 30 173
Yellow pipet tip "E", for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	1-200	49,50	bag 1 x 1000	1	1000	21 00 600
			Multiracks 10 x 96	2	960	21 13 602
			Multiracks, sterilized 10 x 96	2	960	21 53 602
			MultiTray <sup>®</sup> 10 x 96	3	960	21 30 602
Colorless pipet tip "E", for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	1-200	49,50	bag 1 x 1000	1	1000	24 00 600
			Multiracks 10 x 96	2	960	24 13 602
			Multiracks, sterilized 10 x 96	2	960	24 53 602
			MultiTray <sup>®</sup> 10 x 96	3	960	24 30 602
Yellow pipet tip "universal", for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	1-250	51,20	bag 1 x 1000	1	1000	25 00 160
			Multiracks 10 x 96	2	960	25 13 162
			Multiracks, sterilized 10 x 96	2	960	25 53 162
			MultiTray <sup>®</sup> 10 x 96	3	960	25 30 162
Colorless pipet tip "universal", for ratiopetta <sup>®</sup> , slamed <sup>®</sup> and all commonly used pipets 	1-250	50,00	bag 1 x 1000	1	1000	25 00 163
			Multiracks 10 x 96	2	960	25 13 163
			Multiracks, sterilized 10 x 96	2	960	25 53 163
			MultiTray <sup>®</sup> 10 x 96	3	960	25 30 163
Pipet tip "Oxford", for all commonly used pipets 	1-200	65,30	bag 1 x 1000	1	1000	25 00 110



1











2



3

# Pipet Tips

## Pipet Tips

Type	Volume Range µl	Length mm	Packaging	Fig. No.	Quantity per Pack	Order No.
Pipet tip "MLA", for all commonly used pipets	1-200	47,50	bag 1 x 1000	1	1000	25 00 140
						
Pipet tip "wide bore", for all commonly used pipets, ratiopetta®	1-200	50,50	bag 1 x 1000	1	1000	21 00 553
						
Blue pipet tip "E", for ratiopetta®, slamed® and all commonly used pipets	100-1200	70,94	bag 1 x 1000	1	1000	21 00 610
			Multiracks 10 x 60	2	600	21 13 612
			Multiracks, sterilized 10 x 60	2	600	21 53 612
			MultiTray® 16 x 60	3	960	21 30 612
						
Colorless pipet tip "E", for ratiopetta®, slamed® and all commonly used pipets	100-1200	70,94	bag 1 x 1000	1	1000	24 00 610
			Multiracks 10 x 60	2	600	24 13 612
			Multiracks, sterilized 10 x 60	2	600	24 53 612
			MultiTray® 16 x 60	3	960	24 30 612
						
Pipet tip "MLA", for all commonly used pipets	100-1000	86,30	bag 1 x 1000	1	1000	25 00 150
						
Pipet tip "wide bore", for ratiopetta®, slamed® and all commonly used pipets	100-1000	85,40	bag 1 x 1000	1	1000	21 00 555
						
Pipet Tip Dr. Lange, for Dr. Lange pipets	100-1000	86,30	bag 1 x 1000	1	1000	25 00 130
						
Colorless pipet tip "ES", for Pipets Socorex Calibra®	500-2500	115,00	bag 1 x 250	1	250	25 00 180
						



1



2



3











# Pipet Tips



Scan here for pipette tip compatibility chart

## Pipet Tips

Type	Volume Range $\mu$ l	Length mm	Packaging	Fig. No.	Quantity per Pack	Order No.
Pipet Tip "Finntip", for Pipets Thermo Scientific®, Dr. Lange®, Brand® 	1000-5000	147,60	box 1 x 75	4	75	24 00 620
			bag 1 x 1000	1	1000	24 00 622
			bag 1 x 3000	1	3000	24 00 623
			bag 1 x 500	1	500	24 00 624
			rack 1 x 50	5	50	24 10 620
			rack, sterilized 1 x 50	5	50	24 53 620
Pipet Tip "Makro", for Pipets Eppendorf Research® Plus, Gilson®, Pipetman® 	1000-5000	119,70	bag 1 x 250	1	250	24 00 630
			rack 1 x 50	6	50	24 10 630
			rack, sterilized 1 x 50	6	50	24 53 630
Pipet Tip "Makro II", for ratiopetta®, Pipets Socorex Accura® 	1000-5000	126,00	bag 1 x 300	1	300	24 00 650
			rack 1 x 50	5	50	24 10 650
			rack, sterilized 1 x 50	5	50	24 53 650
Pipet Tip "Makro III", for Pipets Eppendorf Research® plus, 	1000-5000	133,30	bag 1 x 300	1	300	24 00 653
			rack 1 x 50	5	50	24 10 653
			rack, sterilized 1 x 50	5	50	24 53 653
Pipet Tip „Makro IV“, for Slamed® Precision and Gilson® 	1000-5000	124,00	Beutel 1 x 250	1	250 <b>New</b>	24 00 655
Pipet Tip colorless, for Slamed® Precision and Eppendorf® Pipetten 	1000-10000	161,00	Beutel 1 x 200	1	100 <b>New</b>	24 00 645
Pipet Tip "Finntip", for Pipets Thermo Scientific®, Socorex Acura®, Gilson® 	2000-10000	150,20	bag 1 x 100	1	100	24 00 640
			rack 1 x 25	5	25	24 10 640
			rack, sterilized 1 x 25	5	25	24 53 640
Pipet Tip, for Pipets Brand®, Socorex Acura®, Gilson® 	1000-10000	153,60	bag 1 x 100	1	100	24 00 642
			rack 1 x 25	5	25	24 10 642
			rack, sterilized 1 x 25	5	25	24 53 642



1



4



5



6

# aeroject® ultra Pipet Filter Tips






free of RNase-, DNase-, DNA, ATP-,  
pyrogens, and PCR inhibitors-,  
Low Retention



## aeroject® ultra filter tips – Pipet Tips with Aerosol Barrier

Pipet tips with special filters, to effectively prevent the pipettor shaft from contamination with aerosols and liquids to be sucked into the pipettor.

- sterilized
- free of RNase, DNase, pyrogens and ATP
- free of human DNA and PCR inhibitors
- pipet tips and aerosol filters made of ultra-hydrophobic HD-PE
- minimized retention due to special surface treatment
- perfect and tight fit on all major pipettor brands
- aeroject® ultra 17 70 010 and 17 71 000xl with extended length for operation with narrow vessels and reduced risk of cross-contamination
- packed in plastic racks with hinged lids

Type	Volume Range µl	Length mm	Packaging	Quantity per Pack	Order No.
Pipet Tip aeroject® ultra tips xl, for all commonly used pipets, ratiopetta®	0,1-10	45,60	Racks 10 x 96	960	17 70 010
					
Pipet Tip aeroject® ultra tips, for all commonly used pipets, ratiopetta®	1-20	50,80	Racks 10 x 96	960	17 70 020
					
Pipet Tip aeroject® ultra tips, for all commonly used pipets, ratiopetta®	1-100	50,80	Racks 10 x 96	960	17 70 100
					
Pipet Tip aeroject® ultra tips, for all commonly used pipets, ratiopetta®	1-200	50,80	Racks 10 x 96	960	17 70 200
					
Pipet Tip aeroject® ultra tips, for all commonly used pipets, ratiopetta®	100-1000	86,00	Racks 10 x 96	960	17 71 000xl
					

# Pipetting Reservoirs

## Pipetting reservoirs

The ratiolab® pipet reservoirs made of white polystyrene (PS) are ideal for the repetitive filling of single and multi-channel pipets.

Because of the innovative design, these disposable items are both space-saving and stackable. Their broad edges give them a firm and safe stand. They are thus an uncomplicated and clean alternative to reusable reservoirs. The material is recyclable.

This product line is available in three application-oriented versions:

### Version -Figure- 1

- single reservoir with max. volume 50 ml
- angled bottom for practically complete withdrawal of sample and hence economical in use
- groove graduations at 10, 15, 20 and 25 ml
- labeling area

### Version -Figure- 2

- extra large single reservoir with max. volume 100 ml
- graduations at 50 and 100 ml
- conical bottom for economy due to minimum loss of medium

### Version -Figure- 3

- specially designed for use with 8-channel pipets
- 8 separate channels of 6 ml volume (= 48 ml total)

Versions 1–3 are available gamma-sterilized or non-sterile.



## Pipetting reservoirs made of PS

Volume	Fig. No.	Sterilized	Quantity per Pack	Order No.
50 ml	1	–	bags 20 x 5	94 20 018
50 ml	1	■	bags 20 x 5	94 25 518
100 ml	2	–	bags 20 x 5	94 20 017
100 ml	2	■	bags 20 x 5	94 25 517

## Pipetting reservoirs made of PS for 8-channel precision pipetting

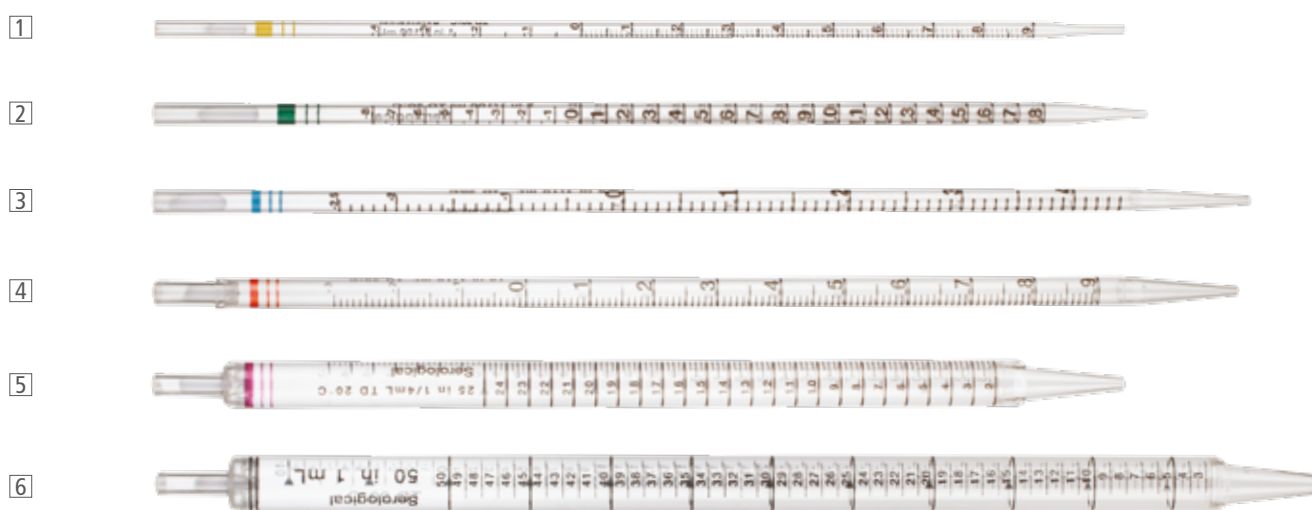
Volume	Fig. No.	Sterilized	Quantity per Pack	Order No.
6 ml	3	–	bags 20 x 5	94 20 016
6 ml	3	■	bags 20 x 5	94 25 516

# Serological Pipets

## Serological Pipets

Glass-clear polystyrene (PS).

- free of RNase, DNase, DNA, pyrogens
- non-toxic, TSE/BSE free
- permanent black-embossed graduations
- with color-coded ring for convenient identification, standard color code
- sterile, individually packed
- packed: plastic/paper
- negative graduation for additional capacity
- accuracy is +/- 2-3%.
- with cotton plug



Positive Volume ml	Fig. No.	Negative Volume ml	Graduation ml	Length mm	Quantity per Pack	Order No.
1	1	0.04	0.01	279.40	1000	31 01 011
2	2	0.08	0.01	282.58	1000	31 02 011
5	3	2.5	0.1	348.15	200	31 05 011
10	4	3.0	0.1	346.81	200	31 10 011
25	5	7.0	0.25	310.90	200	31 25 011
50	6	10.0	1.0	368.17	100	31 50 011

# Sterilizing Pipet Box



## Sterilizing Pipet Box

Aluminium.

Pipet boxes with optimized easy handling in every day's work. The cylindrical pipet boxes are the best option for autoclaving various glass items with a length from 150 to 480 mm like mixing rods, Pasteur, volumetric, and graduated pipets.

- autoclavable at 121 °C, 20 minutes
- autoclaving: the new construction guarantees the entrance of steam into the container and optimizes the process of autoclaving
- opening and closing: soft sliding performance of the top section onto the base section facilitates work
- base and top section are filled with a silicon layer at the bottom as a shock absorber to protect the glass items from splintering
- the sterilizing pipet boxes are available in 4 various lengths
- bottom: inside dimensions: 60 x 60 mm, external dimensions: 62 x 62 mm
- top: inside dimensions: 62,75 x 62,75 mm, external dimensions: 68,70 x 68,70 mm

## Stainless steel holder for 4 ratiolab® pipet boxes

- for practical storage of up to 4 pipet boxes
- space-saving and safe storage of pipet boxes
- size D x W x H: 265 x 250 x 120 mm

Product	Length mm	Quantity per Pack	Order No.
Pipet box	160-200	1	31 70 200
Pipet box	235-305	1	31 70 305
Pipet box	315-385	1	31 70 385
Pipet box	315-485	1	31 70 485
Pipet box holder	-	1	31 70 100

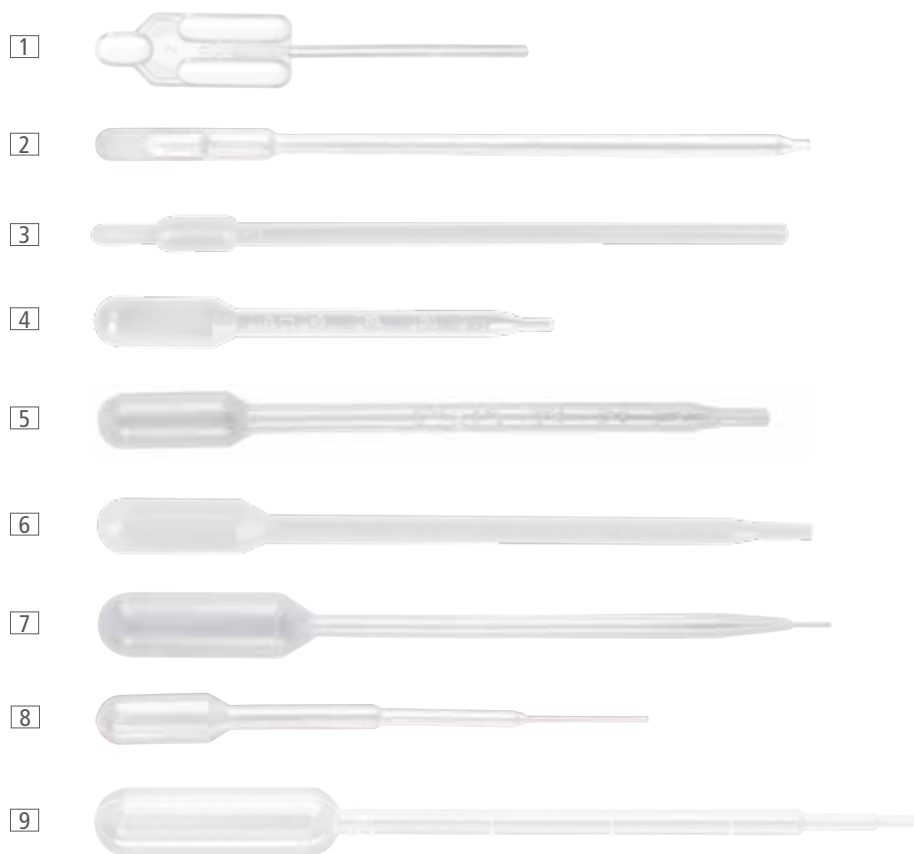
# Pasteur-Plast Pipets

## Pasteur-plast pipets

Pasteur-plast pipets render liquid handling simple and safe. Cross-contamination and carry-over simply cannot occur so tedious clean-ups are unnecessary. In addition, there is no danger of glass breakage with the resulting danger of infectious material escaping.

