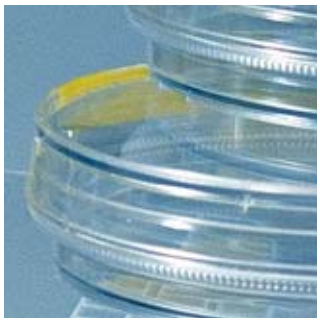
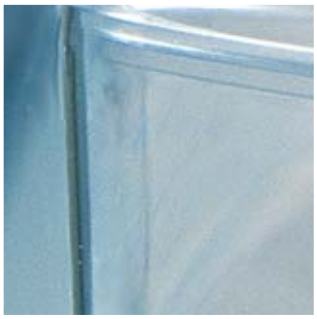
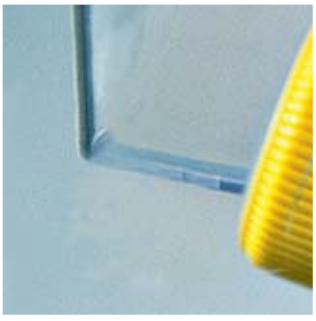
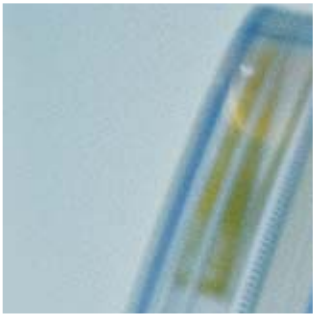


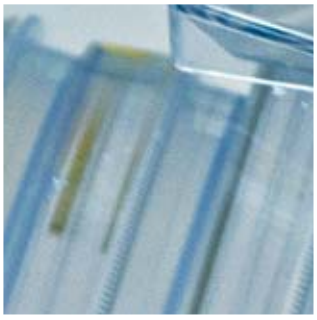
Tissue Culture and Laboratory Technology

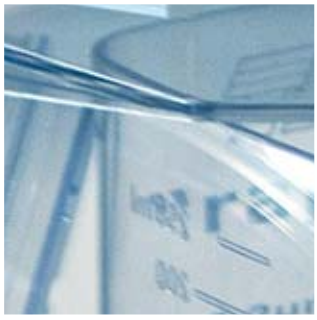
Sales Brochure 2012/2013

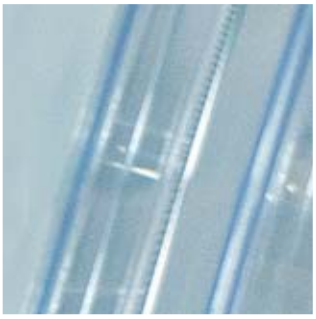


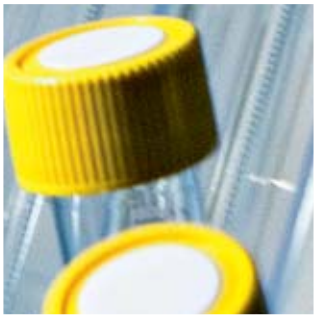












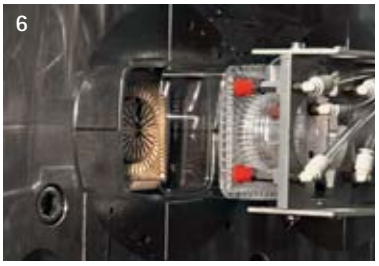
home of tissue culture

www.tpp.ch

Contents

TPP Techno Plastic Products AG

TPP products are developed and manufactured conforming ISO 9001 norms.
They are available worldwide through the TPP dealer net.



1 *TPP headquarters*
2 *Storage house of finished goods*
3 *Silos for plastic granulate*
4-5 *Design engineering*
6-10 *Production*
11-13 *Quality control*
14-15 *Automated guided vehicle system*

Dear TPP friends

For 45 years the family business TPP exists in Trasadingen. They were active years indeed in which a lot changed not just only in the plastic industry but also in laboratories and most of all in the tissue culture. Existing changed, new things were added.
The record of achievements in innovations at TPP fills me with pride: New products, product improvements and TPP products for completely new techniques, thus offering completely new ways of cell culture such as for example the TubeSpin® Bioreactor for suspension cell culture in shakers, were developed and introduced successfully into the market. My personal commitment is to the various surface treatments and coatings of tissue culture containers. New treatment ideas are continually analysed and help to improve existing techniques. And one thing is sure, more will follow!
Against the background of the increasing brand and price consciousness of the end-user TPP keeps to a rigid but efficient and praxis oriented manufacturing and hygienic management. Also we continuously improve all environmental aspects in our premises to carry the responsibility for the ecology.
These are the elements for our motivation and innovation force to live up to the expectations of a modern and future oriented company.
Today – as on day 1 – our goal is that the users of our TPP products receive the best basis for a successful work.

The TPP team and I are happy to work for and with you.

Rolf Tanner

Worldwide a growing number of content TPP product users.

Tissue Culture Flask 25 – 300 cm²

Features of the TPP Tissue Culture Flask:

- surface activated, uniform flat growth surface
- crystal clear transparency
- geometry of the neck reduces risk of media slop over
- stable, slip-free stacking of multiple flasks
- highly visible bilateral marking areas
- white volume graduations for optic control of the filling volume

But also:

- no dead corners due to the neck geometry - 100 % cell retrieval with a pipette or cell scraper
- two cap styles available: Filter screw cap or «VENT» screw cap

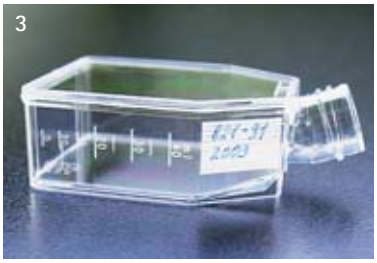
The opto-mechanical surface activation from TPP enhances even and consistent cell adhesion and cell growth. Only the bottom of the vessel is treated to prevent unwanted cell growth up the flasks sides.

The hydrophobic PTFE membrane with pore size 0.22 µm of the Filter screw cap offers protection to contamination and optimal sterile gas exchange at the same time.

The TPP click

- A click and the «VENT» screw cap is in the aeration-position (picture 1)
- Visual control: the slightly raised rectangle is at 12 o'clock
- Close the flask gas-tight by turning the «VENT» screw cap clockwise 90 (picture 2)
- Visual control: the slightly raised rectangle is at 3 o'clock

1 Aeration position of «VENT» screw cap, 12 o'clock.
2 Closed gas-tight, 3 o'clock.



1 100 % access of pipettes, tissue scrapers and the tissue spatula from TPP.
2 Stable and slip-free stacking of multiple flasks.
3 White marking area with lines to support your identification.

Type	Product-No.	Growth surface	Version	Volume (ml)	Dimensions	Material	Qty / Bag	Qty / Case
	90025	25 cm²	«VENT»	recom.= 3–5, max= 15	90 x 50 x 25 mm	PS	10	360
	90026	25 cm²	Filter	recom.= 3–5, max= 15	90 x 50 x 25 mm	PS	10	360
	90075	75 cm²	«VENT»	recom.= 8–15, max= 65	150 x 85 x 35 mm	PS	5	100
	90076	75 cm²	Filter	recom.= 8–15, max= 65	150 x 85 x 35 mm	PS	5	100
	90150	150 cm²	«VENT»	recom.=15–30, max= 165	205 x 120 x 45 mm	PS	3	36
	90151	150 cm²	Filter	recom.=15–30, max= 165	205 x 120 x 45 mm	PS	3	36
	90300	300 cm²	«VENT»	recom.=30–40, max= 410	270 x 170 x 45 mm	PS	3	18
	90301	300 cm²	Filter	recom.=30–40, max= 410	270 x 170 x 45 mm	PS	3	18

Type	Product-No.	Version	Dimensions	Material	Qty / Bag	Qty / Case
	90825	«VENT» for T-25	24 x 16 mm	PE	10	40
	90826	Filter for T-25	24 x 16 mm	PE	10	40
	90875	«VENT» for T-75	33 x 21 mm	PE	10	40
	90876	Filter for T-75	33 x 21 mm	PE	10	40
	90850	«VENT» for T-150/300	39 x 24 mm	PE	10	40
	90856	Filter for T-150/300	39 x 24 mm	PE	10	40

4 "VENT" and Filter screw caps.
5 Filter screw cap with a hydrophobic PTFE membrane, pore size 0.22 µm welded in.

Tissue Culture Flask with Re-Closable Lid or Peel-Off Foil

Features of the unique TPP Tissue Culture Flask with multi-use Re-Closable Lid:

- a multi-use re-closable liquid-tight lid
- complete access from above to flask chamber (picture 3)
- stable, slip-free stacking of multiple flasks also in combination with the standard TPP tissue culture flasks (picture 1)
- optionally available with barrier which creates a growth area of 115 cm^2

Features of the TPP Tissue Culture Flask with Peel-Off Foil:

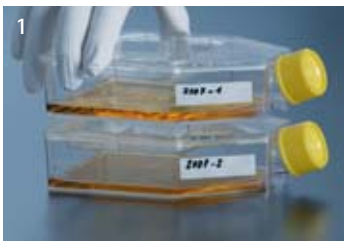
- foil is peeled off before access to the cells
- multilayer foil material is bonded on the polystyrene carrier
- sterility is maintained until cells or tissue are harvested
- optionally available with barrier which creates a growth area of 115 cm^2
- re-closure of this flask is not possible

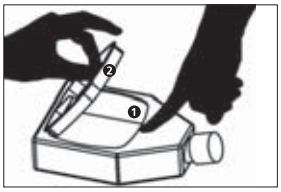
Both flasks are available with Filter screw cap with a hydrophobic PTFE membrane with a pore size of 0.22 µm only. If a «VENT» screw cap is used, the build-up of inside pressure of more than 0.03 bar could press open the flask.

