CHROMATOGRAPHY

CONSUMABLES & SOLVENTS

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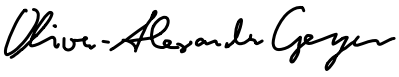
A catalogue with added value
Besides product descriptions, the catalogue also contains useful information for everyday practice such as tables on the chemical resistance of materials. We help your search by showing full-size pictures of vials so that you can find the right product by comparing it with a sample. Another overview shows you which sample vials are compatible with the autosampler you are using.

Personally and online: we're always there for you!
If you can't find a product even in the extended portfolio, your personal contact partner in customer service or field sales will be pleased to assist you. If you wish to place an order, we advise you to use the many functions in our webshop.
By the way, there you'll find the complete portfolio with top products for your laboratory from the two brands of LABSOLUTE® and CHEMSOLUTE®.

We look forward to receiving your orders!

Yours,
Lutz-Alexander Geyer
Managing Director

Yours,
Oliver-Alexander Geyer
Managing Director



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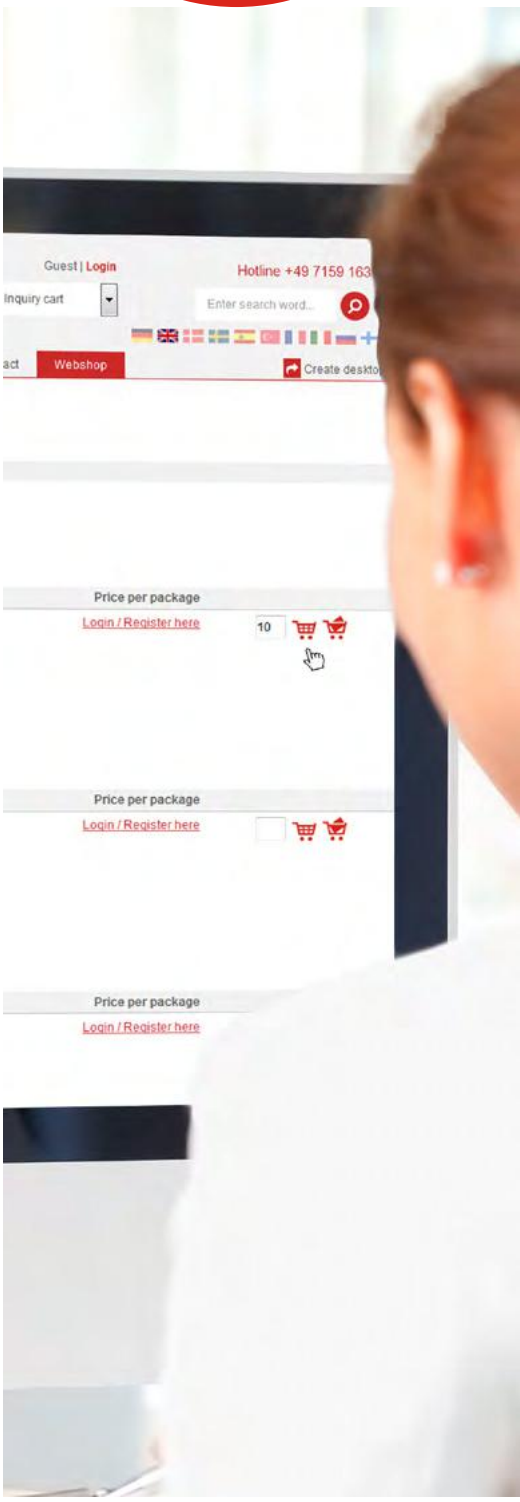

FREE SAMPLES

Being a Th. Geyer customer allows you to benefit not only from the quality of our products but also from the quality of our services. You can contact our field sales team to request free samples of all items in our chromatography catalogue. The samples will be at your disposal within a few days. This is the only way to be 100 % sure that the vial and cap combination or the material used for a specific septum is actually suitable for your application. Our advice is to request samples of your chosen items straight away.

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Some applications require the use of sterile vials. On request, we can supply all vials and caps from our catalogue in sterile form thanks to a collaboration with one of our partners. In an additional work process, the standard products are prewashed with deionised water, then sterilised, and finally double-packed in cleanroom conditions. You receive a certificate confirming that the products are sterile.

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Your personal contact in the field sales team will be happy to advise you – whether you need samples of your chosen products, a non-binding quote for sterile vials, or individual handouts. Alternatively, please send an e-mail to **sales@thgeyer.com**

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CONSTANTLY GROWING RANGE

SELECTED EXAMPLES OF NEW PRODUCTS

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VIALS & CAPS

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VIALS & CAPS

CRIMP NECK VIALS AND MICRO-VIALS ND8

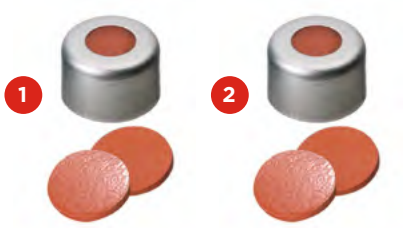
Crimp neck vials and micro-vials ND8 are available in clear and amber first hydrolytic class glass.
They can be sealed with 8 mm crimp caps, 9 mm PE caps or 8 mm push-on caps.
The micro-vials often require an adapter so that they can be used in an autosampler.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	1.2	40 x 8.2	100	7.622 387
(2)	Amber glass, flat bottom	1.2	40 x 8.2	100	7.616 830
(3)	Clear glass, flat bottom	0.8	30 x 8.2	100	7.616 829
(4)	Clear glass, flat bottom	0.7	40 x 7	1000	7.622 388
(5)	Amber glass, flat bottom	0.7	40 x 7	1000	7.630 552
(6)	Clear glass, round bottom	0.3	31.5 x 5.5	1000	7.615 704
(7)	Clear glass, conical tip	0.2	31.5 x 5.5	1000	7.614 045
(8)	Clear glass, conical tip	0.6	40 x 7	1000	7.631 599
(9)	Amber glass, conical tip	0.6	40 x 7	1000	7.616 831
(10)	Amber glass, conical tip	0.4	30 x 7	100	7.616 832

Tip: These vials are especially used with autosamplers made by Beckman, CTC, Gilson, Knauer, Shimadzu, Spark, Varian and VWR/Hitachi.