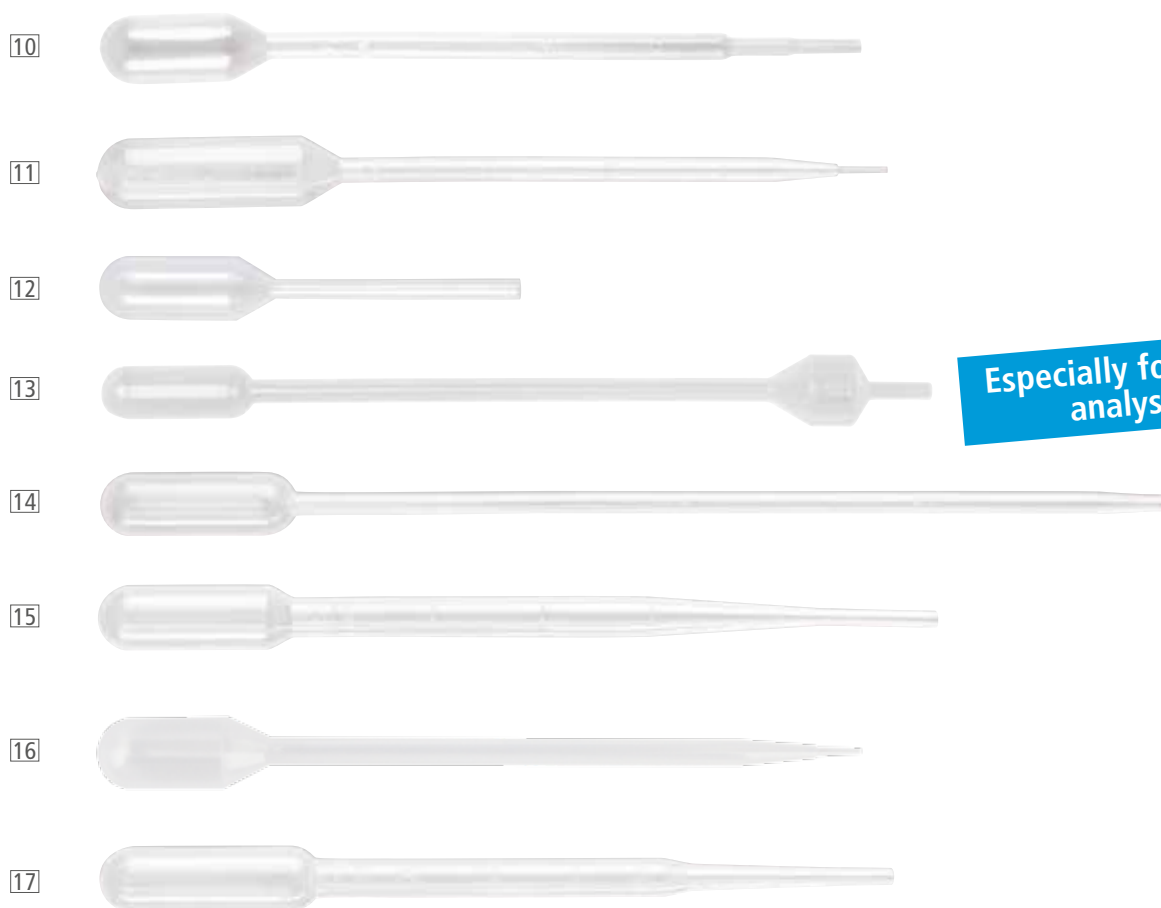
The Pasteur-plast pipets are made of transparent polyethylene. They are inert to biological fluids and most acids. The low affinity of the surface reduces the loss of cells and valuable proteins through binding.

- soft, elastic bulb
- unbreakable – thus reducing the risk of glass injury
- burr-free orifice for neat, clean and precise dispensing
- only externally graduated Pasteur-plast pipets with clearly visible embossed graduations
- sterile Pasteur-plast pipets are gas-sterilized and individually packaged
- BSE-free
- can be used for food
- made of LD-PE
- usable up to medium temperature 70 °C



Volume ml	Fig. No.	Volume without ball (ml)	Vol. with ball (ml)	Scaling/ Volume	Graduation	Length mm	Drops per ml	Sterilized	Quantity per Pack	Order No.
0.1	1	0.1	–	–	–	82	–	–	1000	26 00 260
0.2	2	0.25	–	–	–	130	40±4	–	500	26 00 145
0.25	3	0.2	0.45	–	–	125	20±2	–	1000	26 00 290
0.5	4	0.5	1.5	0.5	■	85	25±3	–	1000	26 00 125
0.8 Mini	5	0.8	2	0.5	■	112	25±3	–	1000	26 00 230
0.8 Mini	5	0.8	2	0.5	■	112	25±3	■	500 x 1	26 55 230
1.0 Mini Plus	6	0.8	1.8	–	–	114	25±3	–	1000	26 00 270
1.0 Micro	7	1	5	–	–	149	50±5	–	500	26 00 240
1.0 Micro	7	1	5	–	–	149	50±5	■	500 x 1	26 55 240
1.0 Kapillare	8	0.5	1.5	–	–	104	50±5	–	400	26 00 155
1.0	9	1.0	5.5	1	■	153	30±3	–	500	26 00 171
1.0	9	1.0	5.5	1	■	153	30±3	■	500 x 1	26 55 171
1.0	9	1.0	5.5	1	■	153	30±3	■	50 x 10	26 56 171

# Pasteur-Plast Pipets



Especially for urine analysis

Volume ml	Fig. No.	Volume without ball (ml)	Vol. with ball (ml)	Scaling/ Volume	Graduation	Length mm	Drops per ml	Sterilized	Quantity per Pack	Order No.
1.0	[10]	1.0	3.5	1	■	140	25±3	–	500	26 00 119
1.0 Kapillare	[11]	1.0	5.5	1	■	150	50±5	–	500	26 00 181
1.0 Kapillare	[11]	1.0	5.5	1	■	150	50±5	■	500 x 1	26 55 181
1.2	[12]	1.2	–	–	–	63	–	–	500	26 00 160
1.3	[13]	1	–	–	–	140	25±3	–	500	26 00 220
1.5	[14]	2	6	1.5	■	228	22±2	–	400	26 00 120
1.5	[14]	2	6	1.5	■	228	22±2	■	250 x 1	26 55 120
2.0	[15]	2.0	5	2	■	152	25±3	–	500	26 00 135
2.0	[15]	2.0	5	2	■	152	25±3	■	500 x 1	26 55 135
2.0	[15]	2.0	5	2	■	152	25±3	■	50 x 10	26 56 135
2.5 Micro Tip	[16]	1.5	4	–	–	134	50±5	–	500	26 00 280
2.5	[17]	2.5	6.5	2.5	■	152	25±3	–	500	26 00 131
2.5	[17]	2.5	6.5	2.5	■	152	25±3	■	500 x 1	26 55 131

**New**









# Pasteur-Plast Pipets



Volume ml	Fig. No.	Volume without ball (ml)	Vol. with ball (ml)	Scaling/ Volume	Graduation	Length mm	Drops per ml	Sterilized	Quantity per Pack	Order No.
3.0	18	3	7	3	■	160	25±3	–	500	26 00 250
3.0 Makro	19	3.0	7	3	■	158	25±3	–	500	26 00 111
3.0 Makro	19	3.0	7	3	■	158	25±3	■	500 x 1	26 55 111
3.0 Makro	19	3.0	7	3	■	158	25±3	■	50 x 10	26 56 111
3.0 Mikro	20	0.1	3.7	–	–	152	30±3	–	500	26 00 151
3.0 Mikro	20	0.1	3.7	–	–	152	30±3	■	500 x 1	26 55 151
4.0	21	0.05	4.05	–	–	86	30±3	–	500	26 00 165
4.0	22	3	7	–	–	147	25±3	–	500	26 00 216
6.0 Makro	23	1.8	8.3	–	–	148	22±2	–	400	26 00 206
6.0 Makro	23	1.8	8.3	–	–	148	22±2	■	400 x 1	26 55 206
10.0	24	0.6	15	–	–	169	17±2	–	200	26 00 190
10.0	25	7.5	23	–	–	301	25±3	–	100	26 00 195



# Dispenser Tips

	Volume setting				
	1	2	3	4	5
 1	1	2	3	4	5µl
 2	10	20	30	40	50µl
 3	25	50	75	100	125µl
 4	50	100	150	200	250µl
 5	0.25	0.5	0.75	1.0	1.25ml
 6	0.5	1.0	1.5	2.0	2.5ml
 7	1	2	3	4	5ml
 8					

## Dispenser Tips

### For serial pipettings

The volume of the Dispenser Tips is automatically identified by the pipetting device (HandyStep® electronic only). PD-Dispenser Tips fit onto ratiolab® dispetta, Brand HandyStep® and HandyStep® S and Eppendorf Multipette® 4780. Not autoclavable.

8] Adapters for 25 ml and 50 ml Dispenser Tips must be ordered separately.

Volume ml	Fig. No.	Description	Quantity per Pack	Order No.
0.5	1	non-sterile	100	29 00 401
1.25	2	non-sterile	100	29 00 402
2.5	3	non-sterile	100	29 00 403
5.0	4	non-sterile	100	29 00 404
12.5	5	non-sterile	100	29 00 405
25	6	non-sterile	50	29 00 109
50	7	non-sterile	25	29 00 106
Adapter	8	non-sterile	10	29 00 107
0.5	1	sterile, individually packed	100	29 10 101
1.25	2	sterile, individually packed	100	29 10 102
2.5	3	sterile, individually packed	100	29 10 103
5.0	4	sterile, individually packed	100	29 10 104
12.5	5	sterile, individually packed	100	29 10 105
25	6	sterile, individually packed	25	29 10 109
50	7	sterile, individually packed	25	29 10 106
Adapter	8	sterile, individually packed	5	29 10 107



# Labware



**Think!** Development and production of customized products



**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



**Life science** products for microbiology and biotechnology



**Cryo** products for deep-freeze applications

# Cuvettes

## Cuvettes

Disposable cuvettes have long replaced cuvettes once normally made of glass. New plastics coupled with modern methods of production allow photometric measurement well into the UV range.

Ultra-precision molds with several cavities – one per cuvet – are used for producing ratiolab® Q-VETTES and ratiolab® CUVETTES under controlled room conditions. Thus, in any one injection molding run several cuvettes are produced

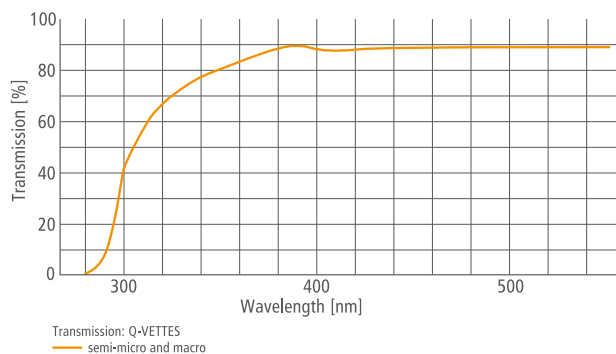
simultaneously. In order to prevent deviations in extinction coefficient values from occurring in any one run due to increased stray light, the cuvettes are automatically sorted according to their numbered cavities of origin. Each package shows the corresponding local production number of the cuvettes position in the net. So all cuvettes inside one styrofoam box are technical wise identical. Any measurement done with those identical cuvettes insures a high accuracy.



## Q-VETTES

The new generation of cuvettes with clearly improved photometric properties. The optimized form and the small wall thickness of the cuvettes provides increased heat transfer resulting in more constant sample temperatures during photometric measurements.

- glass-clear polystyrene (PS)
- applicable wavelength range 340 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 net identical cuvettes in a styrofoam box with closable lid



Product	Material	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® Q-VETTES semi-micro	PS	1.6	styrofoam racks 10 x 100	1000	27 12 120
ratiolab® Q-VETTES macro	PS	4.0	styrofoam racks 10 x 100	1000	27 11 110

# Cuvettes

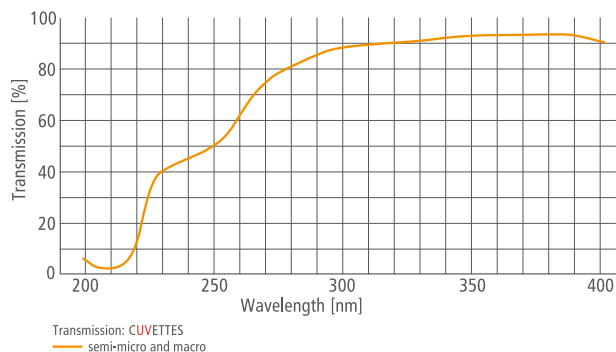


## CUVETTES

For photometric measurements even in the UV range 220 nm

Due to the special plastic material and the excellent manufacturing process, the cuvettes can also be used in photometric ranges reserved for UV glass cuvettes in the past.

- applicable wavelength range 220 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 net identical cuvettes in a styrofoam box with a resealable cover



Product	Material	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® CUVETTES semi-micro	UV	1.6	styrofoam rack 1 x 100	100	27 22 120
ratiolab® CUVETTES macro	UV	4.0	styrofoam rack 1 x 100	100	27 22 110



## Cuvettes of PMMA

- cuvettes of polymethylmethacrylate (PMMA)
- applicable wavelength range 300 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 net identical cuvettes in a styrofoam box with a resealable cover

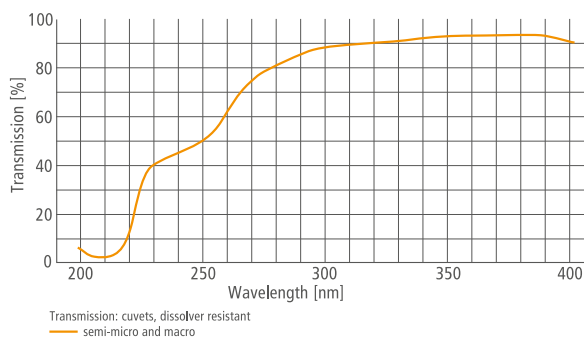
Product	Material	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® semi-micro cuvettes	PMMA	1.6	styrofoam racks 10 x 100	1000	28 10 100
ratiolab® macro cuvettes	PMMA	4.0	styrofoam racks 10 x 100	1000	28 11 110

# Cuvettes

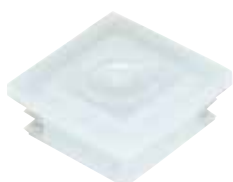


## Cuvettes, Solvent Resistant

- resistant against polar solvents
- applicable wavelength range 220 to 900 nm
- very low variation of extinction values
- excellent optical transmission range
- cavity-sorted production
- embossed area aside the measuring fields reduces the risks of damaging the cuvette by the cuvette holder
- path length 10 mm
- outer dimensions 12.5 x 12.5 x 45 mm
- supplied in practical styrofoam racks: 100 net identical cuvettes in a styrofoam box with a resealable cover



Product	Material	Volume ml	Packaging	Quantity per Pack	Order No.
ratiolab® semi-micro cuvettes	solvent resistant	1.6	styrofoam rack 1 x 100	100	27 25 120
ratiolab® macro cuvettes	solvent resistant	4.0	styrofoam rack 1 x 100	100	27 25 110



## Stopper for Cuvettes

Polypropylene (PP).

- for all ratiolab® cuvettes
- solvent resistant

Product	Material	Color	Packaging	Quantity per Pack	Order No.
Stopper for cuvettes	PP	natural	bag 1 x 1000	1000	28 12 011

# Multicell Cuvettes

## Multicell Cuvettes of PMMA

Ratiolab 12-cavity multicell cuvettes – suitable for analysers Thermo Scientific: Arena 20, 20XT, 30 and 60.

Arena applications cover processes from food / beverage industry, biochemical and pharmaceutical tests.

Fields of analysing:

- food (milk, meat, honey)
- beverages (wine, beer, juice)
- customised applications



Product	Material	Packaging	Quantity per Pack	Order No.
12-cavity multicell cuvettes	PMMA	packs 40 x 25	1000	28 12 012

# Analysis Beakers and Scintillation Vessels

## Analysis Beakers

Clear polystyrene (PS).

- high-precision design for use with robotic analytical systems Technicon T1 / T2; Genseac G1 / Hitachi H1



Product	Fig. No.	Volume ml	Packaging	Quantity per Pack	Order No.
analysis beakers Technicon T1	1	2.0	1 x 1000	1000	57 00 110
analysis beakers Technicon T2	2	3.5	1 x 1000	1000	57 00 120
analysis beakers Genseac G1	3	0.5	1 x 1000	1000	57 00 200
analysis beakers Hitachi H1	4	3.0	1 x 1000	1000	57 00 401



## Scintillation Vessels

Natural polyethylene (HD-PE).

- high-precision design for use with robotic analytical systems
- insert tubes with special leakproof cap
- convenient opening and closing

Product	Fig. No.	Volume ml	Ø x H mm	Packaging	Quantity per Pack	Order No.
scintillation bottles with cap	1	20	27 x 60	cardboard box 1 x 1000	1000	58 10 100
caps for scintillation bottles	–	–	–	bag 1 x 1000	1000	58 10 10D
insert tubes with caps for scintillation bottles	2	4	14 x 53	cardboard box 2 x 1000	2000	58 10 110



# Cell Counter Vials and Centrifuge Tubes



1



2

## Cell Counter Vials

Cell counter vials made of clear polystyrene (PS).

- high-precision design for use with robotic analytical systems

Product	Fig. No.	Volume ml	Material	Packaging	Quantity per Pack	Order No.
<b>for Coulter® and Hycel® cell counter systems</b>						
Cell Counter Vial 1 with lid	1	25	PS	PS-tray 20 x 50	1000	55 15 010
Cell Counter Vial 1 with lid	1	25	PS	bags 4 x 250	1000	55 15 040
Cell Counter Vial 1 without lid	–	25	PS	bags 4 x 250	1000	55 15 041
lids for Cell Counter Vial 1	–	–	PE	bag 1 x 1000	1000	55 15 04D
<b>for cell counter systems with cylindrical containers, e.g. AI® and Linson®</b>						
Cell Counter Vial 2 without lid	2	20	PS	bag 1 x 1000	1000	55 15 051



1



2



3

## Centrifuge Tubes

Polypropylene (PP).

- conical bottom or self-standing
- available non-sterile or sterile
- the sterile centrifuge tubes are certified to be free from RNase, DNase, Endoxin, Pyrogen and ATP
- printed graduations and frosted writing field
- with red Polyethylene (HD-PE) screw cap
- temperature withstand -80°C to 121°C
- centrifugable up to 11000g

Volume ml	Fig. No.	Bottom	Sterilized	Ø x H mm	Packaging	Quantity per Pack	Order No.
15	1	conical	–	17 x 120	bags 30 x 25	750	33 00 005
15	1	conical	■	17 x 120	bags 30 x 25	750	33 00 006
50	2	conical	–	30 x 115	bags 12 x 25	300	33 00 001
50	2	conical	■	30 x 115	bags 12 x 25	300	33 00 002
50	3	self-standing	–	30 x 115	bags 10 x 25	250	33 00 003
50	3	self-standing	■	30 x 115	bags 10 x 25	250	33 00 004

# Microcentrifuge Tubes

## Microcentrifuge Tubes

Polypropylene (PP).