1 Secure stacking of multiple flasks.

2 Non-toxic gasket and a unique click-in system allow the lid to be fixed into any desired position.

3 Complete access to cell chamber from above.

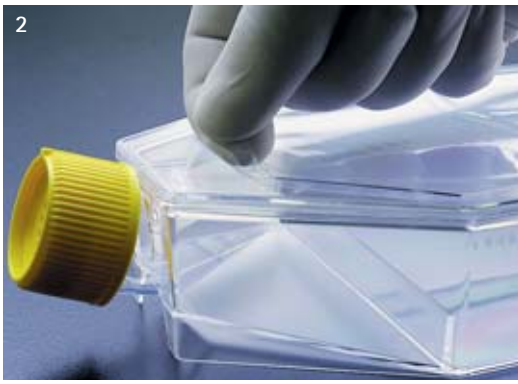




❶ Press here ❷ Lift out lid

Opening and re-closing mechanism: 100 % tightness of both flasks including their connected parts when filled with liquid up to 100 ml maximum.

1 The TPP tissue culture flasks with convenient re-closable lid.



2 The toxin-free foil can be gripped and peeled off at the given flap with ease.

Type	Product-No.	Growth surface	Version	Lid Opening	Volume (ml)	Dimensions	Material	Qty / Bag	Qty / Case
	90551	150 cm²	peel-off foil	100 x 110 mm	recom.=15–30, max = 100	205 x 120 x 45 mm	PS	3	18
	90552	150 cm²	lid	105 x 105 mm	recom.=15–30, max = 100	205 x 120 x 45 mm	PS	3	18
	90651	115 cm²	peel-off foil, with barrier	100 x 110 mm	recom.=15–30, max = 100	205 x 120 x 45 mm	PS	3	18
	90652	115 cm²	lid, with barrier	105 x 105 mm	recom.=15–30, max = 100	205 x 120 x 45 mm	PS	3	18

3 Both TPP flasks – with re-closable lid or with peel-off foil – are leak tight up to 100 ml filling volume.

Tissue Culture Flat Tube 10 and Tissue Culture Tube 20

TPP tissue culture tubes are an extension to the tissue culture flask product range.

Features of the TPP Tissue Culture Flat Tube 10:

- 3-in-1 product: cultivate, examine and spin cells in the same vessel!
- concial shape of the 2nd generation tube eases the removal of the pellet
- 10 cm^2 surface activated growth area with new surface quality resulting in cristall clear transparency
- large opening for complete access of pipettes and scrappers (picture 1, following page)
- great optical clarity for visual control with inverse microscopes (picture 2)
- sloped and flattened upper side for reduced refraction
- Filter screw cap with hydrophobic PTFE membrane pore size 0.22 µm
- fits any 50 ml standard tube adapter, can be spun up to 1200 g
- innovative packaging with separate chambers enables scratch-free transportation and handling

Features of the TPP Tissue Culture Tube 20:

- 20 cm^2 surface activated growth area
- growth area for a length of 50 mm
- volume graduations up to the tip
- specially formed 10-sided «VENT» screw cap with "Click" avoids inadvertent rolling and enables regaining previous positions
- a Click to the lock position and the «VENT» screw cap is in the aeration position, which guarantees constant air flow even when the tube is in vertical position
- fits a 15 ml standard tube adapter, can be spun up to 1200 g
- convenient re-closable zipper bag with laser perforation (picture 5, following page)

The TPP tissue culture rack fits 8 x tissue culture flat tubes 10 in a horizontal position or 8 x tissue culture tubes 20 for storage in a CO_2 incubator

1 Unique tissue culture flat tube 10 with Filter screw cap.

2 The firm horizontal stand simplifies the readjusting of the microscope.

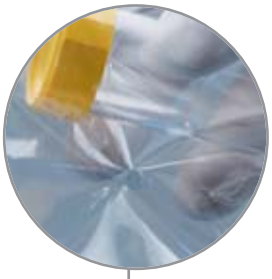
1 Cell scraper handling in tissue culture flat tube 10.

2 Tissue growth area for a length of 50 mm.

Laser perforation:
The laser perforation eases the first opening of the bag, no auxiliary opening aids are required. In addition an intact laser perforation functions as security seal.

Zipper:
The re-closable mechanism of the zipper enables an easy, multiple opening and closing of the bag. This makes sense with bags with large contents (picture 5).

Type	Product-No.	Packaging	Growth surface	Version	Volume	g-Force max.	Dimensions	Material	Qty / Bag	Qty / Case
	91106	laser perforation, zipper	20 cm^2	«VENT»	5 ml	1200 g	16 x 120 mm	PS	20	800
	91243	laser perforation	10 cm^2	Filter	10 ml	1200 g	30 x 105 mm	PS	4	350
	99018			Rack	8 x 91243 or 8 x 91106		86 x 197 x 71 mm	PP	1	28

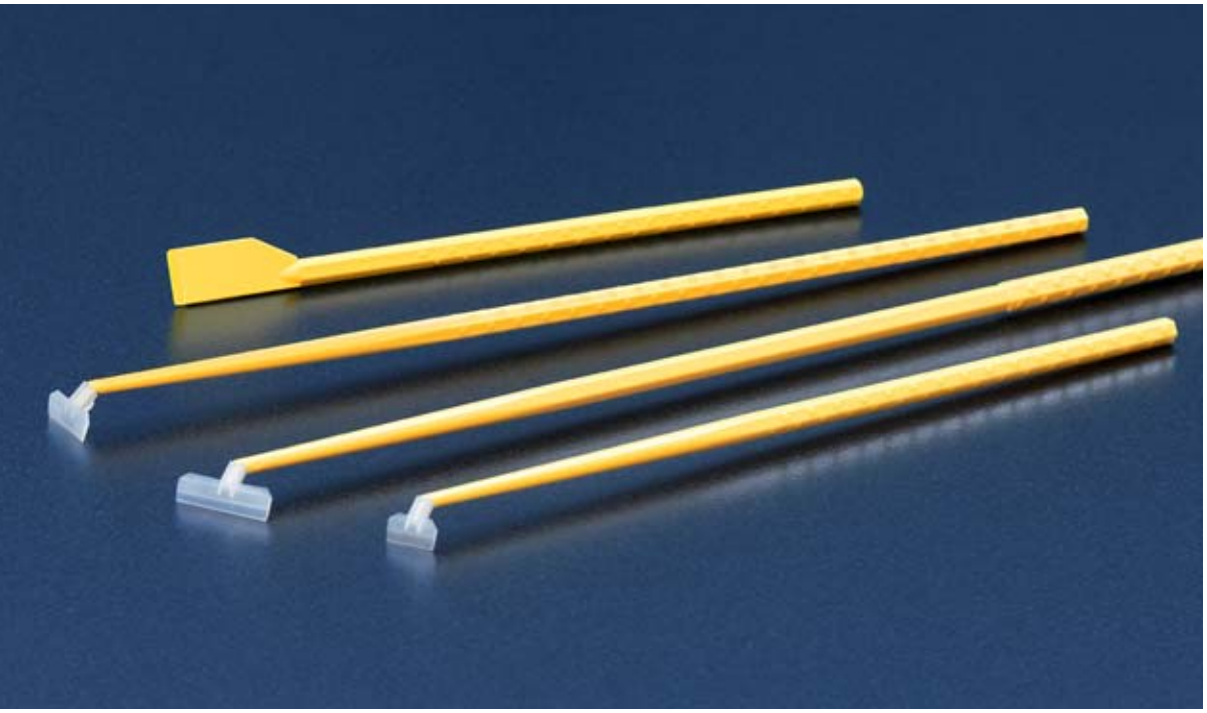


3 Tube rack for tissue culture tubes.

4 Segmental packaging allows scratch-free transportation and handling.

5 Laser perforation.

Cell Scraper and Cell Spatula



A slight pressure on the handle and simultaneous minimal twist of the hand suffices to pivot the scraper head to the desired direction (picture 1). Pivoting head negates need to remove scraper head to re-position and lowers contamination risk. By this you receive thorough cell retrieval from vessels of many shapes and sizes.

Features of the TPP Cell Scraper:

- scraper heads made from a flexible polyethylene material
- pivoting scraper head for easy manoeuvring
- different blade width
- small raised knobs on handle for secure grip
- lint free plastic/paper blister (picture 2)
- user friendly dispenser case

The TPP cell spatula features a specially formed blade with a sharp edge. It is commonly used with the TPP tissue culture flask with re-closable lid or peel-off foil or with large tissue culture dishes.

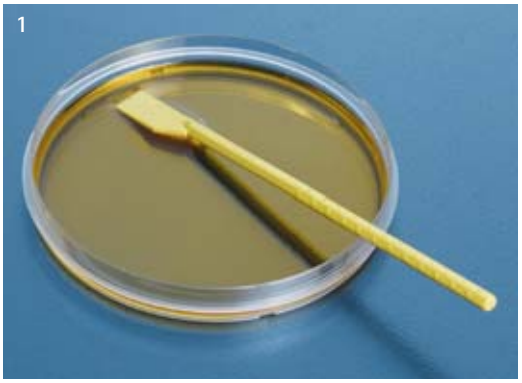
Features of the TPP Cell Spatula:

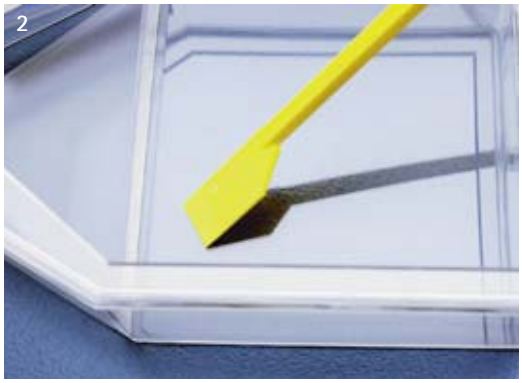
- special formed blade with sharp edges
- small raised knobs on handle for secure grip
- lint free plastic/paper blister (picture 2)
- user friendly dispenser case

1 Pivot the scraper head by slight pressure on the handle with the forefinger thus pushing the handle downwards. Slight move of the handle will twist the head to the required position.