CRIMP SEALS ND8

Crimp seals ND8 are made of aluminium. They are plain lacquered with a 4 mm hole and supplied with fitted septa made of a variety of materials.



WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.0	100	7.619 110
(2)	Natural rubber red-orange/TEF transparent, IM-Quality	60° shore A	1.0	100	7.630 551

WITH REDRUBBER/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 110 °C and easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige	45° shore A	1.0	100	7.659 895

WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60°C to 200°C and have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal	53° shore D	0.25	100	7.615 706
(2)	Silicone white/PTFE red, Ultraclean	45° shore A	1.3	100	6.205 575
(3)	Silicone cream/PTFE red, Ultraclean	55° shore A	1.5	100	7.646 528
(4)	Silicone dark blue/PTFE white	45° shore A	1.3	100	6.264 557
(5)	Silicone blue/PTFE white	45° shore A	1.3	100	7.646 530
(6)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	100	7.620 889
(7)	Silicone white/PTFE red, slitted	45° shore A	1.3	100	7.616 833

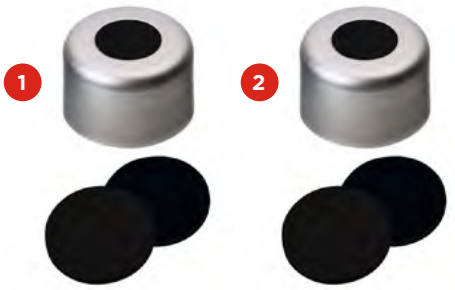
* Very low particle formation during penetration thanks to double-sided PTFE coating

LABSOLUTE® **crimping and decapping tools** are shown on page 82 ff.

WITH VITON SEPTA

Septa made from Viton have a very high resistance against a wide range of solvents. These septa are highly recommended for use with chlorinated solvents. Viton septa are not suitable for multiple injections or high injections speeds.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Viton 1A black	70° shore A	1.0	100	7.616 834
(2)	Viton 1A black	70° shore A	1.5	100	7.616 835



SPECIAL SEALS FOR CRIMP NECK ND8

The blue Push-On caps made of PE have a thinned penetration point, but no additional septum.
They are an inexpensive alternative to crimp caps for non-critical applications.

The transparent PE caps are 9 x 5.9 mm and have a 4 mm centre hole.

Septa made of silicone are temperature-resistant from -60 °C to 200 °C and have a better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Septa made of natural rubber are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PE Push-On cap, blue, thinned penetration point			100	7.616 836
(2)	PE cap, transparent, natural rubber red-orange/TEF transparent	60° shore A	1.3	100	7.616 837
(3)	PE cap, transparent, silicone white/PTFE red	45° shore A	1.3	100	7.616 838

SCREW NECK VIALS AND MICRO-VIALS ND8, SMALL OPENING

Screw neck vials and micro-vials ND8 are available in clear and amber first hydrolytic class glass. They have a 8–425 thread and are used as standard in GC and HPLC applications. A large selection of micro-inserts with a 5 mm diameter is available for these vials. The micro-vials often require an adapter so that they can be used in an autosampler.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, conical tip	1.1	32 x 11.6	100	7.631 774
(2)	Clear glass, flat bottom*	1.5	32 x 11.6	100	6.401 175
(3)	Clear glass, flat bottom "silanized"	1.5	32 x 11.6	1000	7.672 235
(4)	Amber glass, flat bottom*	1.5	32 x 11.6	100	7.615 163
(5)	Clear glass, flat bottom, with label	1.5	32 x 11.6	100	7.613 087
(6)	Amber glass, flat bottom, with label	1.5	32 x 11.6	100	7.613 388
(7)	Amber glass, flat bottom "silanized"	1.5	32 x 11.6	100	7.648 597

* Especially suitable for VWR (Merck®)/Hitachi instruments

Tip: These vials are especially used with autosamplers made by Beckman, Shimadzu, Spark, Varian and VWR/Hitachi.

MICRO-INSERTS FOR SCREW NECK VIALS ND8, SMALL OPENING

Micro-inserts made of clear first hydrolytic class glass are suitable for screw neck vials ND8 with small opening.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, conical tip 15 mm**	0.1	31 x 5	1000	7.613 389
(2)	Clear glass, conical tip 9 mm	0.1	31 x 5	1000	7.616 846
(3)	Clear glass, conical tip, with polymer foot	0.1	29 x 5	1000	7.614 073
(4)	Clear glass, flat bottom	0.2	31 x 5	1000	7.616 845
(5)	Clear glass, conical tip*	0.1	27.5 x 4	1000	7.632 176
(6)	Metal spring		36 x 5	100	7.632 175

* Metal spring 7.632 175 required

** Especially suitable for VWR (Merck®)/Hitachi instruments

SCREW SEALS ND8

Screw seals ND8 are made of PP and are supplied without or with fitted septa made of a variety of materials. They have a 8–425 thread, a 5.5 mm centre hole or are closed.

WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent*	60° shore A	1.3	100	7.612 928
(2)	Natural rubber red-orange/TEF transparent, closed	60° shore A	1.3	100	6.802 991
(3)	Natural rubber red-orange/TEF transparent, white cap	60° shore A	1.3	1000	7.629 760
(4)	Natural rubber red-orange/TEF transparent, white cap, closed	60° shore A	1.3	100	7.646 533
(5)	Natural rubber red-orange/TEF transparent, pink cap	60° shore A	1.3	100	7.646 558

* Especially suitable for VWR (Merck®)/Hitachi instruments

WITH REDRUBBER/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 110 °C and easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige	45° shore A	1.0	100	7.654 401
(2)	RedRubber/PTFE beige, closed	45° shore A	1.0	100	7.659 896
(3)	RedRubber/PTFE beige, pink cap	45° shore A	1.0	100	7.646 554

WITH BUTYL/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties with regard to cleanliness.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	1.3	100	7.616 773
(2)	Butyl red/PTFE grey, closed	55° shore A	1.3	100	7.616 149
(3)	Butyl red/PTFE grey, pink cap	55° shore A	1.3	100	7.646 555

WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone cream/PTFE red, Ultraclean	55° shore A	1.5	100	7.630 256
(2)	Silicone cream/PTFE red, Ultraclean, white cap	55° shore A	1.5	100	7.617 499
(3)	Silicone cream/PTFE red, Ultraclean, pink cap	55° shore A	1.5	100	7.646 557
(4)	Silicone white/PTFE red, Ultraclean	45° shore A	1.3	100	7.604 778
(5)	Silicone white/PTFE red, Ultraclean, closed	45° shore A	1.3	100	7.621 679
(6)	Silicone white/PTFE red, Ultraclean, white cap	45° shore A	1.3	1000	7.617 594
(7)	Silicone white/PTFE red, Ultraclean, white cap, closed	45° shore A	1.3	100	7.623 175
(8)	Silicone white/PTFE red, Ultraclean, pink cap	45° shore A	1.3	100	7.646 556
(9)	Silicone blue transparent/PTFE white	45° shore A	1.3	100	7.613 320
(10)	Silicone dark blue/PTFE white	45° shore A	1.3	100	7.631 775
(11)	Silicone white/PTFE red, slitted	45° shore A	1.3	100	7.614 038
(12)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	100	7.630 523

* Very low particle formation during penetration thanks to double-sided PTFE coating

WITH VITON SEPTA

Septa made from Viton have a very high resistance against a wide range of solvents.
These septa are highly recommended for use with chlorinated solvents.
Viton septa are not suitable for multiple injections or high injection speeds.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Viton 1A black	70° shore A	1.5	100	7.646 553

WITHOUT SEPTA

Suitable septa with a diameter of 8 mm made of different materials are available on request.

Type	Description	PK	Art. no.
(1)	Screw cap, black*	100	6.051 375
(2)	Screw cap, black, closed	100	7.621 592
(3)	Screw cap, white	100	7.613 312
(4)	Screw cap, white, closed	100	7.639 608

* Especially suitable for VWR (Merck®)/Hitachi instruments

KITS ND8

The LABSOLUTE® kits ND8 contain shrink-wrapped screw vials ND8 with small opening made of clear or amber first hydrolytic class glass and corresponding screw caps made of PP. In some cases, caps are already pre-screwed on the vials.

- Many kits are especially adjusted for use with an autosampler of one defined manufacturer
- Kits with pre-screwed seals reduce the risk of sample contamination
- Kits with pre-assembled micro inserts are available on request

Description	Capacity ml	For Sampler	PK	Art. no.
Clear glass, black cap, 5.5 mm hole, natural rubber red-orange/TEF transparent, 60° shore A, 1.3 mm	1.5	Merck®/Hitachi	1	7.618 022
Clear glass, black cap, 5.5 mm hole, silicone white/PTFE blue, 55° shore A, 0.9 mm, slitted	1.5	Merck®/Hitachi	100	7.621 198
Amber glass, black cap, 5.5 mm hole, silicone white/PTFE blue, 55° shore A, 0.9 mm, slitted	1.5	Merck®/Hitachi	100	7.647 532
Clear glass, small opening, black cap, 5.5 mm hole, **pre-screwed**, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	Merck®/Hitachi	100	7.647 530
Clear glass, black cap, 5.5 mm hole, **pre-screwed**, silicone white/PTFE blue, 55° shore A, 0.9 mm, slitted	1.5	Merck®/Hitachi	100	7.632 650
Clear glass, black cap, 5.5 mm hole, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	Varian	100	7.629 515
Clear glass, label and filling lines, black cap, 5.5 mm hole, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	Varian	100	9.003 559
Amber glass, black cap, 5.5 mm hole, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	Varian	100	9.003 557
Amber glass, label and filling lines, black cap, 5.5 mm hole, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	Varian	100	9.003 558

More LABSOLUTE® **ND8** vials, caps, septa and kits are available on request

SHORT THREAD VIALS AND MICRO-VIALS ND9, WIDE OPENING

Short thread vials and micro-vials ND9 are available in clear and amber first hydrolytic class glass and can be used on almost all autosamplers. You can replace other 1.5 ml vial types like 11 mm crimp neck vials, 8–425 and 10–425 screw neck vials, which can help rationalize stocks.