- autoclavable with opened cap at 121 °C, 20 minutes
- natural color or different colors for comfortable identification
- tight sealing cap

- safe and easy to be opened and closed
- 5615005 and 5615106: free of DNase, RNase, pyrogens, human DNA, PCR inhibitors



Volume ml	Fig. No.	Centrifugable g	Cap	Color	Quantity per Pack	Order No.
0.5	1	18.000	■	natural	1000	56 15 030
1.5	2	25.000	■	natural	1000	56 15 000
1.5	2	25.000	■	natural	1000	56 15 005
1.5	3	25.000	■	yellow	1000	56 15 001
1.5	4	25.000	■	green	1000	56 15 002
1.5	5	25.000	■	red	1000	56 15 003
1.5	6	25.000	■	blue	1000	56 15 004
1.5	7	25.000	–	natural	1000	56 15 020
2.0	8	25.000	■	natural	1000	56 15 101
2.0	8	25.000	■	natural	1000	56 15 106

# Microcentrifuge Tubes

## Safety-Cap Microcentrifuge Tubes

Polypropylene (PP).

The new cap sealing of test tubes ensures an extreme tightness, which is essential for applications with valuable samples, radioactive materials and DNA.

- autoclavable with opened cap at 121 °C, 20 minutes
- certified free of RNase, DNase, human DNA, PCR inhibitors, pyrogens and ATP
- produced in microbiologically controlled clean room ISO 8

- optimal tightness due to tight serration at the cap and tight channel at the tube; thereby a low evaporation is guaranteed
- secured shut due to form-closed cap lock; accidental opening of the lid during incubation is not possible
- high chemical resistance
- labeling areas on the cap and tube
- graduated for easy determination of the volume
- temperature of use: -80 °C to +121 °C

free of RNase, DNase, human DNA, PCR inhibitors, ATP and pyrogens



The additional safety lock prevents uncontrolled opening of the tubes.



Volume ml	Fig. No.	Centrifugable g	Sterilized	Packaging	Quantity per Pack	Order No.
0,5	1	30000	–	2 x 500	1000	56 15 038
0,5	1	30000	■	50 x 1	50	56 15 039
1,5	2	30000	–	1 x 1000	1000	56 15 008
1,5	2	30000	■	100 x 1	100	56 15 009
2,0	3	30000	–	2 x 500	1000	56 15 108
2,0	3	30000	■	100 x 1	100	56 15 109
5,0	4	21000	–	1 x 100	100	56 15 158
5,0	4	21000	■	50 x 1	50	56 15 159

free of RNase, DNase, pyrogens and PCR-Inhibitors

## Microcentrifuge tubes with screw cap and O-Ring Seal

Polypropylene (PP).

- with conical bottom or additional self-standing
- sterilized
- centrifugable up to approx. 25000g
- temperature-resistant from -80 °C to +121 °C
- autoclavable up to +121 °C
- Ø x H: 13.1 x 48 mm
- resealable bags

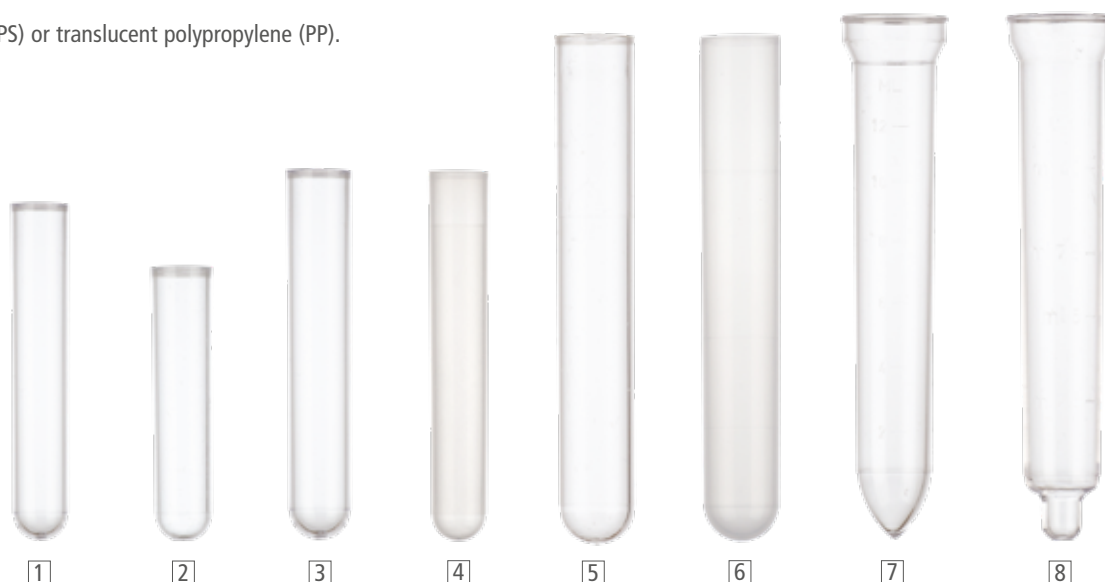


Volume ml	Fig. No.	Bottom	Labeling Area	Sterilized	Packaging	Quantity per Pack	Order No.
0.5	1	self-standing	–	■	2 x 500	1000	56 16 021
0.5	2	conical	–	■	2 x 500	1000	56 16 023
1.5	3	self-standing	■	■	2 x 500	1000	56 16 022
1.5	4	conical	■	■	2 x 500	1000	56 16 027
2.0	5	self-standing	■	■	2 x 500	1000	56 16 026
2.0	6	conical	■	■	2 x 500	1000	56 16 025

# Test Tubes and Stoppers

## Test Tubes

Clear polystyrene (PS) or translucent polypropylene (PP).



Product	Fig. No.	Ø x H mm	Material	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
RIA tubes	1	11 x 70	PS	4	round	bags 4 x 250	1000	35 14 040
coagulometer tubes	2	12 x 55	PS	4	round	bag 1 x 1000	1000	30 14 030
test tubes	3	12 x 75	PS	5	round	bag 1 x 1000	1000	35 14 030
test tubes	4	12 x 75	PP	5	round	bag 1 x 1000	1000	35 14 031
test tubes	3	13 x 75	PS	5.1	round	bag 1 x 1000	1000	35 14 032
test tubes	4	13 x 75	PP	5.1	round	bag 1 x 1000	1000	35 14 033
test tubes	5	16 x 100	PS	12	round	bag 1 x 1000	1000	37 14 010
test tubes	6	16 x 100	PP	12	round	bag 1 x 1000	1000	38 14 010
test tubes	7	18 x 105	PS	12	conical	bag 1 x 1500	1500	35 20 000
test tubes	8	18 x 105	PS	12	round	bag 1 x 1500	1500	36 22 000

## Stoppers for test tubes, Ø 11 – 12 mm

Polyethylene (PE).

- very tight seal due to 2 sealing rings
- available in natural and 4 more colors
- fit to test tube: figure 1-4



Color	Packaging	Quantity per Pack	Order No.
natural	bag 1 x 1000	1000	35 14 900
blue	bag 1 x 1000	1000	35 14 90B
green	bag 1 x 1000	1000	35 14 90G
red	bag 1 x 1000	1000	35 14 90R
yellow	bag 1 x 1000	1000	35 14 90Y

## Stoppers for test tubes, Ø 16 – 17 mm

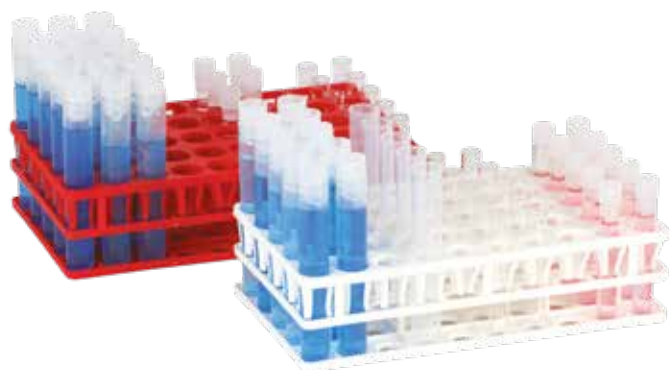
Polyethylene (PE).

- very tight seal due to 2 sealing rings
- available in natural and 4 more colors
- fit to test tube: figure 5-6



Color	Packaging	Quantity per Pack	Order No.
natural	bag 1 x 1000	1000	39 14 900
blue	bag 1 x 1000	1000	39 14 90B
green	bag 1 x 1000	1000	39 14 90G
red	bag 1 x 1000	1000	39 14 90R
yellow	bag 1 x 1000	1000	39 14 90Y

# Multistand Plus Rack and Rack for Microcentrifuge Tubes



## Multistand Plus Rack for sample tubes

Polypropylene (PP).

The multistand plus is suitable for sample tubes and you have the opportunity to store and place 50 tubes. The multistand plus has a temperature resistance up to 75°C.

- for tubes Ø 12 to Ø 18 mm
- autoclavable

Color	Positions	W x D x H mm	Quantity per Pack	Order No.
red	5 x 10	115 x 200 x 50	1	37 12 301
white	5 x 10	115 x 200 x 50	1	37 12 302



## Rack for Microcentrifuge Tubes

Polypropylene (PP).

Ideal for the secure handling of reaction vessels. Space-saving on the laboratory bench due to its narrow form. Practical side grips.

- for tubes up to Ø 11 mm
- autoclavable at 121°C
- temperature-resistant from -80°C to +121°C
- 225 mm x 65 mm x 28 mm (LxWxH)

Color	For Micro Tubes	Positions	Quantity per Pack	Order No.
green	1.5 – 2.0 ml	5 x 16	5	37 12 006
pink	1.5 – 2.0 ml	5 x 16	5	37 12 008
blue	1.5 – 2.0 ml	5 x 16	5	37 12 005
orange	1.5 – 2.0 ml	5 x 16	5	37 12 007
yellow	1.5 – 2.0 ml	5 x 16	5	37 12 009
mix pack	1,5 – 2,0 ml	5 x 16	5	37 12 010

# Waste Disposal Bags, Waste Disposal Bags BIOHAZARD, Autoclavable at 121 °C

Custom sizes on request,  
Autoclavable at 121 °C



## Waste Disposal Bags, Dispenser Box, High Transparency

Polypropylene (PP).

Bags of very strong PP-film with a broad seam at the bottom, for the disposal of contaminated labware.

- autoclavable at 121 °C, 20 min, for autoclaving, the bag must not be completely closed
- for bag size 200 x 300 mm: practical bench-top stand, plastic-coated, with 3 rubber feet

W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
200 x 300	1.5	50 µm	dispenser 1 x 100	100	70 01 005
bench-top stand for waste disposal bags 200 x 300 mm, Height 25 cm				1	70 01 400
Set consisting of bench-top stand and 100 waste disposal bags (high transparency) 200 x 300 mm				1	70 01 405



## Waste Disposal Bags, High Transparency

Polypropylene (PP).

Bags of very strong PP-film with a broad seam at the bottom, for the disposal of contaminated labware.

- autoclavable at 121 °C, 20 min, for autoclaving, the bag must not be completely closed

W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	6	50 µm	cardboard box 1 x 500	500	70 01 105
400 x 780	22	50 µm	cardboard box 1 x 500	500	70 01 155
600 x 800	32	50 µm	cardboard box 1 x 500	500	70 01 205
700 x 1100	72	50 µm	cardboard box 1 x 350	350	70 01 305



## Waste Disposal Bags BIOHAZARD red – Warning Instruction and sterilization indicator patch

Polyethylene (PE).

Distinctive red autoclavable bags for easy identification, for the disposal of contaminated labware.

- rectangle white indicator patch field turns into dark when autoclaved
- with BIOHAZARD symbol and safety imprint in English, German, French and Spanish languages
- autoclavable at 121 °C, 20 min, for autoclaving, the bag must not be completely closed
- practical bench-top stand, plastic-coated, with 3 rubber feet
- only in large bag autoclaving

W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
210 x 290	1.5	20 µm	cardboard box 10 x 100	1000	70 02 110
Set consisting of bench-top stand and 100 red waste disposal bags 210 x 290 mm				1	70 01 410

# Waste Disposal Bags BIOHAZARD, Autoclavable at 121 °C

Custom sizes on request,  
Autoclavable at 121 °C



## Waste Disposal Bags BIOHAZARD yellow – Warning Instruction and sterilization indicator patch

Polyethylene (HD-PE).

Autoclavable disposable waste bag of very strong PE-film for the sterilization and disposal of hazardous and contaminated labware.

- rectangle white indicator patch field turns into dark when autoclaved
- with BIOHAZARD symbol and safety imprint in German, English and French language
- autoclavable at 121 °C, 20 min, for autoclaving, the bag must not be completely closed

W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	6	50 µm	cardboard box 1 x 500	500	70 03 100
400 x 780	22	50 µm	cardboard box 1 x 500	500	70 03 110
600 x 800	32	50 µm	cardboard box 1 x 500	500	70 03 120
700 x 1100	72	50 µm	cardboard box 1 x 350	350	70 03 130



## Waste Disposal Bags, high transparency, BIOHAZARD

Polypropylene (PP).

For the sterilization and disposal of hazardous and contaminated labware.

- with blue BIOHAZARD symbol
- autoclavable at 121 °C, 20 min, for autoclaving, the bag must not be completely closed

W x H mm	Volume	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 650	9	40 µm	cardboard box 4 x 50	200	70 02 111
415 x 580	30	40 µm	cardboard box 4 x 50	200	70 02 112
640 x 800	60	40 µm	cardboard box 4 x 50	200	70 02 113

# Waste Disposal Bags, Waste Disposal Bags BIOHAZARD, Autoclavable at 134 °C

Custom sizes on request,  
Autoclavable at 134 °C



## Waste Disposal Bags, Dispenser Box, Standard

Polypropylene (PP).

Bags of very strong PP-film with a broad seam at the bottom, for the disposal of contaminated labware.

- autoclavable at 134 °C, 20 min, for autoclaving, the bag must not be completely closed
- for bag size 200 x 300 mm: practical bench-top stand, plastic-coated, with 3 rubber feet

W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
200 x 300	1.5	50 µm	dispenser 1 x 100	100	70 01 000
bench-top stand for waste disposal bags 200 x 300 mm, Height 25 cm				1	70 01 400
Set consisting of bench-top stand and 100 waste disposal bags (standard) 200 x 300 mm				1	70 01 401

## Waste Disposal Bags, Standard

Polypropylene (PP).

Bags of very strong PP-film with a broad seam at the bottom, for the disposal of contaminated labware.

- autoclavable at 134 °C, 20 min, for autoclaving, the bag must not be completely closed



W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	6	50 µm	cardboard box 1 x 500	500	70 01 100
400 x 780	22	50 µm	cardboard box 1 x 500	500	70 01 150
600 x 800	32	50 µm	cardboard box 1 x 500	500	70 01 200
600 x 800	32	50 µm	cardboard box 1 x 100	100	70 01 210
600 x 800	32	100 µm	cardboard box 1 x 125	125	70 01 212
700 x 1100	72	50 µm	cardboard box 1 x 350	350	70 01 300
700 x 1100	72	50 µm	cardboard box 1 x 75	75	70 01 310
700 x 1100	72	100 µm	cardboard box 1 x 75	75	70 01 311

## Waste Disposal bags BIOHAZARD – Warning Instruction and sterilization indicator patch

Polypropylene (PP).

Autoclavable disposable waste bag of very strong PP-film for the sterilization and disposal of hazardous and contaminated labware.

- rectangle white indicator patch field turns into dark when autoclaved
- with BIOHAZARD symbol and safety imprint in English, German, French and Spanish language
- autoclavable at 134 °C, 20 min, for autoclaving, the bag must not be completely closed



W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	6	50 µm	cardboard box 1 x 100	100	70 02 105
300 x 500	6	50 µm	cardboard box 1 x 500	500	70 02 100
400 x 780	22	50 µm	cardboard box 1 x 100	100	70 02 155
400 x 780	22	50 µm	cardboard box 1 x 500	500	70 02 150
600 x 800	32	50 µm	cardboard box 1 x 100	100	70 02 205
600 x 800	32	50 µm	cardboard box 1 x 500	500	70 02 200
700 x 1100	72	50 µm	cardboard box 1 x 75	75	70 02 305
700 x 1100	72	50 µm	cardboard box 1 x 350	350	70 02 300



# Waste Disposal Bags BIOHAZARD, Autoclavable at 134°C

Custom sizes on request,  
Autoclavable at 134°C



## Waste Disposal Bags BIOHAZARD red – Warning Instruction and sterilization indicator patch

Polypropylene (PP).

Distinctive red autoclavable bags for easy identification, for the disposal of contaminated labware.

- rectangle white indicator patch field turns into dark when autoclaved
- with BIOHAZARD symbol and safety imprint in German, English and French language
- autoclavable at 134°C, 20 min, for autoclaving, the bag must not be completely closed

W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	6	50 µm	cardboard box 1 x 500	500	70 03 200
400 x 780	22	50 µm	cardboard box 1 x 500	500	70 03 210
600 x 800	32	50 µm	cardboard box 1 x 500	500	70 03 220
600 x 800	32	50 µm	cardboard box 1 x 100	100	<b>New</b> 70 03 225
700 x 1100	72	50 µm	cardboard box 1 x 350	350	70 03 230
700 x 1100	72	50 µm	cardboard box 1 x 75	75	<b>New</b> 70 03 235

## Waste Disposal Bags BIOHAZARD yellow – Warning Instruction and sterilization indicator patch

Polypropylene (PP).

Autoclavable disposable waste bag of very strong PP-film for the sterilization and disposal of hazardous and contaminated labware.