2 Small raised knobs on the handles for a secure grip.

3 Different blade widths.





1 Usage of cell scraper in a large TPP tissue culture dish.

2 Specially formed blade of cell spatula.

Type	Product-No.	Length	Version	Width of Blade	Material	Qty / Bag	Qty / Case
	99002	240 mm	rotating	13 mm	PP/PE	1	150
	99003	300 mm	rotating	20 mm	PP/PE	1	150
	99004	380 mm	rotating	25 mm	PP/PE	1	100
	99010	195 mm	fix	14 mm	PP	1	150

Product-No.	Field of Application
99002	tissue culture flask: 25/75 cm^2, tissue culture flat tube 10, tissue culture dish: Ø 40/60 mm
99003	tissue culture flask: 75/150 cm^2, tissue culture dish: Ø 100/150 mm
99004	tissue culture flask: 300 cm^2
99010	tissue culture dish 150, many other applications

3 The cell scraper head is made of soft polyethylene to protect the cells.

4 Convenient user friendly TPP-dispenser.

TubeSpin® Bioreactor

TPP TubeSpin® bioreactors are ideal for large scale screenings and optimisation of suspension cell system process development. The important parameters for the production up-scaling can be evaluated with small amounts maximising the number of parallel experiments at the same time.

The cultivation is performed in shakers at a temperature of 37 °C. With a high cell density the supply of oxygen through the openings above the gas permeable, sterile PTFE filter is sufficient and optimal results can be expected.

Features of TPP TubeSpin® Bioreactor 15:

- working volume 1 – 10 ml
- filter screw cap with 5 different openings, A-B-C-D-E
- fits standard 15 ml centrifuge apparatus
- spin: 9500 g
- ideal to evaluate optimal production pre-conditions and parallel tests

Features of the TPP TubeSpin® Bioreactor 50:

- working volume 1 – 35 ml
- filter screw cap with 5 different openings, A-B-C-D-E
- fits any standard 50 ml centrifuge apparatus
- spin: 9500 g
- ideal to evaluate optimal production pre-conditions and parallel tests

Features of the TPP TubeSpin® Bioreactor 600:

- working volume up to approx. 400 ml
- filter screw cap with 10 openings
- fits many 1000 ml rotors
- ideal to optimize production parameters or even produce small amounts

1 By the closure of one or several openings water loss can be minimized.

2 Racks with TubeSpin® Bioreactors

3 TPP rack for large vessels.

1 Due to the convenient form of the vessel no transfer for cell harvest is required. Cells can directly be sedimented in the TubeSpin®.

2 Openings in the Filter screw cap, above the PTFE membrane.

Type	Product-No.	Version	g max.	Volume	Dimensions	Material	Qty / Bag	Qty / Case
	87017	15 ml, round, filter, 5 openings	9500	15 ml	Ø 16.5 x 105 mm	PP	40	800
	87050	50 ml, conical, filter, 5 openings	9500	50 ml	Ø 30 x 115 mm	PP	20	180
	87600	50 ml, conical, filter, 10 openings	3500	600 ml	Ø 98 x 181 mm	PP	1	26
	99013	rack for 87600		3 x 87600	Ø 146 x 366 x 71 mm	PP	1	6
	99017	rack for 87017 and 87050		18 x 87017 10 x 87050	Ø 97 x 205 x 60 mm	PP	1	45

	A	B	C	D	E
87017 Bioreactor 15	0.4 mm	0.6 mm	1.0 mm	1.25 mm	1.5 mm
87050 Bioreactor 50	0.4 mm	0.6 mm	1.0 mm	1.5 mm	2.0 mm
87600 Bioreactor 600	10 openings with size 4 mm				

Forum Shaking Technology

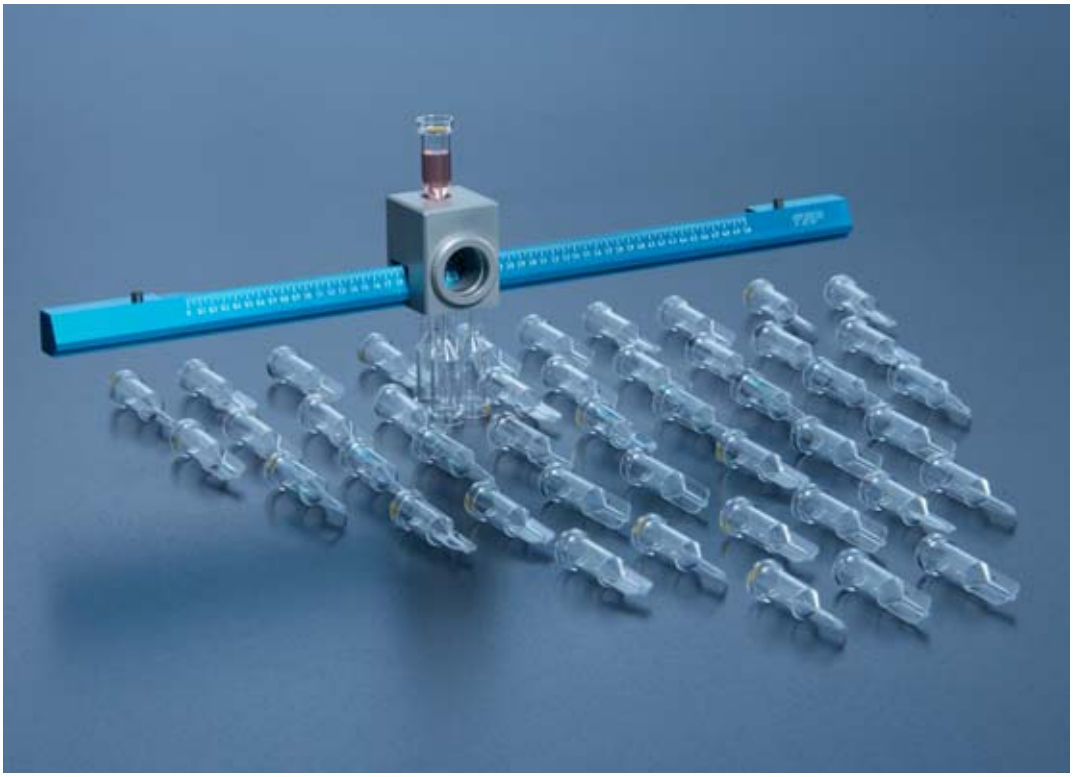
The "Forum Shaking Technology" is a cooperation of competent partner companies in the field of laboratory technology and biotechnology.
The free publication database offers a broad selection of scientific papers on shaken cultures in micro titre platforms containing up to 1000 l reactors.

Troubleshooting for shaken bioreactor users is offered by "Dr. Shaker",
i.e. specialists from sciences and industry.

Developers and users of shaken bioreactors find on these internet pages comprehensive information.

www.shakingtechnology.com

PCV Packed Cell Volume Tube and "easy read" Measuring Device



The PCV tube provides a quick and reproducible measuring technique of the cell volume, a less tedious alternative to counting cells using a microscope and haemocytometer. This method is ideal in conjunction with pre-determined conversion factors to quickly calculate cell number, protein production, or metabolic activity or for the monitoring of the tissue growth (cell mass).

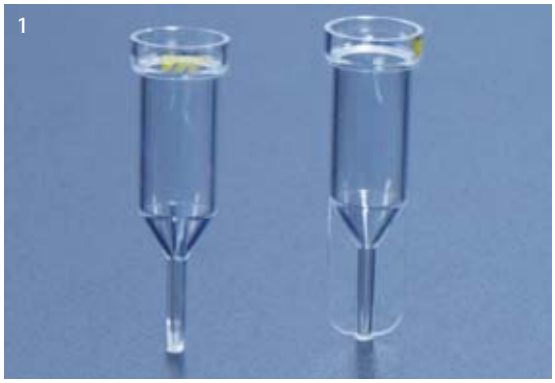
Features of TPP PCV Packed Cell Volume Tube:

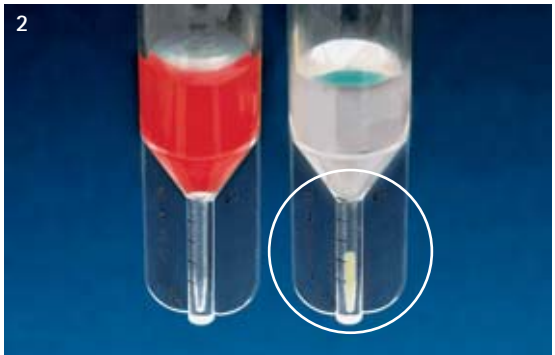
- PCV tube available with or without scale
- caps available
- accurate and reproducible measuring – cell pellets do not affect counting accuracy
- multiple samples can be counted at the same time
- no dilutions to obtain optimal counting density

Fast and reproducible measuring of a cell mass, no tedious manual hand counting necessary and no need for crouching over a microscope for extended periods of time.

As quickly as it takes to pipette your cell suspension into the PCV tube and spin for 1 minute:
Load a sample of cell suspension into the PCV tube, spin for 1 minute in a micro centrifuge, and determine with the "easy read" measuring device the cell pellet volume in the PCV capillary (picture 2).