The wide opening requires matching micro-inserts with 6 mm diameter.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom, with integrated micro-insert, with label	0.2	32 x 11.6	100	7.616 849
(2)	Amber glass, flat bottom, with integrated micro-insert, with label	0.2	32 x 11.6	100	7.660 024
(3)	Clear glass, flat bottom, with integrated micro-insert "Base Bonded"	0.3	32 x 11.6	100	7.629 622
(4)	Amber glass, flat bottom, with integrated micro-insert "Base Bonded"	0.3	32 x 11.6	100	7.648 146
(5)	Amber glass, flat bottom, with integrated micro-insert, with label "Base Bonded"	0.3	32 x 11.6	100	7.647 478
(6)	Clear glass, flat bottom, with inner cone	0.9	32 x 11.6	1000	7.970 595
(7)	Clear glass, flat bottom, with inner cone	1.1	32 x 11.6	100	7.616 848
(8)	Clear glass, flat bottom, with inner cone "silanized"	1.1	32 x 11.6	100	7.648 599
(9)	Amber glass, flat bottom, with inner cone	1.1	32 x 11.6	100	7.647 480
(10)	Clear glass, flat bottom	1.5	32 x 11.6	100	7.612 960
(11)	Clear glass, flat bottom "silanized"	1.5	32 x 11.6	100	7.630 175
(12)	Amber glass, flat bottom	1.5	32 x 11.6	100	7.654 554
(13)	Clear glass, flat bottom, with label	1.5	32 x 11.6	100	7.639 156
(14)	Clear glass, flat bottom, with label "silanized"	1.5	32 x 11.6	100	7.643 512
(15)	Amber glass, flat bottom, with label	1.5	32 x 11.6	100	6.088 871
(16)	Amber glass, flat bottom, with label "silanized"	1.5	32 x 11.6	100	7.616 003

Tip: Due to the technical geometry, the vails can be used on all common autosamplers, but preferentially on instruments made by Agilent, HTA, Shimadzu, Thermo Scientific, Varian and Waters.

MICRO-INSERTS FOR VIALS WITH WIDE OPENING, GLASS

The micro-inserts made of first hydrolytic class glass are suitable for

- Short thread vials ND9, with wide opening made of glass or plastic
- Screw neck vials ND10, with wide opening
- Crimp neck vials ND11, with wide opening
- Snap ring vials ND11, with wide opening
- Shell vials, with a nominal volume of 2 ml

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, conical tip 15 mm	0.1	31 x 6	1000	7.615 290
(2)	Clear glass, conical tip 15 mm "silanized"	0.1	31 x 6	1000	7.616 933
(3)	Clear glass, conical tip 12 mm	0.1	31 x 6	1000	7.620 929
(4)	Clear glass, conical tip, with polymer foot*	0.1	29 x 5.7	1000	7.614 088
(5)	Clear glass, conical tip, with polymer foot "silanized" *	0.1	29 x 5.7	1000	7.615 561
(6)	Clear glass, flat bottom	0.2	31 x 6	1000	6.803 175
(7)	Clear glass, flat bottom "silanized"	0.2	31 x 6	1000	7.646 457

* Not suitable for shell vials

SHORT THREAD VIALS AND MICRO-VIALS ND9, PMP OR PP

Short thread vials and micro-vials ND9 with wide opening made of natural or amber PMP or PP are a shatterproof alternative to glass vials.

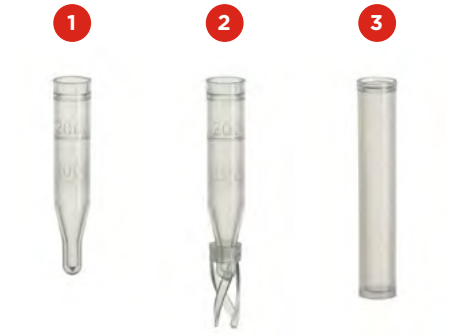
Type	Description	Capacity ml	Material	Size mm	PK	Art. no.
(1)	Clear, flat bottom, with glass micro-insert, TopSert	0.2	PMP	32 x 11.6	100	7.631 401
(2)	Clear, flat bottom, with glass micro-insert, TopSert "silanized"	0.2	PMP	32 x 11.6	100	7.616 934
(3)	Amber, flat bottom, with glass micro-insert, TopSert	0.2	PMP	32 x 11.6	100	7.616 850
(4)	Amber, flat bottom, with glass micro-insert, TopSert "silanized"	0.2	PMP	32 x 11.6	100	7.616 935
(5)	Clear, flat bottom	0.3	PMP	32 x 11.6	100	7.616 859
(6)	Clear, flat bottom	0.3	PP	32 x 11.6	100	7.618 897
(7)	Amber, flat bottom	0.3	PP	32 x 11.6	100	7.631 798
(8)	Clear, flat bottom	0.7	PP	32 x 11.6	100	7.618 914
(9)	Clear, flat bottom, with filling lines	1.5	PP	32 x 11.6	100	6.205 647
(10)	Amber, flat bottom, with filling lines	1.5	PP	32 x 11.6	100	7.616 851

MICRO-INSERTS FOR VIALS WITH WIDE OPENING, PP

The micro-inserts made of transparent PP are suitable for
- Short thread vials ND9, with wide opening made of glass or plastic
- Screw neck vials ND10, with wide opening
- Crimp neck vials ND11, with wide opening
- Snap ring vials ND11, with wide opening
- Shell vials, with a nominal volume of 2 ml