- rectangle white indicator patch field turns into dark when autoclaved
- with BIOHAZARD symbol and safety imprint in German, English and French language
- autoclavable at 134°C, 20 min, for autoclaving, the bag must not be completely closed



W x H mm	Volume approx. l	Film Thickness	Packaging	Quantity per Pack	Order No.
300 x 500	6	50 µm	cardboard box 1 x 500	500	<b>New</b> 70 03 300
400 x 780	22	50 µm	cardboard box 1 x 500	500	<b>New</b> 70 03 310
600 x 800	32	50 µm	cardboard box 1 x 500	500	<b>New</b> 70 03 320
600 x 800	32	50 µm	cardboard box 1 x 100	100	<b>New</b> 70 03 325
700 x 1100	72	50 µm	cardboard box 1 x 350	350	<b>New</b> 70 03 330
700 x 1100	72	50 µm	cardboard box 1 x 75	75	<b>New</b> 70 03 335

# Bench-top Stand, Transport bag BIOHAZARD and Cleanibag System

## Bench-top stand for waste disposal bags

Practical bench-top stand, plastic-coated, with 3 rubber feet.

- for bag size 200 x 300 mm and 300 x 500 mm



Product	Bild-Nr.	Quantity per Pack	Order No.
Bench-top stand for waste disposal bags 200 x 300 mm, Height 25 cm	2	1	70 01 400
Set consisting of bench-top stand and 100 waste disposal bags (standard) 200 x 300 mm	3	1	70 01 401
Set consisting of bench-top stand and 100 waste disposal bags (high transparency) 200 x 300 mm	3	1	70 01 405
bench-top stand for waste disposal bags 300 x 500 mm, Height 35 cm	1	1	70 01 430
Set consisting of bench-top stand and 100 waste disposal bags (standard) 300 x 500 mm	3	1	70 01 415
Set consisting of bench-top stand and 100 waste disposal bags (high transparency) 300 x 500 mm	3	1	70 01 420
Set consisting of bench-top stand and 100 red waste disposal bags 210 x 290 mm	4	1	70 01 410
Bench top stand with tilt base, for waste disposal bags 200 x 300 mm	5	1	<b>New</b> 70 01 440
Design table stand made of stainless steel autoclavable, for waste disposal bags 200 x 300 mm	6	1	<b>New</b> 70 01 450



## Transport bags BIOHAZARD

Polyethylene (LD-PE).

- transparent with fast-zip closure for reclosing and with a separate external pouch for documentation
- suitable for sample transport

W x H mm	Film Thickness	Packaging	Quantity per Pack	Order No.
155 x 250 / 210	50 µm	cardboard box 1 x 100	100	70 00 300
230 x 305 / 250	50 µm	cardboard box 1 x 100	100	70 00 310



## Cleanibag System

All-purpose PE bags with self-adhesive strip for clinical and laboratory use.

- self-adhesive strip, sticks on smooth and clean surfaces
- residue-free on removable

Other sizes available on request.

W x H mm	Volume approx. l	Packaging	Quantity per Pack	Order No.
200 x 300	1.5	cardboard box 1 x 1000	1000	70 00 250
300 x 300	6.5	cardboard box 1 x 1000	1000	70 00 260
300 x 450	8	cardboard box 1 x 1000	1000	70 00 270

**Self-adhesive**

# Petri Dishes and Inoculating Loops



## Petri Dishes

Transparent polystyrene (PS).

- uncoated, with vents
- sterilized or clean as produced

Ø*x H mm	Description	Packaging	Quantity per Pack	Order No.
60 x 14	with vents	50 x 10	500	90 50 006
60 x 14	sterilized, with vents	50 x 10	500	90 50 106
90 x 15	with vents	25 x 20	500	90 50 000
90 x 15	sterilized, with vents	25 x 20	500	90 50 100
147 x 18	with vents	11 x 20	220	90 50 004
147 x 18	sterilized, with vents	11 x 20	220	90 50 104
65 x 14	with triple vents with compartments	25 x 20	500	90 50 005
65 x 14	sterilized, with triple vents with compartments	25 x 20	500	90 50 105

\*external diameter



## Inoculating Loops

Made of polystyrene (PS).

- hexagonal handle for safe handling
- beta-sterile
- sterile, individually packed in easy to open peel-packs

Product	Packaging	Quantity per Pack	Order No.
1 µl inoculating loops	100 peel-packs of 20	2000	70 20 100
10 µl inoculating loops	100 peel-packs of 20	2000	70 20 200

# Multi Purpose Beakers and Multi Purpose Bottles

## Multi Purpose beakers with screw-caps

Polypropylene (PP).

For sampling, transport and storage of solid, pasty and liquid samples.

- with red screw-cap
- supplied in non-sterile or sterile, individually packed



Volume ml	Fig. No.	Material	Graduation and Labeling area	Sterilized	Height with cap, mm	Ø cap, outer, mm	Packaging	Quantity per Pack	Order No.
30	1	PP	–	–	47	43	cardboard box 1 x 1000	1000	59 21 173
30	1	PP	–	■	47	43	bags 500 x 1	500	59 21 174
30	2	PP	■	–	82	34	cardboard box 1 x 700	700	59 21 177
30	2	PP	■	■	82	34	bags 500 x 1	500	59 21 178
60	3	PP	■	–	66	43	cardboard box 1 x 600	600	59 21 175
60	3	PP	■	■	66	43	bags 500 x 1	500	59 21 176
120	4	PP	■	–	73	63	cardboard box 1 x 500	500	59 21 182
120	4	PP	■	■	73	63	bags 250 x 1	250	59 21 183
200	5	PP	–	–	80	64	cardboard box 1 x 200	200	59 21 185
200	5	PP	–	■	80	64	bags 150 x 1	150	59 21 184
200	6	PS	–	■	82	64	bags 150 x 1	150	59 21 188



## Multi Purpose bottles

Polyethylene, blue translucent (PE).

- inclusive lid with nonwoven fabric liner
- with graduations, light protection
- wide neck diameter 80 mm
- Volume: 2.5 l

Product	Packaging	Quantity per Pack	Order No.
Multi purpose bottle 2.5 l with self-adhesive labels	cardboard box 1 x 60	60	59 22 250

# Ear Tips and Ear Funnels



## Ear Tips, Ear Funnels



Hygienic and safe disposable products. Once attached, they remain fixed on most commonly used otoscopes. Ergonomic and smoothly formed. No sharp edges.

### Ear Tips

Made of high-quality polystyrene (PS).

- for Heine K180®, Mini 3000®, Beta 200®, KaWe Piccolight C®, Riester ri-mini® otoscopes
- high precision
- the hygienic disposable alternative

Ø mm	Color	Packaging	Quantity per Pack	Order No.
2.5	black	bags 20 x 50	1000	10 20 340
2.5	black	bags 2 x 500	1000	10 20 350
2.5	black	bag 1 x 1000	1000	10 20 330
2.5	grey	bags 20 x 50	1000	10 20 250
2.5	grey	bags 2 x 500	1000	10 20 260
2.5	grey	bag 1 x 1000	1000	10 20 230
4.0	black	bags 20 x 50	1000	10 20 341
4.0	black	bags 2 x 500	1000	10 20 351
4.0	black	bag 1 x 1000	1000	10 20 331
4.0	grey	bags 20 x 50	1000	10 20 251
4.0	grey	bags 2 x 500	1000	10 20 261
4.0	grey	bag 1 x 1000	1000	10 20 231

### Ear Funnels

Made of high-quality polystyrene (PS).

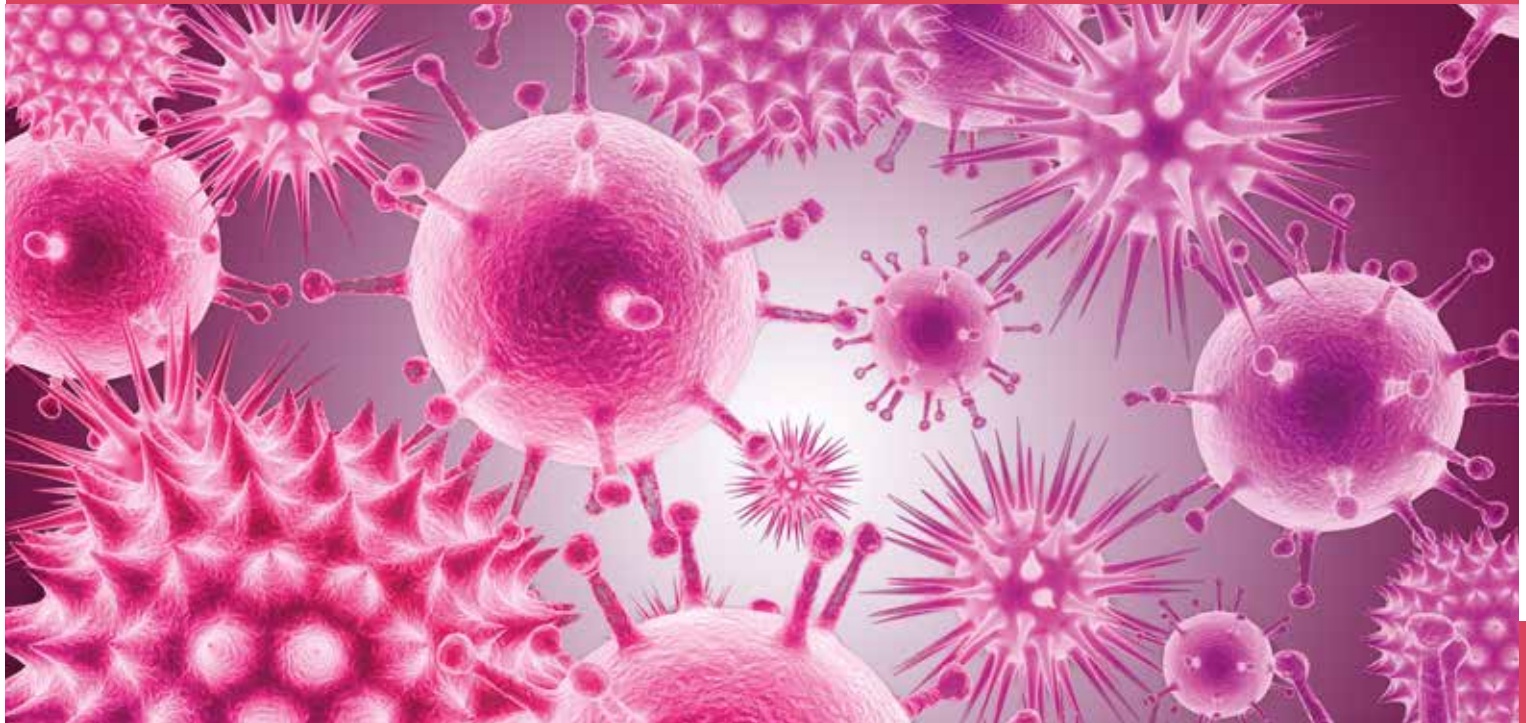
- for Heine Beta 100® otoscopes
- high precision
- the hygienic disposable alternative

Ø mm	Color	Packaging	Quantity per Pack	Order No.
2.5	black	bag 1 x 1000	1000	10 20 240
2.5	black	bags 2 x 500	1000	10 20 243
2.5	black	bags 20 x 50	1000	10 20 540
4.0	black	bag 1 x 1000	1000	10 20 241
4.0	black	bags 2 x 500	1000	10 20 242
4.0	black	bags 20 x 50	1000	10 20 541

® registered trade mark



# Life Science



**Think!** Development and production of customized products



**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



**Life science** products for microbiology and biotechnology



**Cryo** products for deep-freeze applications

# Micro Test Plates

## 96-Well Micro Test Plates, volume approx. 300 µl

Clear polystyrene (PS) or translucent polypropylene (PP).

- with U-, F-, or V-bottom
- SBS standard micro test plate format
- 8 x 12 wells alphanumericly coded
- wells with raised rims for reduced cross-contamination and effective sealing with Ratiolab cover films (see on page 69)
- precise design, perfectly shaped for use with automatic systems
- optimum space for precise positioning
- space-saving and stackable
- polypropylene plates may be sealed with heat-sealing films without deformation



### Volume approx. 300 µl

Bottom	Fig. No.	Material	Sterilized	Packaging	Quantity per Pack	Order No.
U	1	PS	–	bags 10 x 10	100	60 18 111
U	1	PS	■	individually in bags 100 x 1	100	60 18 113
U	2	PP	–	bags 10 x 10	100	60 18 121
U	2	PP	■	individually in bags 100 x 1	100	60 18 123
F	1	PS	–	bags 10 x 10	100	60 18 211
F	1	PS	■	individually in bags 100 x 1	100	60 18 213
F	2	PP	–	bags 10 x 10	100	60 18 221
F	2	PP	■	individually in bags 100 x 1	100	60 18 223
V	1	PS	–	bags 10 x 10	100	60 18 311
V	1	PS	■	individually in bags 100 x 1	100	60 18 313
V	2	PP	–	bags 10 x 10	100	60 18 321
V	2	PP	■	individually in bags 100 x 1	100	60 18 323

### Volume approx. 400 µl

Bottom	Fig. No.	Material	Sterilized	Color	Packaging	Quantity per Pack	Order No.
U	3	PP	–	white	bags 10 x 10	100	60 18 810
U	2	PP	–	transparent	bags 10 x 10	100	60 18 812
U	2	PP	■	transparent	individually in bags 100 x 1	100	60 18 813
U	3	PS	–	white	bags 10 x 10	100	60 18 820
U	1	PS	–	transparent	bags 10 x 10	100	60 18 822
U	1	PS	■	transparent	individually in bags 100 x 1	100	60 18 823



# Micro Test Plates, Spot Test Plates



## 96-Well Micro Test Plates, volume approx. 300 µl

Polypropylene (PP) or polystyrene (PS).

- with U-bottom or F-bottom
- SBS standard micro test plate format
- 8 x 12 wells alphanumerically coded
- wells with raised rims for reduced cross-contamination and effective sealing with Ratiolab cover films (see on page 69)
- precise design, perfectly shaped for use with automatic systems
- optimum space for bar code labels on the side walls
- space-saving and stackable
- surface untreated

Bottom	Material	Color	Packaging	Quantity per Pack	Order No.
U	PP	black	bags 10 x 10	100	60 18 710
U	PS	black	bags 10 x 10	100	60 18 711
U	PP	white	bags 10 x 10	100	60 18 712
U	PS	white	bags 10 x 10	100	60 18 713
F	PP	black	bags 10 x 10	100	60 18 717
F	PS	black	bags 10 x 10	100	60 18 718
F	PP	white	bags 10 x 10	100	60 18 719
F	PS	white	bags 10 x 10	100	60 18 720

## Lids for Micro Test Plates

Optional in highly transparent polystyrene (PS) or polypropylene (PP).

Material	Sterilized	Packaging	Quantity per Pack	Order No.
PS	–	bags 10 x 10	100	60 18 402
PS	■	individually in bags 100 x 1	100	60 18 401
PP	–	bags 10 x 10	100	60 18 422
PP	■	individually in bags 100 x 1	100	60 18 421

## Spot Test Plates

Polystyrene (PS), white.

- 3 x 4 wells
- L x W x H: 135 x 109 x 10 mm

Ø Mould mm	Packaging	Quantity per Pack	Order No.
20	bag 1 x 100	100	60 18 060

# Low-Profile Deep-Well-Plate

## Low-Profile Deep-Well Plate (96)

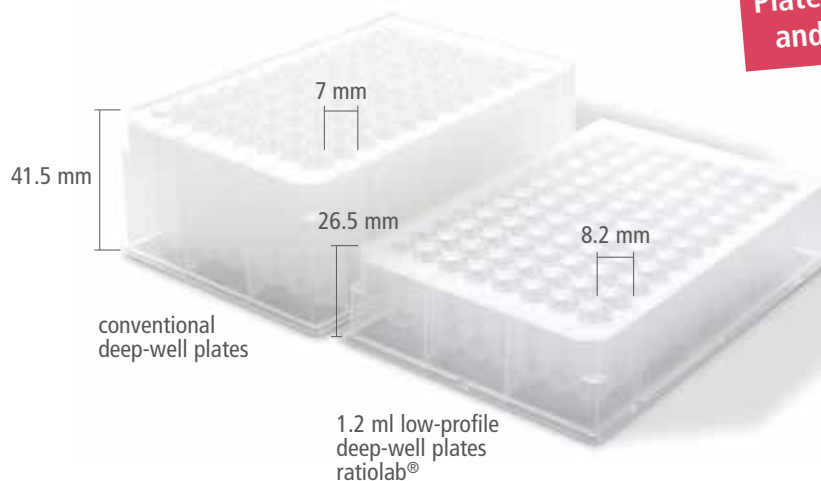
Clear polypropylene (PP).

These 1.2 ml low-profile deep-well plates are ideal for pharmaceuticals, biotechnology and diagnostics. Of the same standard dimensions (Society for Biomolecular Sciences – SBS), they are one-third lower than standard deep well plates (96). They thus require less space!

Requiring some 30% less space, they help to optimize warehouse space, hence lowering costs – especially for costly cryo-storage applications.

The cavities are some 20% larger than conventional plates. Thus, when used with robots, they provide additional security. The chimney form of the wells reliably prevents cross-contamination. Their precise, true-to-size form makes them highly suitable for High-Throughput-Screening (HTS).