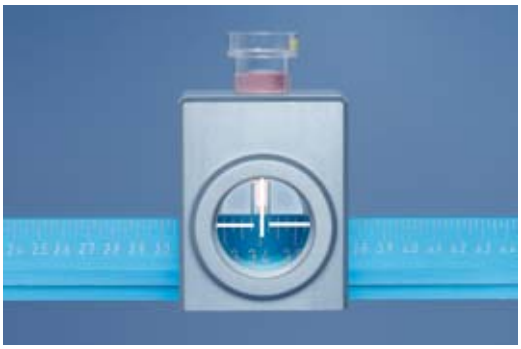
For bacteria measurement the parameters have to be adjusted, for example higher g-force, smaller volume, etc.





1 PCV tube 87007, neutral.

2 Reading the cell pellet with PCV tube 87005 with graduations.



Features of TPP "easy read" Measuring Device:

- solid re-usable and easy handling measuring device
- magnifying glass with reticle, accurate and consistent measurements
- reproducible values, without end user-dependent calculations
- cost-effective, no further investment or maintenance costs

Typical protocol

1. Mix the cell suspension thoroughly in the TubeSpin® Bioreactor
2. Pipette a sample
3. Transfer a sample of 1000 µl into the PCV tube
4. Spin sample: 1 minute at 2500 g in a micro centrifuge with swing-out rotor
5. Determine volume of the pellet (cell mass) in the PCV tube with "easy read"

Type	Product-No.	Version	Volume	Dimensions	Material	Qty / Bag	Qty / Case
	87005	with graduation	1 ml	Ø 10.5 x 43 mm	PS	50	250
	87007	neutral	1 ml	Ø 10.5 x 43 mm	PS	50	150
	87008	cap for PCV		Ø 13.5 mm	PE	50	150
	87010	"easy read" meassuring device	0–5 µl		Alu	1	1

1 Easy reading with "easy read".

Serological Pipette

Features of the standard TPP Serological Pipette:

- accurate volume 1 – 70 ml
- highly visible, bidirectional graduation
- larger volume by over-volume graduation, still shorter ergonomic design for easier manoeuvring
- smooth interiors prevent cell hang-up or clumping inside
- excellent optical transparency
- optimized form of the mouthpiece that preserves the rubber of your pipette aid
- volume identification by colour coding on pipette, single-wrapping, dispenser, box label and cotton plugs to some extend
- convenient, stackable TPP dispenser box
- lint-free paper/plastic single wrapping

The reservoir of the 25 ml and 50 ml pipette augments the volume considerably without adding proportionate length to the pipette.

Additional features to the TPP Serological Pipette with Reservoir:

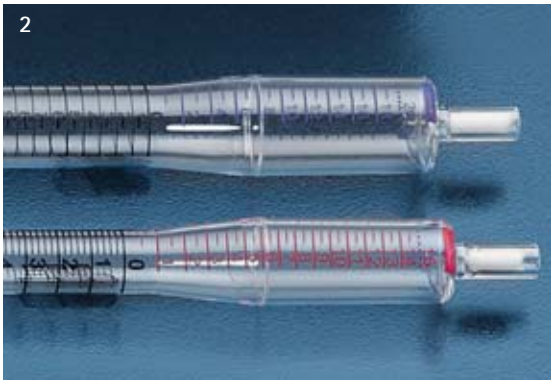
- highly low drip pipette tip (picture 1)
- slender, short form enables ergonomic working conditions in the sterile hood
- small outside diameter of the tube at the tip resulting in an excellent accessibility of these large pipettes even in small tissue culture flasks

1 Small pipette tip with extremely break-resistant and robust tip (valid for pipettes with reservoir).

2 TPP product line of serological pipettes.

1 The serological pipettes with reservoir from TPP are manufactured with highest grade polystyrene. They fit in all commercially available pipette aids with rubber inserts or the Stabifix from TPP.

2 Serological Pipettes with reservoir feature a rounded, optimized and cylindrical mouth-piece with uniform standardized diameter TPP8. This standard conserves the rubber insert of your pipette aid.



Type	Product-No.	Volume	Reservoir	Colour Code	Dimensions	Material	Volume Graduations	Qty / Case
	94001	1 ml		yellow	Ø 4.8 x 270 mm	PS	1/100 ml	400
	94002	2 ml		green	Ø 5.5 x 270 mm	PS	1/100 ml	300
	94005	5 ml		blue	Ø 9.5 x 295 mm	PS	1/10 ml	200
	94010	10 ml		orange	Ø 11.0 x 295 mm	PS	1/10 ml	200
	94024	25 ml		red	Ø 16.0 x 300 mm	PS	2/10 ml	100
	94525	25 ml	15 ml	red	Ø 13.5 x 345 mm	PS	2/10 ml	60
	94550	50 ml	20 ml	purple	Ø 18.5 x 345 mm	PS	1/10 ml	50

3 Serological pipettes in a TPP tissue culture flask with re-closable lid.

4 Lint free paper/plastic packaging.

Tissue Culture Test Plate

Features of the TPP Tissue Culture Test Plate:

- lid with air-venting system for controlled gas exchange with low evaporation
- vented base for air flow between stacked dishes to prevent condensation
- sloped edge allows placement of the lid in one position only
- yellow inscription field: yellow on yellow – match!
- surface activated growth area on spherical zone of well only
- absolutely flat growth surface
- crystal clear transparency for excellent viewing
- black alphanumerics for quick identification of the wells
- clear alphanumerics between wells for orientation during microscopy
- all plate sizes stack securely together

Barcode:
TPP tissue culture test plates with 96 wells – manufactured according to ANSI/SBS-3d-standards – are standardized with an interleaved barcode 2/5. The white base colour is embossed firmly on the test plate. A loss of identification through detachment is excluded

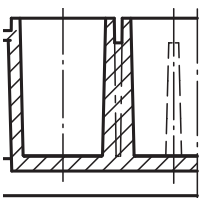
The well geometry is an important criterion with a 96 well tissue culture plate. TPP offers 2 types of well geometries:

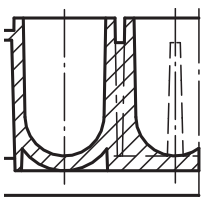
F-base

- Excellent optical characteristics
- Suitable for precise optical measurements the measuring light is not distracted by the geometry – as well as microscopy applications (bottom reading)
- Growth area 0.335 cm^2
- Working volume 0.34 ml

U-base

- No rims well suited for pipetting
- Used for agglutination tests and "+/-" evaluations
- Growth area: 0.36 cm^2
- Working volume: 0.31 ml





1 Black alpha-numerical labelling of the wells.

2 Yellow inscription field.

3 Excellent stacking features.

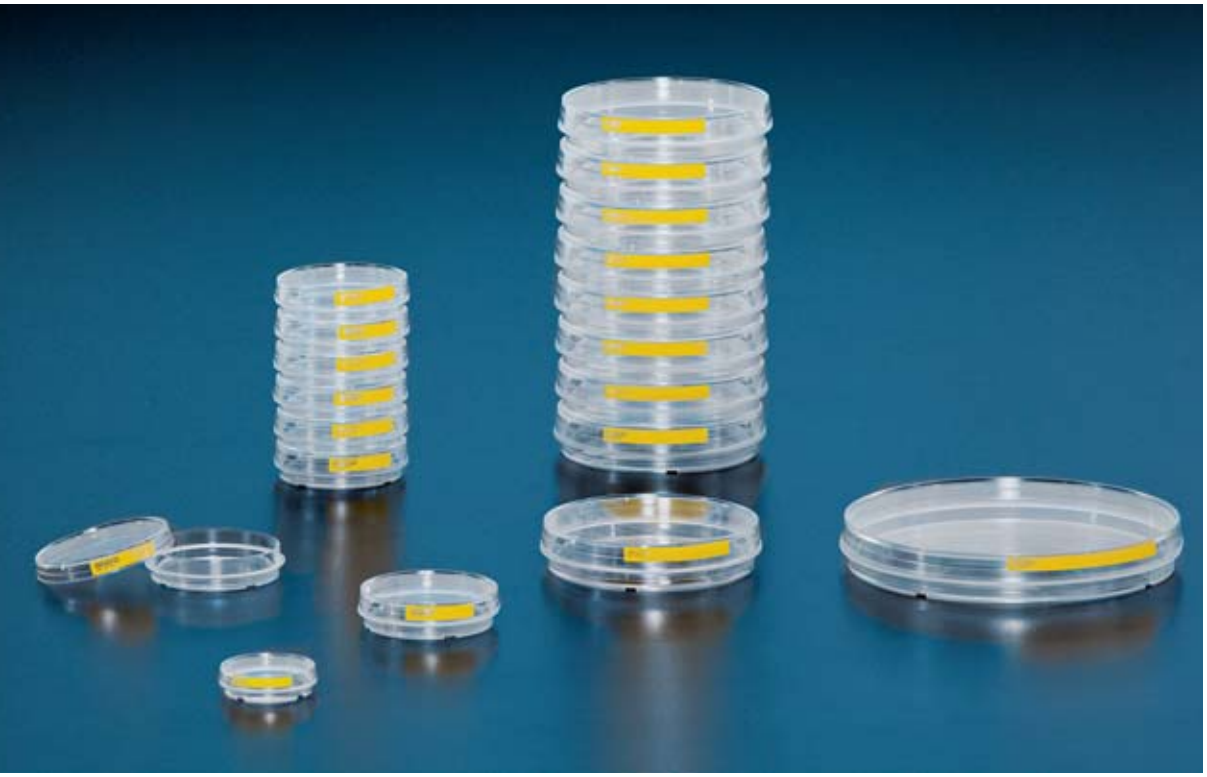
Type	Product-No.	Growth surface	Version	Volume	Internal-Ø	Dimensions	Material	Qty / Bag	Qty / Case
	92006	8.960 cm²		15.53 ml	33.78 mm	128 x 85 x 22 mm	PS	1	126
	92012	3.596 cm²		6.30 ml	21.40 mm	128 x 85 x 22 mm	PS	1	126
	92024	1.862 cm²		3.29 ml	15.40 mm	128 x 85 x 22 mm	PS	1	126
	92096	0.335 cm²		0.34 ml	6.54 mm	128 x 85 x 17 mm	PS	1	162
	92097	0.396 cm²		0.31 ml	6.54 mm	128 x 85 x 17 mm	PS	1	162
	92406	8.960 cm²		15.53 ml	33.78 mm	128 x 85 x 22 mm	PS	4	72
	92412	3.596 cm²		6.30 ml	21.40 mm	128 x 85 x 22 mm	PS	4	72
	92424	1.862 cm²		3.29 ml	15.40 mm	128 x 85 x 22 mm	PS	4	72
	92696	0.335 cm²		0.34 ml	6.54 mm	128 x 85 x 17 mm	PS	6	108
	92697	0.396 cm²		0.31 ml	6.54 mm	128 x 85 x 17 mm	PS	6	108

4 All TPP test plates are equipped with an alpha-numerical identification mark next to each well. This ergonomic feature simplifies the orientation during operations under microscope.