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	PP, transparent, conical tip 10 mm	0.1	29 x 6	1000	7.654 481
(2)	PP, transparent, conical tip, with polymer foot*	0.1	29 x 6	1000	7.648 594
(3)	PP, transparent, flat bottom	0.2	31 x 6	1000	7.648 596

* Not suitable for shell vials



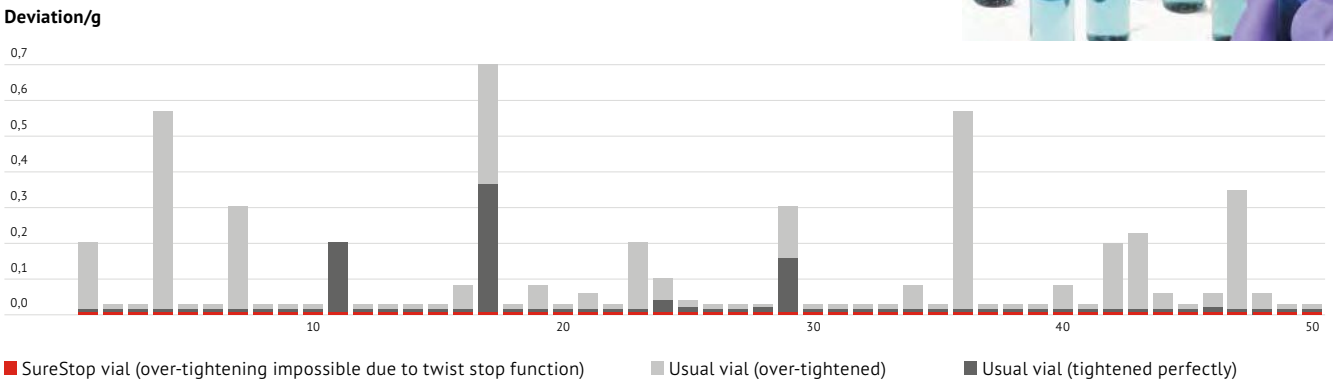
SHORT THREAD VIALS AND MICRO-VIALS ND9, SURESTOP

The short thread vials ND9 SureStop are available in clear and amber first hydrolytic class glass and are the best available on the market in terms of seal tightness and reliability. The vials have an additional stopper ring at the end of the thread which clearly marks the end point in the screwing-in process. This ensures that the tightness of the seal is independent of the touch or feel of the user screwing the stopper in. This ensures the lowest possible number of standard deviations and high reproducibility of analysis results.

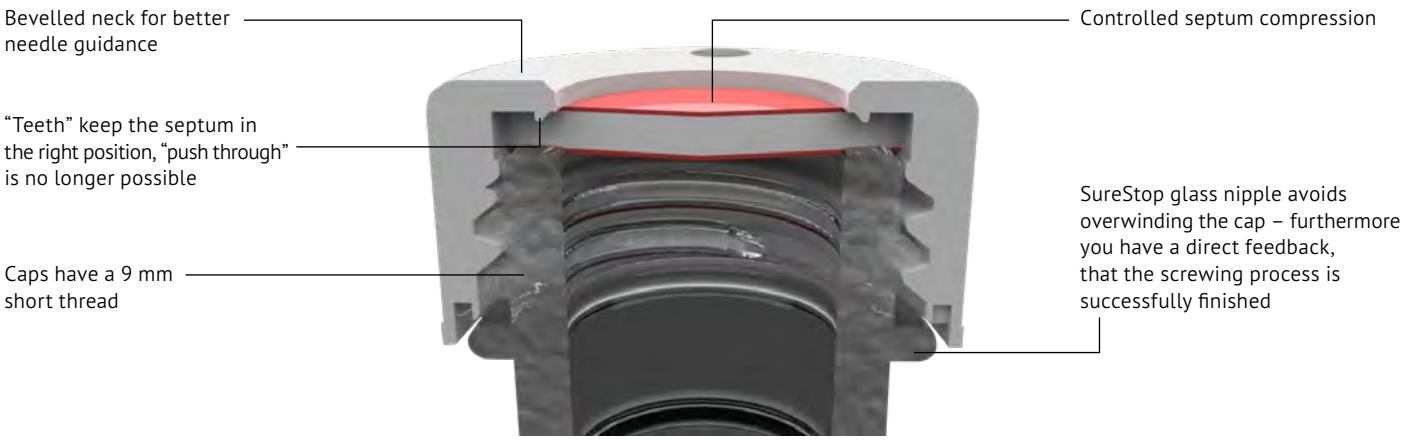
Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	1.5	32 x 11.6	100	7.639 476
(2)	Clear glass, flat bottom, with label	1.5	32 x 11.6	100	7.639 477
(3)	Amber glass, flat bottom, with label	1.5	32 x 11.6	100	7.639 478

SEAL TIGHTNESS STUDY

50 short thread vials and short thread SureStop vials were screwed or screwed and over-tightened by multiple test subjects. After 24 hours, the volume of evaporated solvent (methanol) was measured.



A DEVELOPMENT FOR YOUR SAFETY – SURESTOP-VIALS



SHORT THREAD SCREW SEALS ND9

Short thread screw seals ND9 are made of PP and are supplied with fitted septa made of a variety of materials. They have a 6 mm centre hole and are available in different colours. The screw caps are similar in shape to the crimp caps and are therefore also suitable for robotic handling.

WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and are ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent, transparent cap	60° shore A	1.0	100	6.088 872
(2)	Natural rubber red-orange/TEF transparent, blue cap	60° shore A	1.0	100	7.621 038
(3)	Natural rubber red-orange/TEF transparent, blue cap, closed	60° shore A	1.0	100	7.618 912
(4)	Natural rubber red-orange/TEF transparent, red cap	60° shore A	1.0	100	7.621 157
(5)	Natural rubber red-orange/TEF transparent, black cap	60° shore A	1.0	100	7.616 538
(6)	Natural rubber red-orange/TEF transparent, green cap	60° shore A	1.0	100	7.631 765
(7)	Natural rubber red-orange/TEF transparent, yellow cap	60° shore A	1.0	100	7.616 729
(8)	Natural rubber red-orange/TEF transparent, pink cap	60° shore A	1.0	100	7.646 563

WITH REDRUBBER/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 110 °C. They are easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige, transparent cap	45° shore A	1.0	100	7.636 712
(2)	RedRubber/PTFE beige, blue cap	45° shore A	1.0	100	7.623 097
(3)	RedRubber/PTFE beige, blue cap, closed	45° shore A	1.0	100	7.646 874
(4)	RedRubber/PTFE beige, red cap	45° shore A	1.0	100	7.651 190
(5)	RedRubber/PTFE beige, black cap	45° shore A	1.0	100	7.654 495
(6)	RedRubber/PTFE beige, green cap	45° shore A	1.0	100	7.634 402
(7)	RedRubber/PTFE beige, yellow cap	45° shore A	1.0	100	7.636 713
(8)	RedRubber/PTFE beige, pink cap	45° shore A	1.0	100	7.646 564

WITH PURE PTFE SEPTA

These septa are temperature-resistant from -200 °C to 260 °C. They are very thin and hard and characterized by high analytical purity. However, they have less effective resealability properties and are therefore only suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal, transparent cap	53° shore D	0.2	100	7.612 019
(2)	PTFE virginal, blue cap	53° shore D	0.2	100	7.612 018
(3)	PTFE virginal, blue cap, closed	53° shore D	0.2	100	7.618 911
(4)	PTFE virginal, red cap	53° shore D	0.2	100	7.646 560
(5)	PTFE virginal, black cap	53° shore D	0.2	1000	6.238 920
(6)	PTFE virginal, green cap	53° shore D	0.2	100	7.646 561
(7)	PTFE virginal, yellow cap	53° shore D	0.2	100	7.648 601

WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone dark-blue transparent/PTFE natural, transparent cap	35° shore A	1.0	100	7.646 562
(2)	Silicone white/PTFE red, Ultraclean, transparent cap	55° shore A	1.0	100	7.612 027
(3)	Silicone white/PTFE red, Ultraclean, blue cap	55° shore A	1.0	100	7.615 161
(4)	Silicone white/PTFE red, Ultraclean, blue cap, closed	55° shore A	1.0	100	7.633 658
(5)	Silicone white/PTFE red, Ultraclean, red cap	55° shore A	1.0	100	7.630 473
(6)	Silicone white/PTFE red, Ultraclean, black cap	55° shore A	1.0	100	7.616 539
(7)	Silicone white/PTFE red, Ultraclean, green cap	55° shore A	1.0	100	7.618 875
(8)	Silicone white/PTFE red, Ultraclean, yellow cap	55° shore A	1.0	100	7.617 539
(9)	Silicone white/PTFE red, Ultraclean, pink cap	55° shore A	1.0	100	7.646 568
(10)	PTFE red/silicone white/PTFE red, transparent cap*	45° shore A	1.0	100	7.630 691
(11)	PTFE red/silicone white/PTFE red, blue cap*	45° shore A	1.0	100	7.615 823
(12)	PTFE red/silicone white/PTFE red, red cap*	45° shore A	1.0	100	7.630 477
(13)	PTFE red/silicone white/PTFE red, black cap*	45° shore A	1.0	100	7.616 853
(14)	PTFE red/silicone white/PTFE red, green cap*	45° shore A	1.0	100	7.636 888
(15)	PTFE red/silicone white/PTFE red, yellow cap*	45° shore A	1.0	1000	7.644 847
(16)	PTFE red/silicone white/PTFE red, pink cap*	45° shore A	1.0	100	7.646 566
(17)	Silicone white/PTFE blue, slitted, transparent cap	55° shore A	1.0	100	7.615 326
(18)	Silicone white/PTFE blue, slitted, blue cap	55° shore A	1.0	100	7.630 950
(19)	Silicone white/PTFE blue, slitted, red cap	55° shore A	1.0	100	7.616 852
(20)	Silicone white/PTFE blue, slitted, black cap	55° shore A	1.0	100	7.616 854
(21)	Silicone white/PTFE blue, slitted, green cap	55° shore A	1.0	100	7.643 812
(22)	Silicone white/PTFE blue, slitted, yellow cap	55° shore A	1.0	1000	7.644 003
(23)	Silicone white/PTFE blue, slitted, pink cap	55° shore A	1.0	100	7.646 567
(24)	Silicone white/PTFE red, pre-cut (Y), transparent cap	55° shore A	1.0	100	7.654 493
(25)	Silicone white/PTFE red, pre-cut (Y), blue cap	55° shore A	1.0	100	7.654 494

* Very low particle formation during penetration thanks to double-sided PTFE coating

WITH SILICONE/PTFE SEPTA, MAGNETIC

These short thread screw seals have a mounted magnetic sleeve (gold colour). They are more convenient and secure to handle than 11 mm magnetic crimp seals. The septa are temperature-resistant from -60 °C to 200 °C. The caps have been officially tested and approved for CTC.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE red, Ultraclean	55° shore A	1.0	100	7.618 913

WITH SILICONE/ALUMINIUM SEPTA

These septa are temperature-resistant from -60 °C to 220 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications. The silicone is fully coated with a silver aluminium foil and is often used on Perkin Elmer instruments.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/aluminium foil silver, blue cap, closed	50° shore A	1.3	1000	7.670 286

WITH VITON SEPTA

Septa made of Viton have a very high resistance against a wide range of solvents. These septa are highly recommended for use with chlorinated solvents.