- about half as high as conventional deep-well plates at 1.2 ml fill volume
- SBS standard micro test plate form
- well with significantly larger cross section
- wells with raised rims for reduced cross-contamination
- improved visual control due to clear polypropylene
- autoclavable at 121 °C, 20 minutes
- temperature resistant to – 80 °C
- 8 x 12 wells with alphanumeric code in micro test plate format
- optimally sealing with Ratiolab cover films (see on page 69)
- precise design, for use in automatic pipetting systems for High-Throughput-Screening (HTS)
- optimum space for bar code labels on the side walls
- space-saving and stackable



**Plates free of Rnase/DNase and sterile upon request**

Volume per Well ml	Well	Bottom	Packaging	Quantity per Pack	Order No.
1,2 Low-Profile	96	U	bags 10 x 5	50	81 01 012

# Deep-Well-Plates

## Deep-Well Plates

Translucent polypropylene (PP), surface with very low protein binding.

The chimney form of the wells reliably prevents cross-contamination. Their precise, true-to size form makes them highly suitable for High-Throughput-Screening (HTS).

- SBS standard micro test plate format
- well with significantly larger cross section
- wells with raised rims for reduced cross-contamination

- autoclavable at 121 °C, 20 minutes
- temperature resistant to – 80 °C
- 8 x 12 wells with alphanumeric code in micro test plate format
- optimally sealing with Ratiolab cover films (see on page 69)
- precise design, for use in automatic pipetting systems for High-Throughput-Screening (HTS)
- optimum space for bar code labels on the side walls
- space-saving and stackable



1



2

Volume per Well ml	Fig No.	Well	Bottom	Packaging	Quantity per Pack	Order No.
1.2	1	96	U	bags 1 x 32	32	60 20 121
2.2	2	96	V	bags 10 x 5	50	60 20 221

# Closures for Deep-Well-Plates



## Closures for 96-Well Deep-Well-Plates Low-Profile, 1.2 ml

Made of thermo-plastic elastomer (TPE).

- suitable to 81 01 012
- autoclavable at 121 °C, 20 minutes

Product	Fig. No.	Material	Packaging	Quantity per Pack	Order No.
96-well-cover mats	1	TPE	cardboard box 10 x 10	100	81 01 101

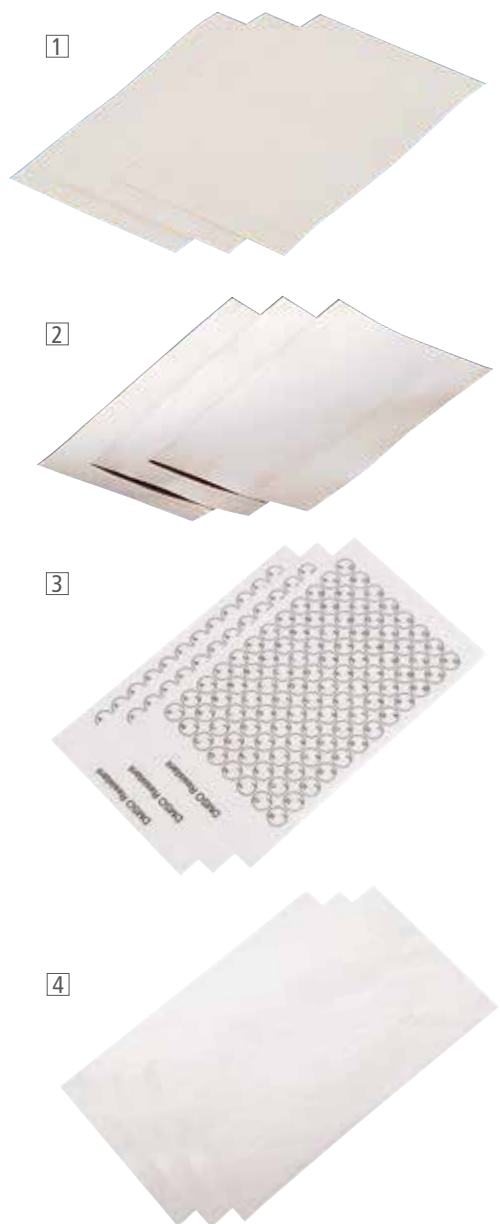
## Closures for 96-Well Deep-Well-Plates

Made of thermo-plastic elastomer (TPE) or ethylene vinyl acetate (EVA).

- closures 82 00 008 and 82 00 009 suitable to deep-well-plate 60 20 121
- closures 82 00 010 suitable to deep-well-plate 60 20 221

Product	Fig. No.	Material	Packaging	Quantity per Pack	Order No.
1.2 ml 8-well-cover strips	2	TPE	bag 1 x 1000	1000	82 00 008
1.2 ml 96-well-cover mats	3	TPE	bags 10 x 10	100	82 00 009
2.2 ml 96-well-cover mats*	4	EVA	bags 5 x 20	100	82 00 010

\*for 96-square well plates



## Cover Films

For micro test plates, deep-well plates, micro test tubes and PCR plates  
Adhesive base must be free of grease, dust, degassing and air-conditioned in order to ensure safe bonding.

- self-adhesive
- for manual operation
- adhesive with high solvent resistance
- all films of SBS standard format

### 1 Soft-PVC peeling cover film

- self-adhesive with one or two tabs
- low-cost film for polystyrene plates
- can be removed without any residues
- minimum application temperature: + 5 °C
- temperature resistant from – 20 °C to + 70 °C
- ideal for the storage of plates at room temperature

### 2 Aluminum universal cover film

- can be easily removed
- ideal for piercing
- for all plate types; PS, PP, PC, PE
- temperature resistant from – 80 °C to + 120 °C
- ideal for the storage of plates at room temperature (20 °C-23 °C) and dry room

### 3 Piercing-foil with cavity circle 96-well

- each cavity is marked by a circle and a numerical printing
- prepierced in each cavity optimizes opening by tip
- self-closing film reduces the risk of cross-contamination
- also for use with micro-racks and critical PCR plates
- temperature resistant from – 80 °C to + 30 °C
- DMSO-resistant

### 4 Gas permeable peeling film

- SBS-Standard
- liquid tight
- high permeability
- temperature resistant from – 5 °C to + 60 °C
- ideal for the storage of plates at room temperature (20 °C-23 °C) and dry room

### Polypropylene peeling cover film

- suitable for Real-Time-PCR
- self-adhesive with one or two tabs
- can be removed without any residues and repeatedly used
- for all plate types; PS, PP, PC, PE, DMSO-resistant
- temperature resistant from – 80 °C to + 120 °C
- ideal for the storage of plates at room temperature (20 °C-23 °C) and dry room

Further films on request.

Product	Fig No.	Material	Packaging	Quantity per Pack	Order No.
soft-pvc peeling cover film	1	PVC	pack 1 x 100	100	60 18 610
aluminum universal cover film	2	AL	pack 1 x 100	100	60 18 611
piercing-foil with cavity circle 96-well	3	PP	pack 1 x 100	100	60 18 619
gas permeable peeling film	4	PP	pack 1 x 50	50	60 18 618
polypropylene peeling cover film	-	PP	pack 1 x 100	100	60 18 612
polyvinyl chloride peeling cover film with 2 fixing bracket/tearing slices	-	PVC	pack 1 x 100	100	60 18 614
polypropylen peeling cover film with 2 fixing bracket/tearing slices	-	PP	pack 1 x 100	100	60 18 620

PVC = Polyvinyl chloride, AL = Aluminium, PP = Polypropylene

# Micro-Tubes System

## Micro-Tubes System

Highly practical system for processing small volumes. The reusable Micro-Rack is the work station and takes 96 micro-tubes in the standard 8 x 12 SBS microplate format. It is a stable and robust system and has a dust-tight lid. A sloping edge helps the positioning of the refill unit. The side edges can be labeled with a barcode. The rack is excellently suited to use in automatic dosing and robotic systems.

The 0.65 and 1.2 ml micro-tubes can be supplied as single, strips of 8 or in 96-well format as a refill system for 8 x 12 plates.

The tubes are closable either with an 8-lid strip or an 8 x 12 closure mat.

- the Micro-Tubes are autoclavable at 121 °C for 20 minutes
- temperature-resistant to – 80 °C

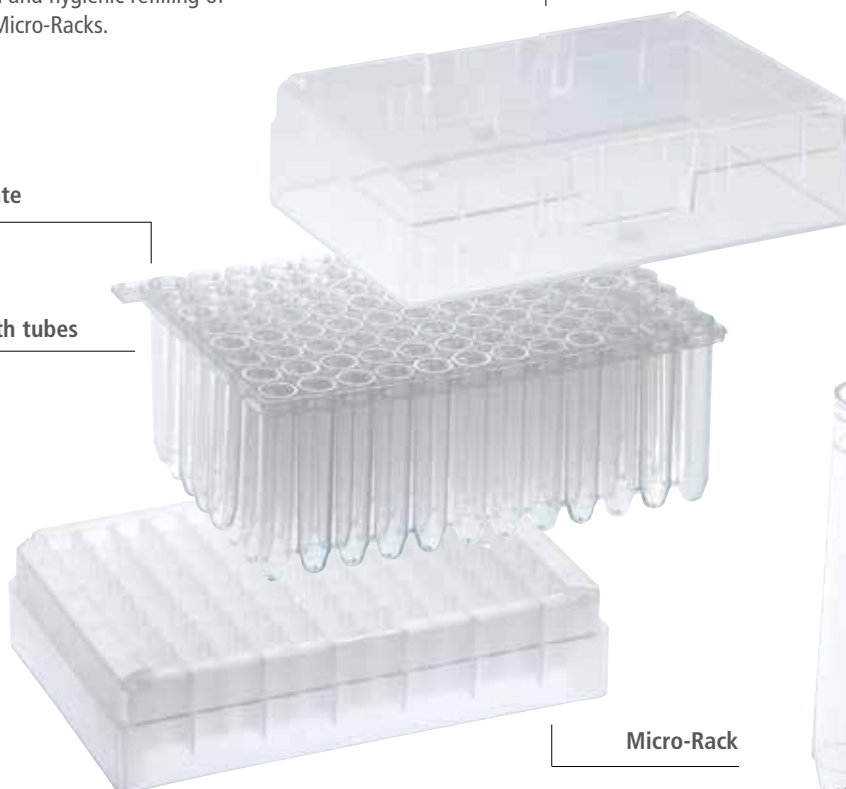


The refill system ensures easy, rapid and hygienic refilling of the Micro-Racks.

Lid

Plate

with tubes



Micro-Rack

The tubes can be removed singly and are numbered on the bottom.



Micro-Tubes 1.2 ml



# Micro-Tubes System



## Micro-Tubes

Translucent polypropylene (PP) with very low protein binding.

- available as individual Micro-Tubes or Micro-Tube-Strips of 8 tubes for use with Micro-Racks
- volume 0.65 or 1.2 ml with round bottom

Product	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
ratiolab® Micro-Tubes, individual	0.65	round	bags 5 x 1000	5000	82 00 021
ratiolab® Micro-Tubes, individual	1.2	round	bags 5 x 1000	5000	82 00 001
ratiolab® Micro-Tube-Strips of 8 tubes	0.65	round	bags 5 x 120	600	82 00 022
ratiolab® Micro-Tube-Strips of 8 tubes	1.2	round	bags 5 x 120	600	82 00 002



## Micro-Racks, loaded or empty

Micro-Racks, tray and lid of translucent polypropylene (PP).

- available as empty racks or equipped with coded or non-coded Micro-Tubes
- pressure-tested tightness of the Micro-Tubes
- stackable, for the use with stacker instruments

Product	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
ratiolab® Micro-Racks, loaded, non-coded	0.65	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 023
ratiolab® Micro-Racks, loaded, coded	0.65	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 024
ratiolab® Micro-Racks, empty	0.65	–	50 Micro-Racks for 96 Micro-Tubes	50	82 00 027
ratiolab® Micro-Racks, loaded, non-coded	1.2	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 003
ratiolab® Micro-Racks, loaded, coded	1.2	round	50 Micro-Racks of 96 Micro-Tubes	50	82 00 004
ratiolab® Micro-Racks, empty	1.2	–	50 Micro-Racks for 96 Micro-Tubes	50	82 00 007



## Micro-Tubes Refill System for Micro-Racks

The Micro-Tubes are placed on an 8 x 12 tray and packed in an environmentally friendly cardboard box. The loaded tray can easily be moved from the cardboard box into the empty Micro-Rack.

- available with coded or non-coded Micro-Tubes
- for the very efficient, hygienic, and fast loading of Micro-Racks
- convenient handling and reduced waste
- pressure-tested tightness of the Micro-Tubes

Product	Volume ml	Bottom	Packaging	Quantity per Pack	Order No.
<b>Micro-Tubes Refill-System for Micro-Racks</b>					
ratiolab® Refill with 96 Micro-Tubes, non-coded	0.65	round	50 Refills of 96 Micro-Tubes	50	82 00 025
ratiolab® Refill with 96 Micro-Tubes, coded	0.65	round	50 Refills of 96 Micro-Tubes	50	82 00 026
ratiolab® Refill with 96 Micro-Tubes, non-coded	1.2	round	50 Refills of 96 Micro-Tubes	50	82 00 005
ratiolab® Refill with 96 Micro-Tubes, coded	1.2	round	50 Refills of 96 Micro-Tubes	50	82 00 006
<b>Closures for ratiolab® Micro-Tubes</b>					
8-cap-Strips			bag 1 x 1000	1000	82 00 008
8 x 12 cover mats			bag 10 x 10	100	82 00 009

Further cover films see on page 69.



## PCR Tubes

Pure polypropylene (PP).

- rapid and homogeneous heat transfer due to consistently ultrathin wall design
- perfect fit, compatible with all major brands of thermocyclers due to precise production
- free of DNase, RNase and DNA
- variety of tight closures available to reduce sample evaporation
- suitable for Real-Time-PCR

## PCR Tubes, single

- volume 0.2 or 0.5 ml
- with attached domed or flat cap
- caps designed for tight sealing, easy open and close

Volume ml	Fig. No.	Cap	Packaging	Quantity per Pack	Order No.
0.2	1	flat	bag 1 x 1000	1000	86 10 006
0.2	2	domed	bag 1 x 1000	1000	86 10 001
0.5	3	flat	bag 1 x 1000	1000	86 10 007

## PCR Strips of 8 Tubes

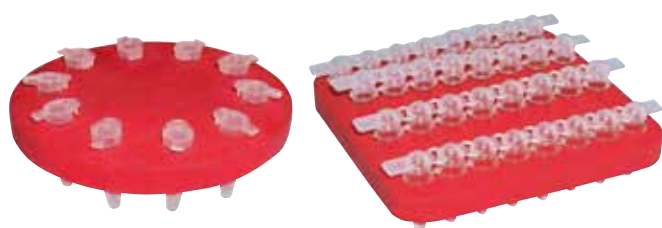
- volume 0.2 ml
- with attached domed or flat cap, for use with detached 8-cap strips
- caps designed for tight sealing, easy opening and close

Volume ml	Fig. No.	Caps	Packaging	Quantity per Pack	Order No.
<b>with attached individual caps</b>					
8 x 0.2	4	flat	bag 1 x 120	120	86 10 040
8 x 0.2	5	domed	bag 1 x 120	120	86 10 039
<b>for separate cap strips</b>					
8 x 0.2	6	without	bag 1 x 250	250	86 10 002
<b>cap strips</b>					
8-cap-strips	7	flat	bag 1 x 125	125	86 10 015
8-cap-strips	8	domed	bag 1 x 125	125	86 10 003

## Floating Cryo Racks

Ideal for the thawing out or cooling of samples in PCR tubes and PCR strips. The loaded racks remain floating. The tubes fit firmly in the racks and keep them well positioned in the bath.

Product	W x D mm	Quantity per Pack	Order No.
Floating Cryo Racks for 10 PCR tubes	Ø 70	10	61 14 200
Floating Cryo Racks for 4 PCR strips of 8 tubes	80 x 80	10	61 14 201





# PCR Plates and PCR Racks

## 96-well PCR Plates

The plates conform to the highest requirements of PCR (Polymerase Chain Reaction). They are made of polypropylene and are characterized by their very thin but uniform walls. In this way, optimal heat transfer in short cycle times is achieved. The smooth inside walls of the cavities minimize the binding of enzymes and nucleic acids.

The plates are free of DNA, DNase and RNase. They are available optionally

without or with edges (the latter to minimize cross-contamination).

- working volumes of 0.1 ml and 0.2 ml
- alphanumeric coding for optimal sample identification
- available in six versions for various PCR systems
- suitable for Real-Time-PCR
- the PCR plate 8610014 is up to 4000g centrifugable



Volume ml	Fig. No.	Description	Packaging	Quantity per Pack	Order No.
96 x 0.2	1	with rim, High Profile	bags 10 x 10	100	86 10 011
96 x 0.2	2	semi-skirted, Straight Side	bags 10 x 10	100	New 86 10 012
96 x 0.1	3	semi-skirted, FAST Type Low Profile	bags 10 x 10	100	New 86 10 013
96 x 0.2	4	without rim, Low Profile	bags 10 x 10	100	86 10 014
96 x 0.2	5	semi-skirted, ABI-Type Raised Rim	bags 10 x 10	100	New 86 10 016
96 x 0.1	6	semi-skirted, Light Cycler Type Low Profile	bags 10 x 10	100	New 86 10 017



## 96-Well PCR-Rack

Polypropylene (PP).

Work and storage rack for 0.2 ml PCR tubes, PCR strips, and PCR segments.