5 Gripping rills.

6 The barcode "2/5 interleaved" renders each 96 well test plate unique. The 8 digit lot number combined with the 8 digit serial number can never give a repeated ID coding number.

Tissue Culture Dish



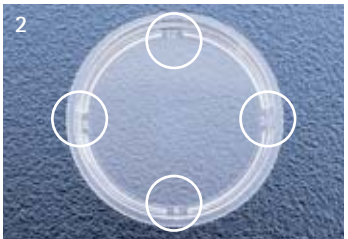
Tissue culture dishes from TPP stand for large growth area and secure handling.

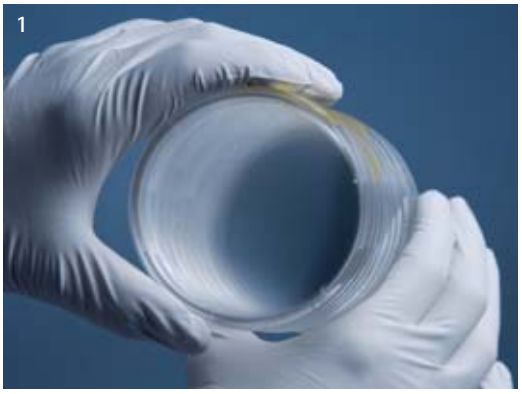
Features of the TPP Tissue Culture Dish:

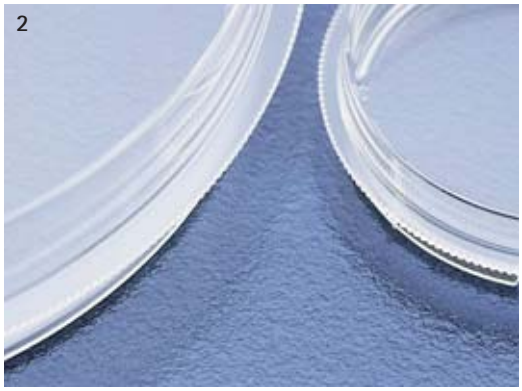
- TPP surface activation of the growth area optimally enhances the proliferation of the cells.
- The gripping ring: often copied, but never like the original!
- serrated edges in the gripping ring prevent accidental dropping of the dish bottom
- lateral yellow inscription field on the lid
- stacking ring on the lid and corresponding on the base result in an extremely secure stacking feature
- clock numbering system in the base of the dish divides it into quadrants for quick orientation
- spacer on the inside of the dish lid for a constant movement of air
- vents in the dish base for airflow between stacked dishes for consistent growth conditions and prevention of condensation

1 Convenient peel-off bags.

2 Clock-numbering system (3, 6, 9 and 12) inlaid into the base of the dish allows identification, region of interest definition and documentation of the zones.







1 Impeccable optical clarity enables a visual control of the cells in stacked dishes using transmitted light. This is the basis for the documentation with microphotography.

2 The gripping ring: often copied, but never like the original!

Tissue culture dishes are designed for manual handling only.

The yellow inscription field on the lid and the matte inscription field on the base enable a defined positioning of the lid.

The side walls of the dish are not treated for tissue growth.

Type	Product-No.	Growth surface	Internal-Ø	Dimensions	Material	Qty / Bag	Qty / Case
○	93040	9.2 cm²	34 mm	Ø 40 x 11 mm	PS	20	900
◯	93060	22.1 cm²	53 mm	Ø 60 x 16 mm	PS	14	840
◯	93100	60.1 cm²	87 mm	Ø 96 x 21 mm	PS	10	240
◯	93150	147.8 cm²	137 mm	Ø 146 x 21 mm	PS	5	100

3 Lid with yellow inscription field as well as spacers on the inside of the lid.

Vacuum Filtration "rapid"-Filtermax and Syringe Filter

Quality features of the quadratic TPP Vacuum Filtration "rapid"-Filtermax:

- large quadratic filter surface of 49 cm^2 and 69 cm^2 respectively
- premium PES filter membrane, pore size of 0.22 µm and low protein binding capacity
- high flow rate
- secure footprint eliminates the risk of encompassment of the filter unit by the vacuum tubing (picture 3)
- quadratic form saves valuable space in storage (picture 2)
- tapered form at the neck enables large and small hands a firm and slip free grip of the "rapid"-Filtermax system – even when wearing rubber gloves
- separate packed screw cap and adapter for the vacuum connection hose with inside diameter of Ø 6 – 10 mm (2.36 – 3.94 inch) supplied with each system (picture 1)
- choice of filter set, top only or flask only, all provided with a GL-45 screw thread

TPP recommends filling the liquid into the filter first and then applying the vacuum.

1 Filter top and flask are graduated; the units are ready to use with the use with a pump or pressure tank.

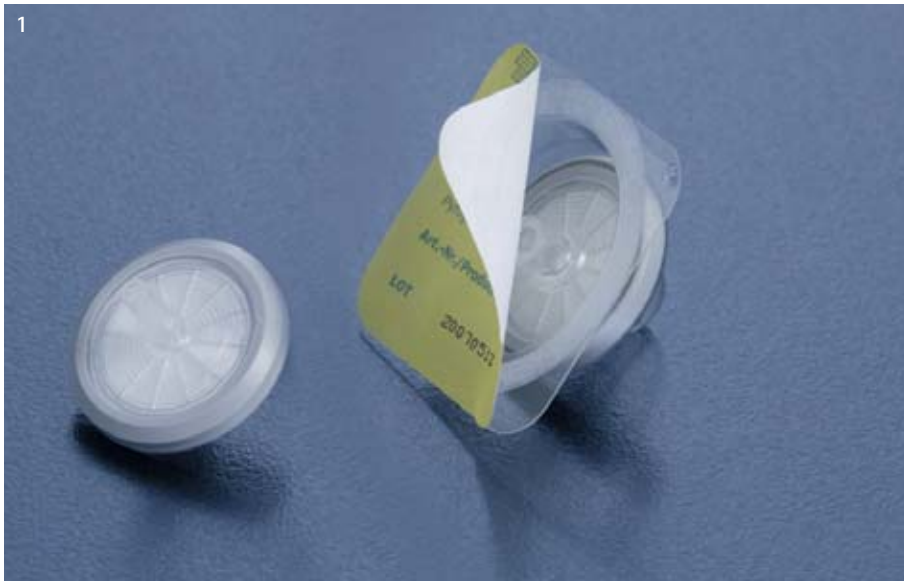
2 The "rapid"-Filtermax is available in sizes 125, 250, 500 and 1000 ml. The flask can be used as medium reservoir.

3 The tapered form enables small and large hands a secure grip.

The syringe filters are intended to filter aqueous solutions.

Features of the TPP Syringe Filter:

- PES filter membrane with pore size 0.22 µm or 0.45 µm
- membrane with a high flow rate with minimal protein binding
- standard luer-lock connection enables a filtration at high pressure with a syringe
- outside diameter of the filter enables the syringe filter to sit stably on a 50 ml TPP centrifuge tube (picture 3)
- single packed in blister



1 The syringe filters are available in sterile blister packaging in convenient card box dispenser.

Type	Product-No.	Filter Area	Volume	Membrane-Type	Dimensions	Material	Qty / Bag	Qty / Case
	99150	49 cm²	150 ml	PES 0,22 µm	93 x 93 x 103 mm	PS/PES	1	18
	99155	49 cm²	150 ml	PES 0,22 µm	89 x 89 x 57 mm	PS/PES	1	36
	99157	–	150 ml	–	93 x 93 x 63 mm	PS	1	24
	99250	49 cm²	250 ml	PES 0,22 µm	93 x 93 x 143 mm	PS/PES	1	12
	99255	49 cm²	250 ml	PES 0,22 µm	89 x 89 x 75 mm	PS/PES	1	24
	99257	–	250 ml	–	93 x 93 x 87 mm	PS	1	24
	99500	49 cm²	500 ml	PES 0,22 µm	93 x 93 x 213 mm	PS/PES	1	10
	99505	49 cm²	500 ml	PES 0,22 µm	89 x 89 x 111 mm	PS/PES	1	21
	99507	–	500 ml	-	93 x 93 x 121 mm	PS	1	36
	99950	69 cm²	1000 ml	PES 0,22 µm	111 x 111 x 285 mm	PS/PES	1	9
	99955	69 cm²	1000 ml	PES 0,22 µm	108 x 108 x 143 mm	PS/PES	1	12
	99957	–	1000 ml	–	111 x 111 x 160 mm	PS	1	20
	99722	6 cm²	–	PES 0,22 µm	33 x 27 mm	PET/PES	1	200 (5 x 40)
	99745	6 cm²	–	PES 0,45 µm	33 x 27 mm	PET/PES	1	200 (5 x 40)

2 All vacuum filtration systems feature a GL-45 screw thread.

3 Stable fit of the syringe filter on a 50 ml centrifuge tube.

Centrifuge Tube

Features of the TPP Centrifuge Tube:

- white writing circle on screw cap for easy labeling with any writing instrument
- caps that cannot be over-tightened
- gas and aerosol tight cap
- graduations all the way down to 0.1 ml and 0.5 ml respectively
- highest purity as manufactured on fully automatic in-line machines
- autoclavable alphanumerically labeled racks available

TPP processes only the highest grade of raw material that fulfill the requirements of USP Class VI and Class I medical devices according to directive (93/42). No additives are employed. By this we prevent leaching of substances into the end user's sample.