Viton septa are not suitable for multiple injections or high injection speeds.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Viton 1A black, black cap	70° shore A	1.0	100	7.616 025

SHORT THREAD SCREW SEALS ND9, ULTRABOND

Short thread screw seals ND9 are made of PP and are supplied with fitted septa made of a variety of materials. The caps have a 6 mm centre hole and are available in different colours. The screw caps are similar in shape to the crimp caps and are therefore also suitable for robotic handling.

In this case, caps and septa form an inseparable unit (Ultrabond), which means that even a blunt needle is unable to push the septa into the vial.

WITH REDRUBBER/PTFE SEPTA, ULTRABOND

These septa are temperature-resistant from -40 °C to 110 °C. They are easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige, blue cap	45° shore A	1.0	100	7.646 374

WITH SILICONE/PTFE SEPTA, ULTRABOND

The septa are temperature-resistant from -60 °C to 200 °C and also made of ultra-pure silicone, thereby offering a high degree of product security and analytical purity.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE red, black cap	45° shore A	1.3	100	7.616 855
(2)	Silicone beige/PTFE white, blue cap	45° shore A	1.3	100	7.616 856
(3)	Silicone beige/PTFE white, slitted, blue cap	45° shore A	1.3	100	7.616 857

MS SHORT THREAD SCREW SEAL ND9

This transparent seal is certified for GC/MS and LC/MS applications. It has a thinned penetration area and a diaphragm. There is no bleeding, and the seal is fully inert. Therefore a contamination of the sample is impossible. Nevertheless the screw cap is as easy to penetrate as a normal septum and just as tight.

Type	Description	PK	Art. no.
(1)	MS short thread screw cap, transparent	100	7.618 910

KITS ND9

The LABSOLUTE® kits ND9 contain shrink-wrapped short thread vials ND9 made of clear or amber first hydrolytic class glass and corresponding short thread screw caps made of PP.

Description	Capacity ml	Size mm	PK	Art. no.
Clear glass, transparent caps, 6 mm centre hole, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	100	7.620 724
Clear glass, blue caps, 6 mm centre hole, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	100	7.614 249
Clear glass, transparent caps, 6 mm centre hole, silicone white/PTFE red, 55° shore A, 1.0 mm, Ultraclean	1.5	32 x 11.6	100	9.003 561
Clear glass, blue caps, 6 mm centre hole, silicone white/PTFE red, 55° shore A, 1.0 mm, Ultraclean	1.5	32 x 11.6	100	9.003 560
Clear glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE red, 55° shore A, 1.0 mm, Ultraclean	1.5	32 x 11.6	100	7.661 859
Amber glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE red, 55° shore A, 1.0 mm, Ultraclean	1.5	32 x 11.6	100	7.614 414
Clear glass, blue caps, 6 mm centre hole, PTFE red/silicone white/PTFE red, 45° shore A, 1.0 mm	1.5	32 x 11.6	100	7.647 533
Clear glass, blue caps, 6 mm centre hole, silicone white/PTFE blue, 55° shore A, 1.0 mm, slitted	1.5	32 x 11.6	100	7.621 765
Clear glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE blue, 55° shore A, 1.0 mm, slitted	1.5	32 x 11.6	100	7.651 823
Amber glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE blue, 55° shore A, 1.0 mm, slitted	1.5	32 x 11.6	100	7.647 534
PP, transparent, blue caps, 6 mm centre hole, silicone white/PTFE blue, 55° shore A, 1.0 mm, slitted	0.3	32 x 11.6	1	7.620 723
PP, transparent, blue caps, 6 mm centre hole, silicone beige/PTFE white, 45° shore A, 1.3 mm, slitted, Ultrabond*	0.3	32 x 11.6	100	7.638 940
Amber glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE beige, 45° shore A, 1.3 mm, slitted, Ultrabond, manufacturer quality*	1.5	32 x 11.6	100	9.003 563
Clear glass, blue caps, 6 mm centre hole, silicone white/PTFE beige, 45° shore A, 1.3 mm, Ultrabond, manufacturer quality*	1.5	32 x 11.6	100	7.643 632
Clear glass, blue caps, 6 mm centre hole, silicone white/PTFE beige, 45° shore A, 1.3 mm, slitted, Ultrabond, manufacturer quality*	1.5	32 x 11.6	100	7.643 625
Amber glass, blue caps, 6 mm centre hole, silicone white/PTFE beige, 45° shore A, 1.3 mm, Ultrabond, manufacturer quality*	1.5	32 x 11.6	100	7.643 633
Clear glass, with label, blue caps, 6 mm centre hole, silicone beige/PTFE white, 45° shore A, 1.3 mm, Ultrabond*	1.5	32 x 11.6	100	7.638 941
Clear glass, with label, blue caps, 6 mm centre hole, silicone beige/PTFE white, 45° shore A, 1.3 mm, slitted, Ultrabond*	1.5	32 x 11.6	100	7.661 858
Clear glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE beige, 45° shore A, 1.3 mm, slitted, Ultrabond, manufacturer quality*	1.5	32 x 11.6	100	6.266 923

* Ultrabond seals especially for Waters autosampler

BATCH-SPECIFIC CERTIFICATION

Test certificates available upon request

KITS ND9, CERTIFIED

These kits correspond to the standard ND9 kits with regard to their setup (shrink-wrapped short thread vials ND9 made of clear or amber first hydrolytic class glass with corresponding short thread screw caps made of PP). But there is a batch-specific test certificate with HPLC and GC chromatographs for every kit available on request. Certified kits are delivered completely shrink-wrapped. This means additional safety for the end user.