- 8 x 12 positions, micro test plate format
- autoclavable
- available in five colors for the convenient identification of different types of samples
- transparent lids available in two different heights

Product	Material	Quantity per Pack	Order No.
PCR-Rack white	PP	10	61 14 100
PCR-Rack yellow	PP	10	61 14 101
PCR-Rack green	PP	10	61 14 103
PCR-Rack red	PP	10	61 14 104
PCR-Rack blue	PP	10	61 14 102
PCR-Rack mix-pack of 2x5 color	PP	10	61 14 105
lid for PCR-Racks, 14 mm high	PP	10	61 14 110
lid for PCR-Racks, 28 mm high	SAN*	10	61 14 111

\*Styrol-Acrylnitril



# Cryo



**Think!** Development and production of customized products



**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



**Life science** products for microbiology and biotechnology



**Cryo** products for deep-freeze applications

# Cryo Boxes, Cardboard, Format 133 x 133 mm and Grid Inserts



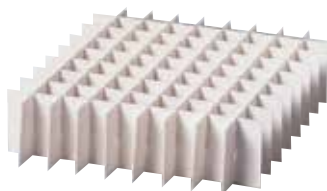
## Cryo Boxes, Cardboard, Format 133 x 133 mm

Ultra-low temperature-resistant cardboard.

other sizes available on request

- for sample storage even at ultra-low temperatures
- temperature-resistant down to  $-80^{\circ}\text{C}$
- available with a water-repellent standard coating or with a waterproof plastic coating
- highest flexibility: Cryo Boxes can be combined with different grid inserts for tubes from dia. 6 mm to dia. 28 mm
- the Cryo Boxes can be used for larger vessels when the grid is removed
- suitable grid inserts for cryo boxes available as follows:

Color	Quantity per Pack	Height 32 mm Order No.	Height 50 mm Order No.	Height 75 mm Order No.	Height 100 mm Order No.	Height 130 mm Order No.
<b>Water-repellant standard coating</b>						
white	10	51 31 321	51 31 501	51 31 751	51 31 001	51 31 131
blue	10	51 31 322	51 31 502	51 31 752	51 31 002	51 31 132
red	10	51 31 323	51 31 503	51 31 753	51 31 003	51 31 133
green	10	51 31 324	51 31 504	51 31 754	51 31 004	51 31 134
yellow	10	51 31 325	51 31 505	51 31 755	51 31 005	51 31 135
<b>With waterproof plastic coating</b>						
white	10	51 32 321	51 32 501	51 32 751	51 32 001	51 32 131
blue	10	51 32 322	51 32 502	51 32 752	51 32 002	51 32 132
red	10	51 32 323	51 32 503	51 32 753	51 32 003	51 32 133
green	10	51 32 324	51 32 504	51 32 754	51 32 004	51 32 134
yellow	10	51 32 325	51 32 505	51 32 755	51 32 005	51 32 135



## Grid Inserts for Cryo Boxes, Format 133 x 133 mm

Ultra-low temperature-resistant cardboard.

other sizes available on request

- for sample storage
- temperature-resistant down to  $-80^{\circ}\text{C}$
- water-repellent finish
- packaging in practical folding boxes

Grid	Quantity per Pack	For Tube Dia. mm	Height of Grids 25 mm Order No.	Height of Grids 30 mm Order No.	Height of Grids 40 mm Order No.	Height of Grids 65 mm Order No.
4 x 4	10	28.0	51 20 214	51 20 215	51 20 216	51 20 217
5 x 5	10	23.0	51 20 124	51 20 125	51 20 126	51 20 127
6 x 6	10	19.0	51 20 134	51 20 135	51 20 136	51 20 137
7 x 7	10	16.0	51 20 144	51 20 145	51 20 146	51 20 147
8 x 8	10	14.0	51 20 154	51 20 155	51 20 156	51 20 157
9 x 9	10	11.5	51 20 165	51 20 166	51 20 167	51 20 168
10 x 10	10	10.5	51 20 175	51 20 174	51 20 176	51 20 177
12 x 12	10	8.5	51 20 185	51 20 184	51 20 186	51 20 187
13 x 13	10	8.0	51 20 194	51 20 195	51 20 196	51 20 197
14 x 14	10	7.0	51 20 204	51 20 205	51 20 206	51 20 207
16 x 16	10	6.0	51 20 225	51 20 226	51 20 227	51 20 228

# Cryo Boxes, Cardboard 1/2-Format and Cryo Labels



## Cryo Boxes and Grid Inserts, Cardboard, 1/2-Form 130 x 62 mm

Ultra-low temperature-resistant cardboard, white.

- for sample storage even at ultra-low temperatures
- temperature-resistant down to  $-80^{\circ}\text{C}$
- water-repellent finish

Product	Grid	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Order No.
1/2-format Cryo Boxes, cardboard	–	130 x 62 x 50	–	10	51 31 506
1/2-format Grid Inserts	8 x 4	124 x 58 x 30	14.0	10	51 20 218
1/2-format Grid Inserts	10 x 5	124 x 58 x 30	10.5	10	51 20 128



## Rainbow Cryo labels

For customizing the white Cryo Boxes, the Rainbow Cryo labels are available in colors: red, yellow, green, blue and purple.

- temperature-resistant down to  $-150^{\circ}\text{C}$
- 50 labels per pack, divided into 5 colors, 10 pieces of each color

Product	L x W mm	Quantity per Pack	Order No.
Rainbow Cryo labels	200 x 40	5 x 10	51 20 002

# Cryo Boxes, Cardboard, Format 136 x 136 mm and Grid Inserts



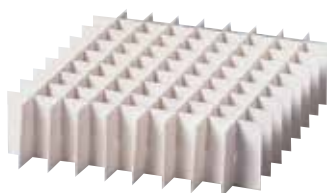
## Cryo Boxes, Cardboard, Format 136 x 136 mm

Ultra-low temperature-resistant cardboard.

other sizes available on request

- for sample storage even at ultra-low temperatures
- temperature resistant down to  $-80^{\circ}\text{C}$
- available with a water-repellent standard coating or with a waterproof plastic coating
- highest flexibility: Cryo Boxes can be combined with different grid inserts for tubes from dia. 6 mm to dia. 28,5 mm
- the Cryo Boxes can be used for larger vessels when the grid is removed
- suitable grid inserts for cryo boxes available as follows:

Color	Quantity per Pack	Height 32 mm Order No.	Height 50 mm Order No.	Height 75 mm Order No.	Height 100 mm Order No.	Height 130 mm Order No.
<b>Water-repellant standard coating</b>						
white	10	51 41 321	51 41 501	51 41 751	51 41 001	51 41 131
blue	10	51 41 322	51 41 502	51 41 752	51 41 002	51 41 132
red	10	51 41 323	51 41 503	51 41 753	51 41 003	51 41 133
green	10	51 41 324	51 41 504	51 41 754	51 41 004	51 41 134
yellow	10	51 41 325	51 41 505	51 41 755	51 41 005	51 41 135
<b>With waterproof plastic coating</b>						
white	10	51 42 321	51 42 501	51 42 751	51 42 001	51 42 131
blue	10	51 42 322	51 42 502	51 42 752	51 42 002	51 42 132
red	10	51 42 323	51 42 503	51 42 753	51 42 003	51 42 133
green	10	51 42 324	51 42 504	51 42 754	51 42 004	51 42 134
yellow	10	51 42 325	51 42 505	51 42 755	51 42 005	51 42 135



## Grid Inserts for Cryo Boxes, Format 136 x 136 mm

Ultra-low temperature-resistant cardboard.

other sizes available on request

- for sample storage
- temperature-resistant down to  $-80^{\circ}\text{C}$
- water-repellent finish
- packaging in practical folding boxes

Grid	Quantity per Pack	For Tube Dia. mm	Height of Grids 25 mm Order No.	Height of Grids 30 mm Order No.	Height of Grids 40 mm Order No.	Height of Grids 65 mm Order No.
4 x 4	10	28.5	51 20 210	51 20 211	51 20 212	51 20 213
5 x 5	10	23.5	51 20 121	51 20 120	51 20 122	51 20 123
6 x 6	10	19.5	51 20 131	51 20 130	51 20 132	51 20 133
7 x 7	10	16.5	51 20 143	51 20 140	51 20 142	51 20 141
8 x 8	10	14.5	51 20 152	51 20 150	51 20 151	51 20 153
9 x 9	10	12.0	51 20 163	51 20 160	51 20 161	51 20 162
10 x 10	10	11.0	51 20 173	51 20 170	51 20 172	51 20 171
12 x 12	10	9.0	51 20 182	51 20 180	51 20 181	51 20 183
13 x 13	10	8.5	51 20 190	51 20 193	51 20 191	51 20 192
14 x 14	10	7.5	51 20 202	51 20 203	51 20 201	51 20 200
16 x 16	10	6.5	51 20 221	51 20 222	51 20 223	51 20 224

# Cryo Boxes, Cardboard, 1/2-Format and 1/4-Format Format 136 x 136 x 75 mm and Format 148 x 148 x 130 mm



## Cryo Boxes and Grid Inserts, Cardboard, 1/2-Format 134 x 67 mm and 1/4-Format 75 x 75 mm

Ultra-low temperature-resistant cardboard, white.

- for sample storage even at ultra-low temperatures
- temperature-resistant down to – 80 °C
- water-repellent finish

Product	Grid	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Order No.
<b>Water-repellant standard coating</b>					
1/2-format Cryo Boxes, cardboard	–	134 x 67 x 50	–	10	51 60 028
1/2-format Grid Inserts	8 x 4	128 x 63 x 30	14.5	10	51 20 219
1/2-format Grid Inserts	10 x 5	128 x 63 x 30	11.0	10	51 60 029
1/4-format Cryo Boxes, cardboard	–	75 x 75 x 50	–	10	51 60 035
1/4-format Grid Inserts	5 x 5	68 x 68 x 30	11.0	10	51 60 036
<b>With waterproof plastic coating</b>					
1/2-format Cryo Boxes, cardboard	–	134 x 67 x 50	–	10	51 62 028
1/2-format Cryo Boxes, cardboard	–	134 x 67 x 75	–	10	51 62 751



## Cryo Boxes, Cardboard, Format 136 x 136 x 75 mm

Ultra-low temperature-resistant cardboard.

**suitable for 5 ml  
microcentrifuge tubes**

- for sample storage even at ultra-low temperatures
- with waterproof plastic coatings
- temperature resistant down to – 80 °C
- the Cryo Boxes can be used for larger vials when the grid is removed
- suitable for 5 ml microcentrifuge tubes

Color	Grid	For Tubes Ø x H mm	Quantity per Pack	Order No.
white	6 x 6	17 x 60	10	51 42 756



## Cryo Boxes, Cardboard, Format 148 x 148 x 130 mm

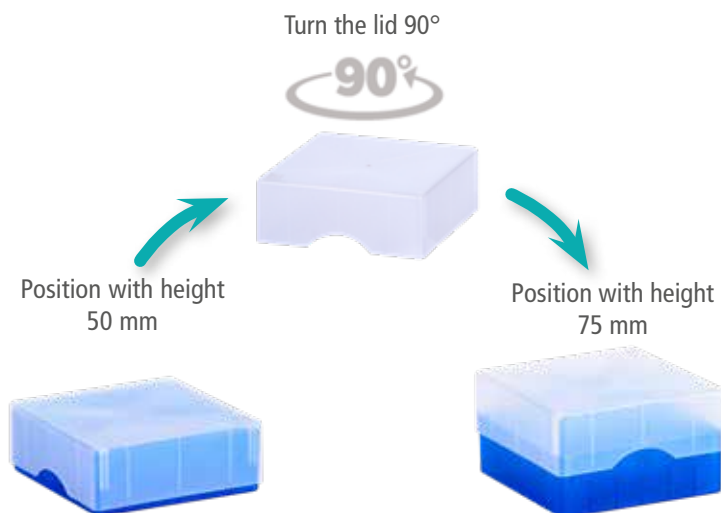
Ultra-low temperature-resistant cardboard.

**suitable for  
centrifuge tubes**

- for sample storage even at ultra-low temperatures
- with waterproof plastic coatings
- temperature resistant down to – 80 °C
- highest flexibility: Cryo Boxes can be combined with different grid inserts for tubes dia. 17 mm or dia. 30 mm
- the Cryo Boxes can be used for larger vials when the grid is removed
- suitable for centrifuge tubes: product no. 33 00 001 to 33 00 006

Color	Grid	For Tubes Ø x H mm	Quantity per Pack	Order No.
white	4 x 4	30 x 115	5	51 44 130
white	6 x 6	17 x 120	5	51 44 131

# Cryo Boxes with Slip Lid, PP, Format 133 x 133 mm



## 2-in-1 Cryo Boxes with Slip Lid, PP, Format 133 x 133 mm

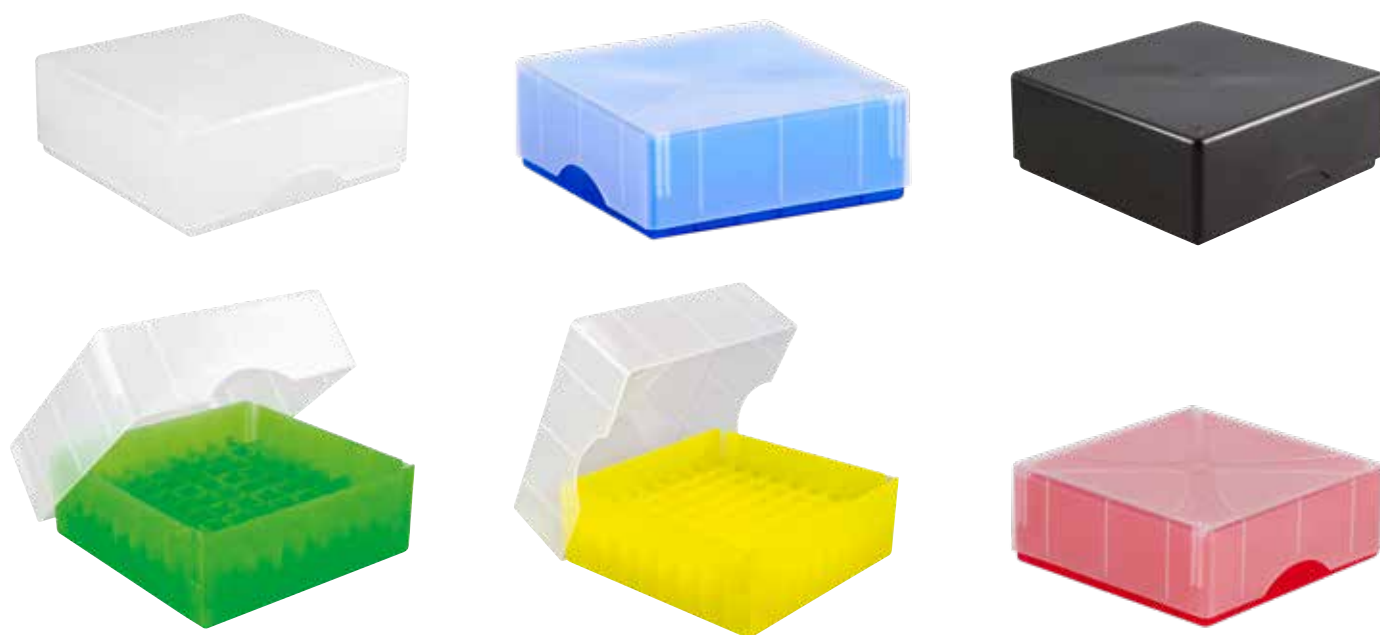
High-quality polypropylene (PP). Available in natural and other colors.

The specialty: the boxes are adjustable in height.

The boxes are available in 6 colors, with numerical coding and corresponding vents for draining condensed water.

The 6 x 6 to 10 x 10 grid accommodates space from 36 to 100 tubes.

- autoclavable, temperature-resistant from  $-90^{\circ}\text{C}$  to  $+121^{\circ}\text{C}$
- grids are available: 6 x 6, 7 x 7, 8 x 8, 9 x 9, 10 x 10
- numerically coded



	Grid For tube Dia.	6 x 6 19.0 mm	7 x 7 17.0 mm	8 x 8 15.0 mm	9 x 9 13.0 mm	10 x 10 11.5 mm
Color	Quantity per Pack	Order No.	Order No.	Order No.	Order No.	Order No.
natural	5	53 20 410	53 20 310	53 20 210	53 20 010	53 20 110
yellow	5	53 20 411	53 20 311	53 20 211	53 20 011	53 20 111
red	5	53 20 412	53 20 312	53 20 212	53 20 012	53 20 112
green	5	53 20 413	53 20 313	53 20 213	53 20 013	53 20 113
blue	5	53 20 414	53 20 314	53 20 214	53 20 014	53 20 114
black	5	53 20 415	53 20 315	53 20 215	53 20 015	53 20 115
mixed	5	53 20 416	53 20 316	53 20 216	53 20 016	53 20 116



# Cryo Boxes with Grids, PP, Format 133 x 133 mm



## Cryo Boxes with Grids, PP, Format 133 x 133 mm

The boxes are made of high-quality polypropylene in natural or other colors. They are available with heights of 52 or 75 mm.