1 Lines assist easy identification marking on the white inscription field.

2 Conveniently filled racks with tubes simplify procedures.

1 The high quality TPP product line of centrifuge tubes.

Type	Product-No.	Volume max.	Version	Dimensions	Material	g-Force max.	Qty / Bag	Qty / Case
	91015	15 ml	conical	Ø 16.5 x 120 mm	PP	9500 g	40	800
	91016	13 ml	round	Ø 16.5 x 105 mm	PP	9500 g	40	800
	91017	15 ml	round, long	Ø 16.5 x 120 mm	PP	9500 g	40	800
	91019	13 ml	flat	Ø 16.5 x 100 mm	PP	9500 g	40	800
	91050	50 ml	conical	Ø 30.0 x 115 mm	PP	9500 g	20	360
	91051	50 ml	with rim	Ø 30.0 x 115 mm	PP	9500 g	20	320
	91115	15 ml	conical	Ø 16.5 x 120 mm	PS	1700 g	40	800
	91515	30 x 15 ml	conical	rack filled	PP	9500 g	1	10
	91550	20 x 50 ml	conical	rack filled	PP	9500 g	1	10

2 The fine graduation markings on the cone or base zone start at 0.1 / 0.5 ml

3 Identification marking on the screw caps enables specimens to be rapidly found.

4 Screw caps cannot be over-tightened.

Cryo Tube

Features of TPP Cryo Tube:

- storage of samples in freezers or similar low-temperature equipment
- external thread without silicone gasket
- secure and tight closure of the tube
- self-standing
- single-handed operation with the use of the cryogenic rack No. 99016 with its star-shaped locking system in the grooves
- colour-coding inserts
- convenient, puncture and tear resistant re-closable zipper bag with laser perforation (picture 4, following page)

During storage build-up of stress on the product can happen. The TPP design as well as the high grade material ensures safe handling during and after the thawing process.

Laser perforation:
The laser perforation eases the first opening of the bag, no auxiliary opening aids are required. In addition an intact laser perforation functions as security seal.

Zipper:
The re-closable mechanism of the zipper enables an easy, multiple opening and closing of the bag. This makes sense with bags with large contents (picture 4, following page).

1 A single-handed operation is possible using the tubes with the cryogenic rack No. 99016 with its star-shaped locking system in the grooves.
2 Smooth internal surface eliminates undue loss of specimen material during removal.
3 Lid can be removed single handed with ease, even after multiple usages.

TPP cryo tubes stored in the updated cryo rack in a higher positionen able the scientist to view even smallest volumes in the cryo tubes. The star shaped system in the rack and the locking system on the cryo tubes stop twisting of the tubes and enable single handed operation.

Due to safety reasons do not use cryo tubes for storage in the liquid phase but in the vapour-phase above the level of the liquid-phase nitrogen. During storage in liquid nitrogen TPP recommends use of additional wrapping such as welded tubes. Always use appropriate safety equipment and procedures.

Type	Product-No.	Volume max. (ml)	Volume recom. (ml)	Dimensions	Material	Colours	Qty / Bag	Qty / Case
	89012	graduation max. 0.9	max. 0.7	Ø 12 x 37 mm	PP	-	100	800
	89020	graduation max. 1.5	max. 1.3	Ø 12 x 48 mm	PP	-	100	800
	89040	graduation max. 3.5	max. 3.3	Ø 12 x 75 mm	PP	-	100	400
	89050	graduation max. 4.5	max. 4.3	Ø 12 x 90 mm	PP	-	100	400
○	99020	–	–	Ø 11 x 1 mm	PP	6 colours	6 x 100	7800
○	89801	–	–	Ø 11 x 1 mm	PP	white	600	3600
○	89802	–	–	Ø 11 x 1 mm	PP	blue	600	3600
○	89803	–	–	Ø 11 x 1 mm	PP	yellow	600	3600
○	89804	–	–	Ø 11 x 1 mm	PP	green	600	3600
○	89805	–	–	Ø 11 x 1 mm	PP	pink	600	3600
○	89806	–	–	Ø 11 x 1 mm	PP	red	600	3600

Type	Product-No.	Fitting Vials	Capacity	Dimensions	Material	Qty / Bag	Qty / Case
	99014	89040 – 89050	81 pcs	133 x 133 x 95 mm	PP	1	10
	99015	89012 – 89020	81 pcs	133 x 133 x 45 mm	PP	1	20
	99016	89012 – 89050	40 pcs	100 x 200 x 25 mm	PC	1	12

3 Cryo tubes of TPP.

4 Convenient re-closable zipper bag.

Rack for Tubes and Cryo Box

All TPP racks and boxes feature:
- alpha-numerical inscription to identify your samples
- heat resistant autoclavable material

Tube Rack with the "click" system:
- fits any 15 ml and 50 ml centrifuge tube
- quickly assembled and disassembled
- stored collapsed saves space
- without inhibitory burrs on the insertion holes
- available in 2 sizes

Tissue Culture Tube Rack:
- fits 8 x tissue culture flat tubes 10, 8 x tissue culture tubes 20
- transparent top
- protection rim to protect shifting of horizontal stored tissue culture flat tubes 10

Rack for TubeSpin® Bioreactor 600:
- fits 3 x tubes
- reusable
- stackable
- safe footprint

Cryo Box:
- fits 81 x cryo tubes
- storage of samples at low temperatures -196 °C
- form stable even in lowest temperatures
- single handling of lid even after several usage
- available in 2 sizes

Cryo Rack:
- fits 40 x cryo tubes
- non-slip properties due to large rubber feet
- star-shaped insertion system in the grooves allows one hand operation when used with the star foot TPP cryo tubes
- convenient handles

1 Rack for TubeSpin® Bioreactor 600.

2 The click-system allows easy assembling and disassembling of the racks. A disassembled rack saves storage space.

Type	Product-No.	Capacity	Dimensions	Material	Qty / Bag	Qty / Case
	99013	3 x 87600	146 x 366 x 71 mm	PP	1	6
	99014	81 x 89040 or 89050	133 x 133 x 95 mm	PP	1	10
	99015	81 x 89012 or 89020	133 x 133 x 45 mm	PP	1	20
	99016	40 x 89012 – 89050	100 x 200 x 25 mm	PC	1	12
	99017	18 x 91015 or 10 x 91050	97 x 205 x 60 mm	PP	1	45
	99018	8 x 91243 or 8 x 91106	86 x 197 x 71 mm	PP	1	28
	99019	30 x 91015 or 20 x 91050	168 x 205 x 60 mm	PP	1	30

3 A raised lid design allows the storage of larger cryo tubes.

4 The black alpha-numeric scale is placed on the base as well as on the outer side.

Quality Standards

Quality Management

TPP is ISO 9001:2008 certified. The ISO quality standard is audited and confirmed by re-certification processes regularly. The certificate can be downloaded at www.tpp.ch.

Quality Control: from Raw material to the ready TPP Product

TPP provides their end users with the highest quality in tissue culture plastics through the detailed oriented design and manufacturing processes. This intricate monitoring is possible with the complex quality assurance system. Products are dispatched only when all criteria are fulfilled. Therefore TPP guarantees faultless and top-quality products for all areas of tissue culture and laboratory uses.

Raw Material

All incoming material and products pass a rigorous and documented quality control based on specifications. Deliveries are accepted from checked vendors only.

Production

Production is in clean room environment on in-line production lines. Regular documented quality controls based on longtime experience and implemented dynamic control plan are performed. Independent laboratories make regular purity and hygiene tests.

Maintenance

For a 24/7 manufacturing process the maintenance and servicing of the molding forms, production lines and infrastructure is extremely important. The accurate planning and execution is basis of the necessary top conditions. Competent specialists arrange daily the availability of the equipment.

Quality Control

All products are tested during and after the manufacturing process based on strict specifications. Each working step can be viewed for years by a sophisticated IT system. Test results and corrective actions are documented.

Dispatch Control

We perform random examinations of the quality and quantity of the final product with documentation of the results. After release of the data a quality certificate can be generated on www.tpp.ch.

Standards

All TPP products are sterilised by radiation. Sterility is maintained as long as the packaging remains unopened and free from visible defect. Factors such as direct sunlight, moisture and large temperature amplitude changes can have negative effects to the sterility. TPP guaranties a "Sterility Assurance Level" (SAL) of 10^{-3}.

Products that are beyond their expiry date (EXP) can cause spurious results or errors. Such products should not be used.

Each product packaging carries a good visible, black lot number. This batch identification numbers ensures traceability, analyses and monitoring of all data of raw material supply, processes and quality control over a period of several years.

All TPP products except accessories such as racks etc. are intended for single use only.

All products are solely intended for general laboratory use by competent staff. The products have not been registered for their direct use on humans.

Zertifikate

Quality certificate from TPP can be generated online at www.tpp.ch.

Production

TPP products are manufactured in a clean room environment.

Free from pyrogens and detectable endotoxins

Endotoxins belong to the pyrogens, substances that are eliciting fever. They can influence growth and functionality of tissue cultures. All TPP products are tested systematically with the LAL test to prove the absence of endotoxin. The value of endotoxin is < 0.06 EU/ml with few exceptions. Exact data are available from the quality certificates that can be generated under www.tpp.ch.

Free from detectable RNA / DNA

RNA / DNA are genetic information carriers. Material that is contaminated with RNA / DNA can lead to false positive signals during PCR. They unintentionally amplify along with the desired template. Independent research laboratories periodically test and confirm that no foreign RNA / DNA is detectable with TPP products.

Free from detectable RNase / DNase

RNases / DNases are enzymes that degrade RNA / DNA. They are components of each living cell and cannot be destroyed by the sterilisation process. Independent research laboratories periodically test and confirm that no foreign RNase / DNase are detectable with TPP products.

Sterility

Sterility describes the aseptic condition, i.e. the absence of living organism. During the sterilisation process transferable organism such as fungus, bacteria or viruses are killed. TPP receives product sterility through a sterile production processes followed by the gamma sterilisation. TPP guarantees a " Sterility Assurance Level" (SAL) of 10^{-3}. The sterility is validated conforming DIN EN ISO 11137.

Growth treatment

To optimally enhance the adhesion of the cells to the plastic surface, the growth areas of all TPP tissue culture vessels are activated by an optic-mechanic method developed by TPP. The result is a plane and growth enhancing surface that has an optimal proliferation effect. TPP tissue culture products are tested lot wise for their different tissue growth criteria.

Free from cytotoxic substances

Cytotoxic substances are cell poisons that have the ability to weaken or even kill cells. All TPP tissue culture products are free from cytotoxic substances. TPP tests this regularly conforming DIN EN ISO 10993-5.

Leaching

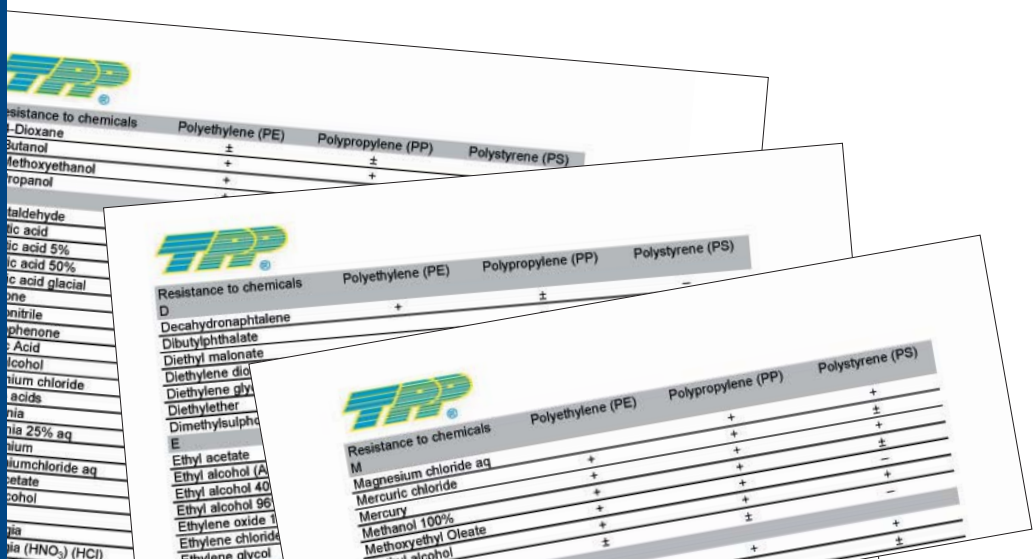
Leaching signifies the slow compounds dissolving (leaching) from plastic ware into buffer and solvents. TPP avoids this by using ultrapure raw-material that is certified to be free of chemical softeners and additive. Recycled and by this potential contaminated raw material never is processed with TPP products. All raw material conforms to the medical directives (93/42) and the Pharmacopoeia USP Class VI. In addition during the production optimized moulds that work without any slip agents.

General Information

Raw Materials / Properties of Plastics

TPP processes only the highest grades of raw materials. No stripping agents or softeners are employed. All colourings and packaging materials are free from heavy metals. Our plastics and products behave environmentally neutral during disposal processing.

	Polyethylene	Polypropylene	Polystyrene
Letter symbol	(HD) PE (High Density)	PP	PS
Heat resistance	permanent loading: 70 – 80 °C (158 – 176 °F) short-term max: 80 – 100 °C (176 – 212 °F) cannot be autoclaved	permanent loading: 100 – 110 °C (212 – 230 °F) short-term max: 120 – 140 °C (248 – 284 °F) can be autoclaved (121 °C / 250 °F)	permanent loading: 60 – 70 °C (140 – 158 °F) short-term max: 75 – 80 °C (167 – 176 °F) cannot be autoclaved
Low-temperature resistance (tested at:)	-40 °C (-104 °F)	-190 °C (-374 °F)	-40 °C (-104 °F)
Flammability	combustible	combustible	combustible
Density	0.93 g / cm^3	0.90 g / cm^3	1.05 g / cm^3
Hygro-scopicity	< 0.1 %	< 0.1 %	< 0.1 %
Optical properties	translucent to opaque	translucent shiny surface	transparent, shiny surface with 90 % transparency index (at 400 – 800 nm)
General mechanical properties	rather low tensile strength and surface hardness; high ductility at soft and harder levels; low resistance to stress cracking; water repellent; susceptible to electrostatic charging.	high fracture strength; dimensionally stable; high stiffness, strong and hard.	low fracture ductility; low warm strength; excellent electrical insulation properties; not suitable for use at high centrifugal loads.
General chemical properties	exhibits high resistance; dilute acids, alkalis, alcohol, oil and salt solutions do not attack PE. Concentrated, oxidising acids such as nitric acid, and the halogens, lead to disintegration.	high resistance to aqueous solutions of inorganic salts, acids, and alkalis, as well as to organic solvents up to 60 °C. Stable in alcohols, esters and ketones. Aromatic and halogenated hydrocarbons, oxidising substances such as concentrated nitric acid and, at higher temperatures, fats, oils and waxes all lead to swelling of PP.	high resistance to salt and caustic solutions, non-oxidising acids, alkalis and alcohols. Petroleum spirit, etheric oils, strongly oxidising agents and aromatics attack PS and give rise to stress cracking.
Disposal	PE / PP / PS are pure hydrocarbon compounds and therefore neutral to the environment. No harmful substances are generated during controlled burning		
Standards	The PP material used for our centrifuge tubes fulfils the requirements of Pharmacopoeia (USP) Class VI and guide lines of medical devices according to directive 93/42.		



Details of resistance to chemical attack are listed under www.tpp.ch

Transportation and Storage

Storage Recommendations

TPP recommends a careful storage of the fragile and breakable TPP products:
- relative humidity of max. 50 – 60 %
- temperature of 10 – 30 °C (50 – 86 °F)
- Do not expose to direct sunlight.

Packaging

Modular TPP cases allow freedom of combination during stacking. The FSC certified cardboard comes from well-managed forests and other controlled sources. The one-way palettes conform to the international, phytosanitary directives (SPM 15-standard).

TPP cases

	L x W x H
1/1 case	*390 x 330 x 460 mm*
1/2 case	*390 x 330 x 230 mm*
1/4 case	*390 x 330 x 110 mm*
1/4 dispenser	*390 x 330 x 110 mm*
1/16 case	*390 x 165 x 55 mm*
1/4L yellow sample case	*390 x 165 x 230 mm*
1/8L yellow sample case	*390 x 165 x 110 mm*
1/16L yellow sample case	*390 x 165 x 55 mm*
Jumbo 1 protection case	*425 x 340 x 490 Fits 1 x 1/1 case*
Jumbo 2 protection case	*673 x 413 x 490 Fits 2 x 1/1 case*

The very stable protection cases Jumbo 1 and Jumbo 2 give highest protection during transportation that no damage will occur to the fragile tissue culture products. TPP recommends the use of protection cases when shipping the goods through couriers with automatic distribution centers.

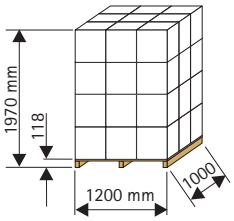
Icons displayed on the TPP cases

Fragile

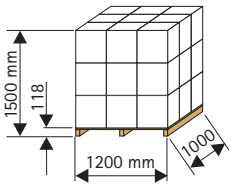
Protect against humidity

Do not expose to direct sunlight

Maximal weight of TPP palettes



Land / Sea Freight
Weight approx. 500 kg
(1102 lbs)



Air Freight
Weight approx. 375 kg
(827 lbs)

Conversion table mm/inch and °C/°F and kg/lbs

mm	inch	°C	°F	kg	lbs
mm x 0.039 = inch		°C x 9/5 + 32 = °F		kg x 2.2046 = lbs	
1	0.039	0	32	1	2.2046
5	0.197	1	33.8	1.5	3.3069
10	0.394	10	50	2	4.4092
20	0.787	20	68	5	11.023

Tissue Culture Flasks

Type	Product-No.	Version	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 4
	90025	«VENT»	10	360	PS/PE	1/1	6,5 kg	
	90026	Filter	10	360	PS/PE	1/1	6,5 kg	
	90075	«VENT»	5	100	PS/PE	1/1	6.0 kg	
	90076	Filter	5	100	PS/PE	1/1	5,9 kg	
	90150	«VENT»	3	36	PS/PE	1/1	5,0 kg	
	90151	Filter	3	36	PS/PE	1/1	5,0 kg	
	90300	«VENT»	3	18	PS/PE	1/1	4,5 kg	
	90301	Filter	3	18	PS/PE	1/1	4,5 kg	

Screw Caps

Type	Product-No.	Version	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 4
	90825	«VENT» for T-25	10	40	PE	1/16	0,3 kg	
	90826	Filter for T-25	10	40	PES/PE	1/16	0,3 kg	
	90875	«VENT» for T-75	10	40	PE	1/16	0,3 kg	
	90876	Filter for T-75	10	40	PES/PE	1/16	0,3 kg	
	90850	«VENT» for T-150/300	10	10	PE	1/16	0,4 kg	
	90856	Filter for T-150/300	10	40	PES/PE	1/16	0,4 kg	