- autoclavable, temperature-resistant from – 90 °C to + 121 °C
- 81 places, 9 x 9 grid, numerically coded
- robust hinge with safe snap-on lid
- stackable for safe transport
- drain bores at the bottom for dew liquids
- removable grid inserts
- Cryo Boxes can also be used for larger vials by removing the grid inserts

9 x 9 grid,  
numerically coded



Color	W x D x H mm	For Tube Dia. mm	Grid	Quantity per Pack	Order No.
<b>for Cryo Tubes 1.2 – 2 ml</b>					
natural	133 x 133 x 52	12.8	9 x 9	5	51 20 010
yellow	133 x 133 x 52	12.8	9 x 9	5	51 20 011
red	133 x 133 x 52	12.8	9 x 9	5	51 20 012
green	133 x 133 x 52	12.8	9 x 9	5	51 20 013
blue	133 x 133 x 52	12.8	9 x 9	5	51 20 014
black	133 x 133 x 52	12.8	9 x 9	5	51 20 015
<b>for Cryo Tubes 3 ml</b>					
natural	133 x 133 x 75	12.8	9 x 9	5	51 20 020
yellow	133 x 133 x 75	12.8	9 x 9	5	51 20 021
red	133 x 133 x 75	12.8	9 x 9	5	51 20 022
green	133 x 133 x 75	12.8	9 x 9	5	51 20 023
blue	133 x 133 x 75	12.8	9 x 9	5	51 20 024
black	133 x 133 x 75	12.8	9 x 9	5	51 20 025

# Cryo Boxes and Grid Inserts, PP, Format 133 x 133 mm



## Cryo Boxes and Grid Inserts, PP, Format 133 x 133 mm

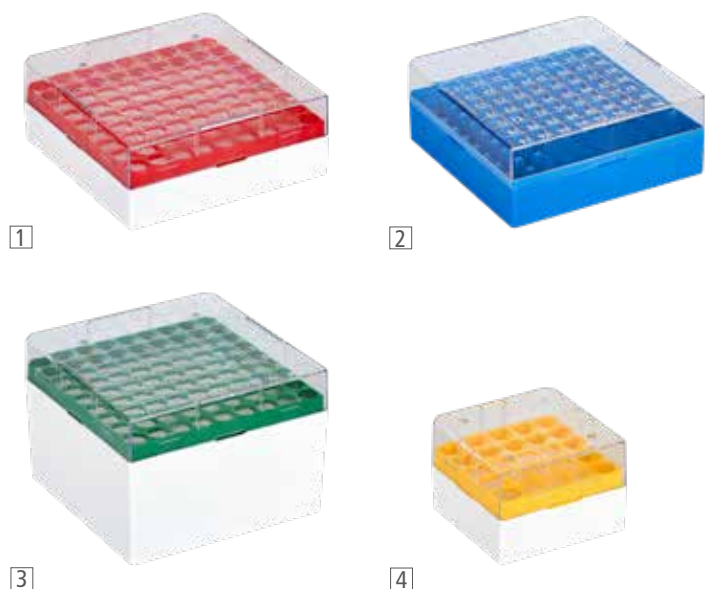
The boxes are made of high-quality polypropylene in natural or other colors. They are available with heights of 52 or 75 mm. These ratiolab® Cryo Boxes are particularly practical and flexible due to their removable grid inserts.

The separate natural-colored inserts are available in five sizes and can thus be used with sample vessels of differing diameters. The inserts fit all ratiolab® Cryo Boxes. Cleaning of the boxes and the inserts is much simpler than with Cryo Boxes with permanently fitted inserts.

- autoclavable, temperature-resistant from – 90 °C to + 121 °C
- robust hinge with safe snap-on lid
- stackable for safe transport
- drain bores at the bottom for dew liquids
- Cryo Boxes can also be used for larger vials by removing the grid inserts

Color	W x D x H mm	For Tube Dia. mm	Quantity per Pack	Order No.
<b>Cryo Boxes without Grid Insert</b>				
natural	133 x 133 x 52		5	52 20 010
yellow	133 x 133 x 52		5	52 20 011
red	133 x 133 x 52		5	52 20 012
green	133 x 133 x 52		5	52 20 013
blue	133 x 133 x 52		5	52 20 014
black	133 x 133 x 52		5	52 20 015
natural	133 x 133 x 75		5	52 20 020
yellow	133 x 133 x 75		5	52 20 021
red	133 x 133 x 75		5	52 20 022
green	133 x 133 x 75		5	52 20 023
blue	133 x 133 x 75		5	52 20 024
black	133 x 133 x 75		5	52 20 025
<b>Grid Inserts</b>				
6 x 6	133 x 133 x 30	20.5	5	52 20 100
7 x 7	133 x 133 x 30	17.3	5	52 20 101
8 x 8	133 x 133 x 30	15.8	5	52 20 102
9 x 9	133 x 133 x 30	12.8	5	52 20 103
10 x 10	133 x 133 x 30	11.2	5	52 20 104

# Cryo Boxes with Grids, PC, Format 132 x 132 mm and 76 x 76 mm



## Cryo Boxes with Grids, PC, Format 132 x 132 mm and 76 x 76 mm

Made of high-quality colored polycarbonate (PC).  
For use with liquid nitrogen.

- autoclavable, temperature-resistant from – 190 °C to + 121 °C
- 81 or 100 places, 9 x 9 resp. 10 x 10 grids
- 1/4-format with 25 places, 5 x 5 grid
- numerically coded
- stackable for safe transport
- drain bores at the bottom for dew liquids
- Cryo Boxes can also be used for larger vials by removing the grid inserts (except figure 2)

Color	Fig No.	W x D x H mm	For Tube Dia. mm	Grid	Quantity per Pack	Order No.
<b>for Cryo Tubes 1.2 – 2 ml</b>						
blue	1	132 x 132 x 52	12.3	9 x 9	5	51 50 001
green	1	132 x 132 x 52	12.3	9 x 9	5	51 50 002
red	1	132 x 132 x 52	12.3	9 x 9	5	51 50 003
yellow	1	132 x 132 x 52	12.3	9 x 9	5	51 50 004
<b>for Cryo Tubes 1.2 – 2 ml</b>						
blue	2	132 x 132 x 52	12.3	10 x 10	5	51 50 011
green	2	132 x 132 x 52	12.3	10 x 10	5	51 50 012
red	2	132 x 132 x 52	12.3	10 x 10	5	51 50 013
yellow	2	132 x 132 x 52	12.3	10 x 10	5	51 50 014
white	2	132 x 132 x 52	12.3	10 x 10	5	51 50 015
<b>for Cryo Tubes 3 – 5 ml</b>						
blue	3	132 x 132 x 94	12.3	9 x 9	4	51 50 021
green	3	132 x 132 x 94	12.3	9 x 9	4	51 50 022
red	3	132 x 132 x 94	12.3	9 x 9	4	51 50 023
yellow	3	132 x 132 x 94	12.3	9 x 9	4	51 50 024
<b>1/4-format, for Cryo Tubes 1.2 – 2 ml</b>						
blue	4	76 x 76 x 52	12.3	5 x 5	8	51 50 031
green	4	76 x 76 x 52	12.3	5 x 5	8	51 50 032
red	4	76 x 76 x 52	12.3	5 x 5	8	51 50 033
yellow	4	76 x 76 x 52	12.3	5 x 5	8	51 50 034

# Cryo Tubes

## Cryo Tubes

Polypropylene with the highest translucence. For the storing and conservation of tissue cultures and biological samples e.g. sera, blood, and spermatic. Suitable for storage from general cold storage refrigeration (+4 °C) down to the vapor phase of liquid nitrogen.

Manufactured in a Clean Room ISO 7 (UNI EN ISO 14644-1). Class 10.000 (US FED STD 209E).

- sterilized by beta-radiation, products meet a minimum sterility assurance Level (SAL) of 10<sup>-6</sup>
- autoclavable at 121 °C, 20 minutes
- completely free of DNA, DNase, Pyrogen, ATP, human DNA, and PCR Inhibitor
- lid with integrated sealing function; no additional silicone O-ring

- internal conical bottom for complete emptying
- white graduation for precise measurement
- white lettering for sample identification
- available with internal or external threads
- equipped with base for use with one hand
- each tube and package is labeled with an expiry date
- cap: PE and TVP
- 2.0 ml, 4.0 ml and 5.0 ml tubes available also with round bottom
- packaged in PE bags of 50 tubes in boxes
- suitable working stations see on page 85
- suitable cryo-boxes see on pages 76-83

free of DNA, DNase,  
pyrogen, ATP, human DNA,  
and PCR Inhibitor



Volume ml	Description	Ø x Height mm	Packaging	Quantity per Pack	Order No.
<b>Cryo Tubes with External Thread</b>					
1.2	self-standing	12.3 x 41	20 x 50	1000	51 10 112
2.0	round base	12.3 x 46	20 x 50	1000	51 10 120
2.0	self-standing	12.3 x 47	20 x 50	1000	51 10 122
3.0	self-standing	12.3 x 71	20 x 50	1000	51 10 130
4.0	self-standing	12.3 x 75	20 x 50	1000	51 10 140
5.0	self-standing	12.3 x 90	20 x 50	1000	51 10 150
<b>Cryo Tubes with Internal Thread</b>					
1.2	self-standing	12.3 x 43	20 x 50	1000	51 10 013
2.0	round base	12.3 x 47	20 x 50	1000	51 10 025
2.0	self-standing	12.3 x 48	20 x 50	1000	51 10 024
4.0	self-standing	12.3 x 76	20 x 50	1000	51 10 041
4.0	round base	12.3 x 75	20 x 50	1000	51 10 042
5.0	self-standing	12.3 x 91	20 x 50	1000	51 10 051
5.0	round base	12.3 x 90	20 x 50	1000	51 10 052

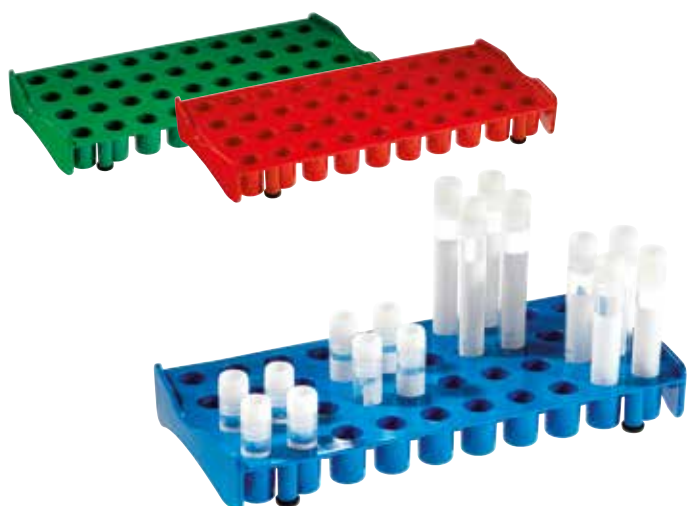
# Cryo Tube Accessories



## Color Coding Cap Inserts for Cryo Tube

Polypropylene. For cryo tubes 1.2 to 5.0 ml.  
Packed in PE-bags with 1000 pcs.

Color	Quantity per Pack	Order No.
white	1000	51 10 001
red	1000	51 10 002
blue	1000	51 10 003
green	1000	51 10 004
yellow	1000	51 10 005



## Work Stations for 40 Cryo Tubes

High-quality polypropylene.

For 40 Cryo Tubes 1.2 to 5 ml with 12.5 mm outer diameter. Cryo Tubes with a self-standing base are automatically locked in the Work Station and can easily be screwed and unscrewed with one hand.

- with non-slip feet, the Work Stations stand safely on laboratory benches
- autoclavable
- size (w x l x h) 100 x 220 x 30 mm



Color	Quantity per Pack	Order No.
green	5	53 00 400
red	5	53 00 200
blue	5	53 00 100

# Racks for Freezer Chests



## Vertical Racks, stainless steel

For the storing of Cryo Boxes in freezer chests.  
Stainless steel.

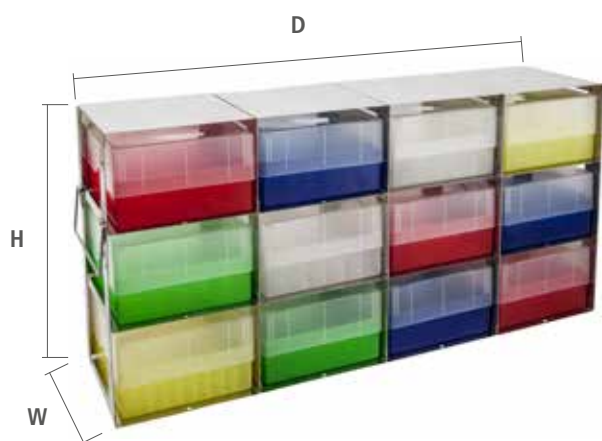
- for all Cryo Boxes format 130 x 130; 133 x 133 and 136 x 136 mm
- surfaces for perfect cleaning
- robust construction
- handles for convenient transport
- rack size includes the holder
- Cryo Racks can be supplied with shelf sizes for any standard Cryo Boxes
- locking rod on request

Rack standard sizes are listed in the table below:

other sizes  
available on request

Number of Shelves horizontal x vertical	Rack Size D x W x H mm	for Cryo Boxes Height				Quantity per Pack	Order No.
		32 mm	50 mm	75 mm	100 mm		
1 x 4	140 x 140 x 222	–	■	–	–	1	54 00 041
1 x 5	140 x 140 x 277	–	■	–	–	1	54 00 021
1 x 5	140 x 140 x 531	–	–	–	■	1	<b>New</b> 54 00 039
1 x 6	140 x 140 x 482	–	–	■	–	1	54 00 028
1 x 7	140 x 140 x 385	–	■	–	–	1	54 00 042
1 x 7	140 x 140 x 561	–	–	■	–	1	54 00 029
1 x 8	140 x 140 x 441	–	■	–	–	1	54 00 027
1 x 8	140 x 140 x 641	–	–	■	–	1	54 00 030
1 x 9	140 x 140 x 495	–	■	–	–	1	54 00 026
1 x 9	140 x 140 x 720	–	–	■	–	1	54 00 031
1 x 10	140 x 140 x 550	–	■	–	–	1	54 00 000
1 x 11	140 x 140 x 406	■	–	–	–	1	54 00 032
1 x 11	140 x 140 x 604	–	■	–	–	1	54 00 023
1 x 12	140 x 140 x 443	■	–	–	–	1	54 00 033
1 x 12	140 x 140 x 659	–	■	–	–	1	54 00 025
1 x 13	140 x 140 x 479	■	–	–	–	1	54 00 034
1 x 13	140 x 140 x 713	–	■	–	–	1	54 00 001
1 x 14	140 x 140 x 516	■	–	–	–	1	54 00 035
1 x 15	140 x 140 x 552	■	–	–	–	1	54 00 036
1 x 16	140 x 140 x 589	■	–	–	–	1	54 00 037
1 x 17	140 x 140 x 625	■	–	–	–	1	54 00 038
1 x 18	140 x 140 x 662	■	–	–	–	1	54 00 024

# Racks for Freezer Cabinets



## Horizontal Racks, stainless steel

For the storing of Cryo Boxes in freezer cabinets and chests.  
Stainless steel.

- for all Cryo Boxes format 130 x 130; 133 x 133 and 136 x 136 mm
- surfaces for perfect cleaning
- robust construction
- handles for convenient transport
- Cryo Racks can be supplied with shelf sizes for any standard Cryo Boxes

Rack standard sizes are listed in the table below:

other sizes  
available on request

Number of Shelves horizontal x vertical	Number of Boxes	Rack Size D x W x H mm	for Cryo Boxes Height				Quantity per Pack	Order No.
			50 mm	75 mm	100 mm	130 mm		
3 x 3	9	424 x 140 x 165	■	–	–	–	1	54 00 007
3 x 4	12	424 x 140 x 219	■	–	–	–	1	54 00 009
3 x 5	15	424 x 140 x 274	■	–	–	–	1	54 00 022
4 x 2	8	566 x 140 x 164	–	■	–	–	1	54 00 011
4 x 2	8	566 x 140 x 219	–	–	■	–	1	54 00 010
4 x 2	8	566 x 140 x 275	–	–	–	■	1	54 00 012
4 x 3	12	566 x 140 x 240	–	■	–	–	1	54 00 006
4 x 3	12	566 x 140 x 314	–	–	■	–	1	54 00 040
4 x 4	16	566 x 140 x 219	■	–	–	–	1	54 00 004
4 x 4	16	566 x 140 x 319	–	■	–	–	1	54 00 005
4 x 5	20	566 x 140 x 274	■	–	–	–	1	54 00 003
4 x 6	24	566 x 140 x 328	■	–	–	–	1	54 00 002
4 x 7	28	566 x 140 x 391	■	–	–	–	1	54 00 008
5 x 2	10	705 x 140 x 161	–	■	–	–	1	54 00 016
5 x 2	10	705 x 140 x 212	–	–	■	–	1	54 00 020
5 x 3	15	705 x 140 x 240	–	■	–	–	1	54 00 017
5 x 4	20	705 x 140 x 219	■	–	–	–	1	54 00 013
5 x 4	20	705 x 140 x 319	–	■	–	–	1	54 00 018
5 x 5	25	705 x 140 x 274	■	–	–	–	1	54 00 014
5 x 6	30	705 x 140 x 328	■	–	–	–	1	54 00 015

# Racks for Freezer Cabinets



## Drawer Rack, stainless steel

For the storing of Cryo Boxes in freezer cabinets and chests. Stainless steel.

- for all Cryo Boxes format 130 x 130; 133 x 133 and 136 x 136 mm
- cabinet slide-ins without pull-out stop
- easy-to-clean polished surface
- robust design

Rack standard sizes are listed in the table below:

other sizes available on request

Number of Shelves horizontal x vertical	Number of Shelves	Rack Size D x W x H mm	for Cryo Boxes Height		Quantity per Pack	Order No.
			50 mm	75 mm		
4 x 2	8	570 x 144 x 112	■	–	1	54 00 043
4 x 3	12	570 x 144 x 168	■	–	1	54 00 044
4 x 3	12	570 x 144 x 250	–	■	1	54 00 019
4 x 4	16	570 x 144 x 224	■	–	1	54 00 046
4 x 4	16	570 x 144 x 335	–	■	1	54 00 066
4 x 5	20	570 x 144 x 280	■	–	1	54 00 045
4 x 6	24	570 x 144 x 336	■	–	1	54 00 047
4 x 7	28	570 x 144 x 392	■	–	1	54 00 049
5 x 3	15	709 x 144 x 241	–	■	1	54 00 052
5 x 4	20	709 x 144 x 224	■	–	1	54 00 050
5 x 4	20	709 x 144 x 321	–	■	1	54 00 053
5 x 5	25	709 x 144 x 280	■	–	1	54 00 048
5 x 6	30	709 x 144 x 336	■	–	1	54 00 051

## Compartment insert for drawer racks

The compartment inserts for drawer frames prevent cryo boxes, micro test plates or racks in the SBS standard format from slipping.