Tissue Culture Flasks with Re-Closable Lid or Peel-Off Foil

Type	Product-No.	Growth Surface	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 6
	90551	150 cm²	3	18	PS/PE	1/2	2,3 kg	
	90552	150 cm²	3	18	PS/PE	1/2	3,0 kg	
	90651	115 cm²	3	18	PS/PE	1/2	2,3 kg	
	90652	115 cm²	3	18	PS/PE	1/2	3,0 kg	

Tissue Culture Tubes

Type	Product-No.	Growth Surface	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 8
	91106	20 cm²	20	800	PS/PE	1/1	8,1 kg	
	91243	10 cm²	4	350	PS/PE	1/1	7,9 kg	
	99018		1	28	PP	1/1	3.0 kg	

Cell Scrapers and Cell Spatula

Type	Product-No.	Width of Blade	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 10
	99002	13 mm	1	150	PS/PE	1/4 dispenser	1,7 kg	
	99003	20 mm	1	150	PS/PE	1/4 dispenser	2,0 kg	
	99004	25 mm	1	100	PS/PE	1/4 dispenser	2,0 kg	
	99010	14 mm	1	150	PP	1/4 dispenser	1,4 kg	

TubeSpin® Bioreactors

Type	Product-No.	Volumen	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 12
	87017	15 ml	40	800	PS/PE	1/2	6,6 kg	
	87050	50 ml	20	180	PS/PE	1/2	3,2 kg	
	87600	600 ml	1	26	PS/PE	1/1	3,6 kg	

PCV Tubes and "easy read" Measuring Device

Type	Product-No.	Volumen	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 14
	87005	1 ml	50	250	PS	1/4	0,6 kg	
	87007	1 ml	50	150	PS	1/16	0,3 kg	
	87008	-	50	150	PE	1/16	0,2 kg	
	87010	0–5 µl	1	1	Alu	1/16	0,4 kg	

Serological Pipettes

Type	Product-No.	Volume	Reservoir	Qty / Case	Material	Case	Weight / Case	page 16
	94001	1 ml		400	PS	1/4 dispenser	2,1 kg	
	94002	2 ml		300	PS	1/4 dispenser	1,9 kg	
	94005	5 ml		200	PS	1/4 dispenser	2,5 kg	
	94010	10 ml		200	PS	1/4 dispenser	2,8 kg	
	94024	25 ml		100	PS	1/4 dispenser	2,4 kg	
	94525	25 ml	15 ml	60	PS	1/4 dispenser	1,5 kg	
	94550	50 ml	20 ml	50	PS	1/4 dispenser	1,6 kg	

Tissue Culture Test Plates

Type	Product-No.	Version	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 18
	92006		1	126	PS	1/1	8,3 kg	
	92012		1	126	PS	1/1	9,1 kg	
	92024		1	126	PS	1/1	10,0 kg	
	92096		1	162	PS	1/1	11,7 kg	
	92097		1	162	PS	1/1	11,9 kg	
	92406		4	72	PS	1/2	4,8 kg	
	92412		4	72	PS	1/2	5,1 kg	
	92424		4	72	PS	1/2	5,6 kg	
	92696		6	108	PS	1/2	7,5 kg	
	92697		6	108	PS	1/2	7,6 kg	

Tissue Culture Dishes

Type	Product-No.	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 20
	93040	20	900	PS	1/2	4,0 kg	
	93060	14	840	PS	1/1	8,2 kg	
	93100	10	240	PS	1/1	6,7 kg	
	93150	5	100	PS	1/1	6,6 kg	

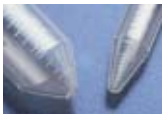
Vacuum Filtrations "rapid"-Filtermax

Type	Product-No.	Filter Area	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 22
	99150	49 cm²	1	18	PS/PES	1/2	3,2 kg	
	99155	49 cm²	1	36	PS/PES	1/2	2,9 kg	
	99157	–	1	24	PS	1/2	2,6 kg	
	99250	49 cm²	1	12	PS/PES	1/2	2,7 kg	
	99255	49 cm²	1	24	PS/PES	1/2	2,4 kg	
	99257	–	1	24	PS	1/2	3,1 kg	
	99500	49 cm²	1	10	PS/PES	1/2	2,7 kg	
	99505	49 cm²	1	21	PS/PES	1/2	2,5 kg	
	99507	–	1	36	PS	1/1	6,0 kg	
	99950	69 cm²	1	9	PS/PES	1/1	4,5 kg	
	99955	69 cm²	1	12	PS/PES	1/2	1,7 kg	
	99957	–	1	20	PS	1/1	5,6 kg	

Syringe Filters

Type	Product-No.	Filter Area	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 23
	99722	6 cm²	1	200 (5x40)	PET/PES	1/4	1,8 kg	
	99745	6 cm²	1	200 (5x40)	PET/PES	1/4	1,8 kg	

Centrifuge Tubes



Type	Product-No.	Volume	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 24
	91015	15 ml	40	800	PP/PE	1/1	6,5 kg	
	91016	13 ml	40	800	PP/PE	1/1	6,6 kg	
	91017	15 ml	40	800	PP/PE	1/1	6,6 kg	
	91019	13 ml	40	800	PP/PE	1/1	6,2 kg	
	91050	50 ml	20	360	PP/PE	1/1	6,0 kg	
	91051	50 ml	20	320	PP/PE	1/1	6,0 kg	
	91115	15 ml	40	800	PS/PE	1/1	7,4 kg	
	91515	30 x 15 ml	1	10	PP/PE	1/1	4,5 kg	
	91550	20 x 50 ml	1	10	PP/PE	1/1	5,2 kg	

Cryo Tubes

Type	Product-No.	Volume	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 26
	89012	1.2 ml	100	800	PP	1/4	1,7 kg	
	89020	2.0 ml	100	800	PP	1/4	2,0 kg	
	89040	3.8 ml	100	400	PP	1/4	1,6 kg	
	89050	4.5 ml	100	400	PP	1/4	1,8 kg	
	99020	6 colours	6 x 600	7200	PP	1/4	1.3 kg	
	89801	white	600	3600	PP	1/16	0,6 kg	
	89802	blue	600	3600	PP	1/16	0,6 kg	
	89803	yellow	600	3600	PP	1/16	0,6 kg	
	89804	green	600	3600	PP	1/16	0,6 kg	
	89805	pink	600	3600	PP	1/16	0,6 kg	
	89806	red	600	3600	PP	1/16	0,6 kg	

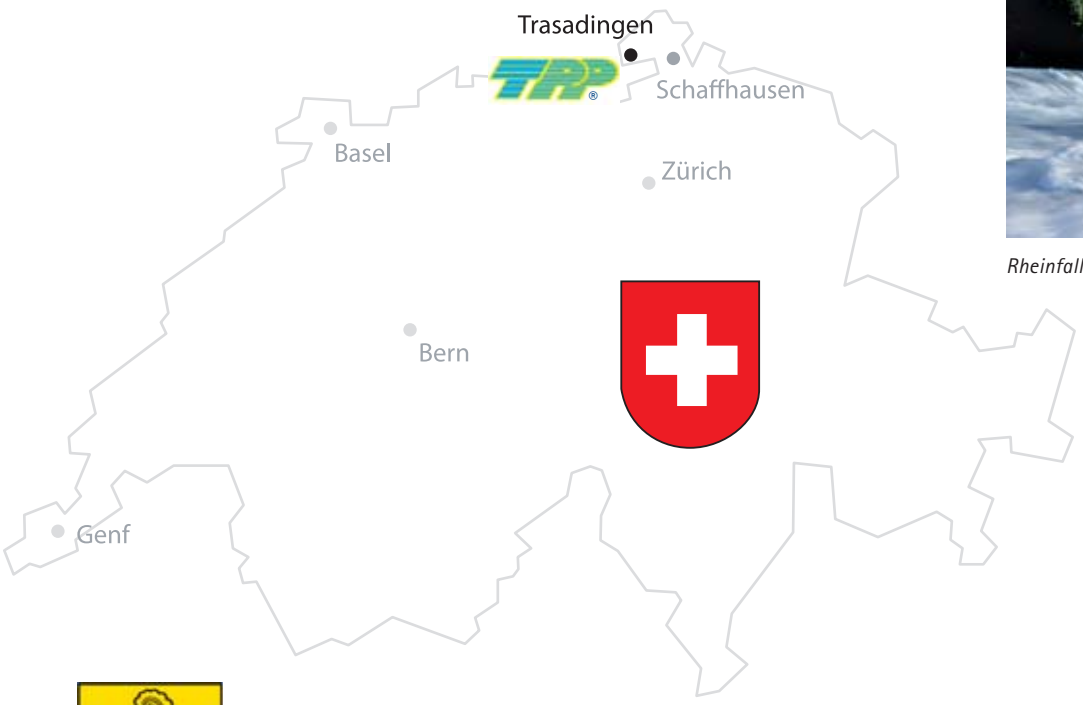
Racks and Cyro Boxes

Type	Product-No.	Qty / Bag	Qty / Case	Material	Case	Weight / Case	page 28
	99013	1	6	PP	1/2	2,5 kg	
	99014	1	10	PP	1/2	2,7 kg	
	99015	1	20	PP	1/2	3,8 kg	
	99016	1	12	PC	1/4	1,8 kg	
	99017	1	45	PP	1/2	4,6 kg	
	99018	1	28	PP	1/2	3,1 kg	
	99019	1	30	PP	1/2	5,0 kg	

Munot, Schaffhausen

How to find us

Rheinfall



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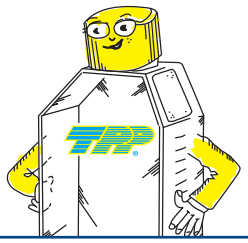

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Version 01/2012