Product	Quantity per Pack	Order- No.
for 4 Cryo Boxes up to 136x136mm	5	54 10 001
for 5 Cryo Boxes up to 136x136mm	5	54 10 002
for 6 Micro-Racks	5	54 10 101
for 7 Micro-Racks	5	54 10 102



# Customized Racks



## Individual Design and Manufacturing of Racks and Shelves for Sample Storage

Sample storage becomes more and more individual. ratiolab® develops and manufactures racks and shelves according to your requirements. Even for lower quantities, we offer this service.

Send us your request including the dimensions and quantities of the storage boxes or plates which you would like to store.

Furthermore, we require the inner dimensions of your chest or cabinet freezer.

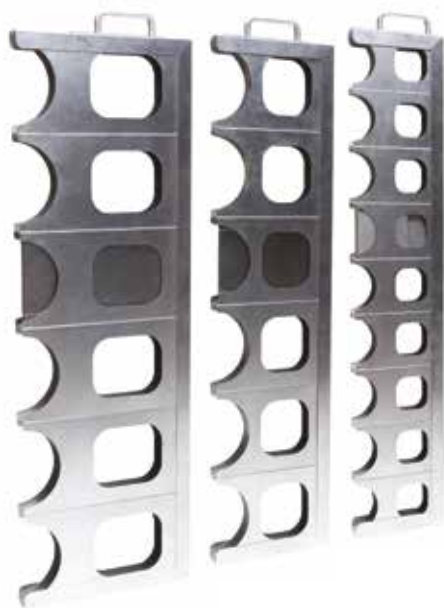
You will receive our suggestion for your rack in brief.

This service includes the following racks:

### Chest Freezer Racks made of Stainless Steel

The individualization includes the following parameters:

- Compartment dimensions (footprint)
- Compartment heights
- Number of compartments (rack height)
- Rack marking
- Locking rod or safety clamp



### Cabinet Freezer Racks made of Stainless Steel

The individualization includes the following parameters:

- Compartment dimensions (footprint)
- Compartment heights
- Number of compartments (rack height)
- Rack marking
- Locking rod or safety clamp

### Drawer Freezer Racks made of Stainless Steel

The individualization includes the following parameters:

- Drawer heights
- Number and placement of drawers (rack height and depth)
- Rack marking
- Safety stop for secure handling



### Blood Bag Racks and Cassettes

The individualization includes the following parameters:

- Cassette Dimensions
- Required number of cassettes per rack
- Rack Marking

Please send your request directly to [tech@ratiolab.com](mailto:tech@ratiolab.com) or contact us by phone.



# Technical information



**Think!** Development and production of customized products



**Slamed** Pipets and Equipment



**Liquid handling** products



**Labware** for general lab applications



**Life science** products for microbiology and biotechnology



**Cryo** products for deep-freeze applications

# Chemical Resistance of Plastics

The plastics used are classified as follows with respect to chemical resistance:

**+** Excellent chemical resistance

Constant contact with medium gives rise to no damage to the plastic within 30 days. The plastic can, however, remain resistant over a number of years.

**0** Partial to good chemical resistance

Constant contact with the medium gives rise to minor damage within a period of 7-30 days; such damage is in fact partially reversible (e.g. swelling, softening, less mechanical firmness, discoloration).

**—** Low chemical resistance

Not suitable for constant contact with medium. Damage may occur immediately (e.g. less mechanical firmness, deformation, discoloration, cracks, dissolution).

Chemical resistance of plastics with groups of substances at 20 °C	PP	PS	HD-PE	LD-PE
Alcohols, aliphatic	+	+	+	+
Ether	0	—	0	0
Aldehydes	+	—	+	0
Ester	0	—	0	0
Hydrocarbons, aliphatic	+	—	+	0
Hydrocarbons, aromatic	0	—	+	0
Hydrocarbons, halogenated	0	—	0	0
Ketones	0	—	0	0
Alkalis	+	+	+	+
Acids, strong or concentrated	+	0	+	+
Acids, weak or diluted	+	0	+	+
Oxidizing acids, oxidizing agents	—	—	—	—

These carefully selected recommendations from the literature or from manufacturers are intended to inform and guide. However, the user is obliged to check suitability for the applications intended.

Chemical	PP		PS		HD-PE		LD-PE	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Acetaldehyde	+	—	—	—	+	0	+	—
Acetic acid (glacial), 100 %	+	0	—	—	+	+	+	0
Acetic acid, 96 %	+	+	0	0	+	+	+	+
Acetic anhydride	0	0	—	—	0	0	—	—
Acetone	+	+	—	—	+	+	+	0
Acetonitrile	+	0	—	—	+	0	+	0
Acetophenone	0	0	—	—	0	0	—	—
Acetylacetone	+	—	—	—	+	—	+	—
Acetylchloride	+	—	—	—	+	—	+	—
Acrylic acid	+	—	—	—	+	—	+	—
Acrylonitrile	0	—	—	—	+	+	+	+
Adipic acid	+	+	+	+	+	+	+	+
Allyl alcohol	+	+	+	0	+	+	+	+
Aluminum chloride	+	+	+	+	+	+	+	+
Aluminum hydroxide	+	+	0	0	+	+	+	+
Amino acids	+	+	+	+	+	+	+	+
Ammonium chloride	+	+	+	+	+	+	+	+
Ammonium fluoride	+	+	+	+	+	+	+	+
Ammonium hydroxide, 30 % (Ammonia)	+	+	0	—	+	+	+	+
Ammonium sulfate	+	+	+	+	+	+	+	+
n-Amyl acetate	0	—	—	—	+	0	0	—
Amyl alcohol (Pentanol)	+	+	0	0	+	+	+	+
Amyl chloride (Chloropentane)	—	—	—	—	—	—	—	—

# Chemical Resistance of Plastics

Chemical	PP		PS		HD-PE		LD-PE	
	20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C
Aniline	+	+	-	-	+	+	+	0
Barium chloride	+	+	+	+	+	+	+	+
Benzaldehyde	+	+	-	-	+	+	+	+
Benzene (Benzol)	+	0	-	-	+	+	0	-
Benzine (Gasoline)	0	0	-	-	+	+	0	-
Benzoyl chloride	+	0	-	-	+	+	0	-
Benzyl alcohol	0	-	-	-	0	-	0	-
Benzylamine	0		-	-	0		0	-
Benzylchloride			-	-				
Boric acid, 10 %	+	+	+	+	+	+	+	+
Bromine	-	-	-	-	-	-	-	-
Bromobenzene	-	-	-	-	-	-	-	-
Bromoform	-	-	-	-	-	-	-	-
Bromonaphthalene			-	-				
Butanediol	+	+	-	-	+	+	+	+
1-Butanol	+	+	0	-	+	+	+	+
Butylamine			-	-				
n-Butyl acetate	0	0	-	-	+	+	0	0
Butyl methyl ether	+	0	-	-	0	-	0	-
Butyric acid	-	-	-	-	0	-	-	-
Calcium carbonate	+	+	+	+	+	+	+	+
Calcium chloride	+	+	+	+	+	+	+	+
Calcium hydroxide	+	+	+	0	+	+	+	+
Calcium hypochlorite	+	+	+	+	+	+	+	+
Calomel	+	+	+	0	+	+	+	+
Carbon disulfide	-	-	-	-	-	-	-	-
Carbon tetrachloride	-	-	-	-	0	-	-	-
Chloro naphthalene								
Chloroacetaldehyde, 45 %			-	-				
Chloroacetic acid	+	+	-	-	+	+	+	+
Chloroacetone			-	-				
Chlorobenzene	0	-	-	-	-	-	-	-
Chlorobutane	0	-	-	-	0	-	0	-
Chloroform	-	-	-	-	+	0	-	-
Chlorosulfonic acid								
Chromic acid, 10 %	+	+	-	-	+	+	+	+
Chromic acid, 50 %	0	0	-	-	+	0	+	0
Chromosulfuric acid	-	-	0	0	+	-	+	-
Copper sulfate	+	+	+	+	+	+	+	+
Cresol	0	0	-	-	0	-	-	-
Cumene (isopropyl benzene)	0	-	-	-	+	0	0	-
Cyclohexane	0	-	-	-	0	-	0	-
Cyclohexanone	0	-	-	-	0	-	-	-
Cyclopentane	0	-	-	-	0	-	-	-
Decane	0				0	-		
1-Decanol	+		0		+			
Dibenzylether	+		-	-	+			
Dibromoethane								
Dibutyl phthalate	+	0	-	-	0	-	0	-
Dichloroacetic acid	0	-	0	-	0	0	0	-
Dichlorobenzene	0	-	-	-	0	-	0	-
Dichloroethane	0	-			0	-	0	-
Dichloromethane	0	-	-	-	0	-	0	-
Diesel oil (Heating oil)	+	0	-	-	+	0	0	-
Diethanolamine	0		-	-	0			
1.2 Diethylbenzene	-	-	-	-	0	-	-	-

# Chemical Resistance of Plastics

Chemical	PP		PS		HD-PE		LD-PE	
	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C	20 °C	50 °C
Diethylether	0	-	-	-	0	-	-	-
Diethylamine	0	-	0	0	0	-	-	-
Diethylene glycol	+	+	0	-	+	+	+	+
Dimethyl sulfoxide (DMSO)	+	+	-	-	+	+	+	+
Dimethylaniline			-	-				
Dimethylformamide (DMF)	+	+	-	-	+	+	+	+
1.4 Dioxane	+	0	-	-	+	+	+	0
Diphenyl ether			-	-				
Ethanol	+	+	-	-	+	+	+	+
Ethanolamine	+							
Ethyl acetate	+	0	-	-	+	+	+	+
Ethyl methyl ketone	+	0	-	-	0	-	0	-
Ethylbenzene	-	-	-	-	-	-	-	-
Ethylene glycol (glycol)	+	+	+	+	+	+	+	+
Ethylene oxide	0	-	-	-	0	0	0	0
Fluoroacetic acid			-	-				
Formaldehyde, 40 %	+	+	-	-	+	+	+	+
Formamide	+	+			+	+	+	+
Formic acid, 100 %	+	+	+	0	+	+	+	+
Glycerol	+	+	+	+	+	+	+	+
Glycolic acid, 50 %	+	+			+	+	+	+
Heating oil (Diesel oil)	+	0	-	-	+	0	0	-
Heptane	0	0	-	-	0	0	0	-
Hexane	+	0	0	-	+	0	0	-
Hexanoic acid								
Hexanol	+	+			+	+	+	+
Hydriodic acid	+	+			+	+	+	+
Hydrobromic acid	+	+	0	-	+	+	+	+
Hydrochloric acid, 10 %	+	+	+	+	+	+	+	+
Hydrochloric acid, 20 %	+	+	+	+	+	+	+	+
Hydrochloric acid, 37 %	+	+	0	0	+	+	+	+
Hydrofluoric acid, 40 %	+	+	+	+	+	+	+	+
Hydrofluoric acid, 70 %	+	0	-	-	+	0	+	-
Hydrogen peroxide, 35 %	+	+	+	+	+	+	+	+
Isoamyl alcohol	+	+			+	+	+	+
Isobutanol	+	+	0	0	+	+	+	+
Isooctane			0					
Isopropanol (2-propanol)	+	+	0	0	+	+	+	+
Isopropyl ether	-	-	-	-	-	-	-	-
Lactic acid	+	+	+	+	+	+	+	+
Lugol's solution (iodine-potassium iodide solution)	+	+	0	-	-	-	-	-
Mercury	+	+	+	+	+	+	+	+
Methanol	+	+	0	-	+	+	+	0
Methoxybenzene			-	-				
Methyl formate			-	-				
Methyl propyl ketone	+	0	-	-	+	+	+	0
Methylene chloride	0	-	-	-	0	-	0	-
Mineral oil (engine oil)	+	+	+		+	+	+	0
Monochloroacetic acid	+	+	-	-	+	+	+	+
Nitric acid, 10 %	+	+	-	-	+	+	+	+
Nitric acid, 30 %	0	-	-	-	0	-	0	0
Nitric acid, 70 %	-	-	-	-	-	-	-	-
Nitrobenzene	-	-	-	-	0	-	-	-
Nitrohydrochloric acid	0	-	0	-	-	-	-	-
Oleic acid			-	-				
Oxalic acid	+	+	+	+	+	+	+	+

# Chemical Resistance of Plastics

Chemical	PP		PS		HD-PE		LD-PE	
	20°C	50°C	20°C	50°C	20°C	50°C	20°C	50°C
Ozone	0	-	0	0	0	-	0	-
n-Pentane								
Peracetic acid								
Perchloric acid	+	-	-	-	+	-	+	-
Perchloroethylene	-	-	-	-	-	-	-	-
Petroleum	0	-	-	-	0	-	0	-
Petroleum ether			-	-			0	
Phenol	+	+	-	-	+	+	+	0
Phenylethanol	0				0			
Phenylhydrazine	0				0			
Phosphoric acid, 85 %	+	+	+	0	+	+	+	+
Piperidine	+				+			
Potassium chloride	+	+	0	0	+	+	+	+
Potassium dichromate								
Potassium hydroxide	+	+	0	0	+	+	+	+
Potassium permanganate	+	+	+	+	+	+	+	+
Propanol	+	+	0		+	+	+	+
Propionic acid	+	0	0	-	+	0	0	-
Propylene glycol (propanediol)	+	+	+	+	+	+	+	+
Pyridine	0	0	-	-	+	0	+	0
Salicylaldehyde	+	+	-	-	+	+	+	+
Salicylic acid	+	+	+	+	+	+	+	+
Silver acetate	+	+	0	0	+	+	+	+
Silver nitrate	+	+	0	0	+	+	+	+
Sodium acetate	+	+	+	+	+	+	+	+
Sodium chloride	+	+	+	+	+	+	+	+
Sodium dichromate	+	+	+	0	+	+	+	+
Sodium fluoride	+	+	+	+	+	+	+	+
Sodium hydroxide, 30 %	+	+	+	+	+	+	+	+
Sulfuric acid, 60 %	+	+	-	-	+	+	+	+
Sulfuric acid, 98 %	-	-	-	-	0	-	0	-
Tartaric acid	+	+	+	+	+	+	+	+
Tetrachloroethylene								
Tetrahydrofuran (THF)	0	-	-	-	0	-	0	-
Tetramethylammonium hydroxide								
Toluene	0	-	-	-	0	0	0	-
Trichloroacetic acid	0	-	0	-	0	0	0	-
Trichlorobenzene	-	-	-	-	-	-	-	-
Trichloroethane	-	-	-	-	0	-	-	-
Trichloroethylene	-	-	-	-	0	-	-	-
Trichlorotrifluoroethane			-	-				
Triethanolamine			-	-				
Triethylene glycol	+	+	+	0	+	+	+	+
Trifluoroacetic acid (TFA)			-	-				
Trifluoro ethane			-	-				
Tripropylene glycol	+	+	+	+	+	+	+	+
Turpentine	-	-	-	-	0	-	0	-
Urea	+	+	+	+	+	+	+	+
Xylene	-	-	-	-	0	-	0	-
Zinc chloride, 10 %	+	+	+	+	+	+	+	+
Zinc sulfate, 10 %	+	+	+	+	+	+	+	+

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our products, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, not the suitability of the products for a specific purpose.

# Plastics Technical Data and Index

## Sterilizing plastic - Autoclaving

Recommended autoclave cycle: 20 minutes at 121 °C, 1 bar

The following plastics can be autoclaved several times: PP and PC

## Standard abbreviations for plastics

DIN-Abbrev.	Description	Application temperature (°C)	
		from	to
ABS	acrylic butadiene styrene copolymer	-40	+85 (+100)
E-CTFE	ethylene chlorotrifluorethylene	-70	+150 (+170)
ETFE	ethylene tetrafluor ethylene	-100	+150 (+180)
FEP	tetrafluor ethylene perfluorpropylene	-100	+205
HDPE	polyethylene high density	-50	+80 (+120)
LDPE	polyethylene low density	-50	+75 (+190)
MF	melamine	-60	+80 (+120)
NR	natural rubber	-40	+80
PA	polyamide (PA6)	-30	+80 (+140)
PBT	polybutylene terephthalate	-50	+150
PC	polycarbonate	-100	+135 (+140)
PE	polyethylene (see HDPE/LDPE)	-40	+80 (+90)
PES	polyether sulfone	-100	+150
PETG	polyethylene terephthalate	-40	+65
PFA	perfluoralkoxy	-200	+260
PMMA	polymethylmethacrylate	-40	+85 (+90)
PMP (TPX)	polymethylpentene	0	+150 (+180)
POM	polyoxymethylene	-40	+110 (+140)
PP	polypropylene	-100	+110 (+140)
PS	polystyrene	-20	+70 (+80)
PSU	polysulfone	-100	+150
PTFE	polytetrafluor ethylene	-200	+260
PVC	polyvinylchlorid	-20	+80
PVDF	polyvinylidene flouride	-40	+105 (+150)
SAN	styren acrylonitrile	-20	+85 (+95)
SI	silicone rubber	-50	+180 (+250)
TPE	thermoplastic elastomer	-50	+121
TPV	thermoplastic vulcanizate	-60	+135

Disclaimer: All information in this table are without guarantee.  
Legal claims are excluded here.

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351490B	52	4770043	18	5120013	81	5120186	76	5132003	76	5142502	78
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351490R	52	4770045	18	5120015	81	5120190	78	5132005	76	5142504	78
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