Each batch of HPLC and GC certified kits is tested on 15 critical parameters. In a method corresponding as far as possible to real laboratory conditions, an HPLC/UV and GC/MS test of a vial and seal combination will be carried out.

Description	Capacity ml	Size mm	PK	Art. no.
Clear glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE red, 55° shore A, 1.0 mm, Ultraclean	1.5	32 x 11.6	100	7.658 886
Amber glass, with label, blue caps, 6 mm centre hole, silicone white/PTFE red, 55° shore A, 1.0 mm, Ultraclean	1.5	32 x 11.6	100	7.658 887
Clear glass, with label, blue caps, 6 mm centre hole, silicone beige/PTFE white, slitted, 45° shore A, 1.3 mm, Ultrabond*	1.5	32 x 11.6	100	7.644 568

* Ultrabond seals especially for Waters autosampler

More LABSOLUTE® **ND9** vials, caps, septa and kits are available on request

SCREW NECK VIALS AND MICRO-VIALS ND10, WIDE OPENING

Screw neck vials ND10 with 10–425 thread facilitate easy filling with viscous substances thanks to their wide opening.
The vials are available in clear and amber first hydrolytic class glass.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	1.5	32 x 11.6	100	7.615 291
(2)	Amber glass, flat bottom	1.5	32 x 11.6	1000	7.670 623
(3)	Clear glass, flat bottom, with label	1.5	32 x 11.6	100	7.615 715
(4)	Amber glass, flat bottom, with label	1.5	32 x 11.6	100	7.621 171

Suitable LABSOLUTE® **micro inserts** are shown on page 21

SCREW SEALS ND10

Screw seals ND10 are made of PP and have a 10–425 thread. They have a 7 mm centre hole or are closed.
Screw seals are supplied with fitted septa made of a variety of materials or without any septa.

WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	100	7.615 292
(2)	Natural rubber red-orange/TEF transparent, closed	60° shore A	1.3	100	7.618 915

WITH REDRUBBER/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 110 °C and easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige	45° shore A	1.0	100	7.646 569
(2)	RedRubber/PTFE beige, closed	45° shore A	1.0	100	7.670 616

WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE red, Ultraclean	45° shore A	1.3	100	7.631 600
(2)	Silicone white/PTFE beige	45° shore A	1.5	100	7.621 568
(3)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	100	7.615 766
(4)	Silicone white/PTFE blue, slitted	55° shore A	1.5	100	7.615 716

* Very low particle formation during penetration thanks to double-sided PTFE coating

WITHOUT SEPTA

Suitable septa with a diameter of 10 mm made of different materials are available on request.

Type	Description	PK	Art. no.
(1)	Screw cap, black	100	7.615 719
(2)	Screw cap, black, closed	1000	7.670 517

More LABSOLUTE® **ND10** vials, caps, septa and kits are available on request

CRIMP NECK VIALS AND MICRO-VIALS ND11, WIDE OPENING

Crimp neck vials and micro-vials ND11 made of clear and amber first hydrolytic class glass are used as standard in GC and HPLC. A large selection of micro-inserts is available for these vials.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	1.5	32 x 11.6	100	7.608 141
(2)	Clear glass, flat bottom "silanized"	1.5	32 x 11.6	1000	7.626 899
(3)	Clear glass, flat bottom	2.5	41 x 11.6	1000	7.626 843
(4)	Amber glass, flat bottom	1.5	32 x 11.6	100	7.636 093
(5)	Clear glass, flat bottom, with label	1.5	32 x 11.6	100	7.608 160
(6)	Clear glass, flat bottom, with label "silanized"	1.5	32 x 11.6	100	7.647 477
(7)	Amber glass, flat bottom, with label	1.5	32 x 11.6	100	7.620 828
(8)	Amber glass, flat bottom, with label "silanized"	1.5	32 x 11.6	100	7.647 476
(9)	Clear glass, flat bottom, small opening	1.5	32 x 11.6	100	7.620 829
(10)	Clear glass, flat bottom, integrated micro-insert, with label "Top Bonded"	0.2	32 x 11.6	100	7.620 898
(11)	Amber glass, flat bottom, integrated micro-insert, with label "Top Bonded"	0.2	32 x 11.6	100	7.651 116
(12)	Clear glass, flat bottom, integrated micro-insert "Base Bonded"	0.3	32 x 11.6	100	7.648 519
(13)	Amber glass, flat bottom, integrated micro-insert "Base Bonded"	0.3	32 x 11.6	100	7.648 520
(14)	Clear glass, flat bottom, with inner cone	1.1	32 x 11.6	100	7.616 019
(15)	Clear glass, flat bottom, with inner cone "silanized"	1.1	32 x 11.6	1000	6.258 862
(16)	Clear glass, conical	0.9	32 x 10	100	7.621 337
(17)	Clear glass, conical	1.1	32 x 11.6	100	7.632 401

Suitable LABSOLUTE® **micro inserts** are shown on page 21

CRIMP SEALS ND11

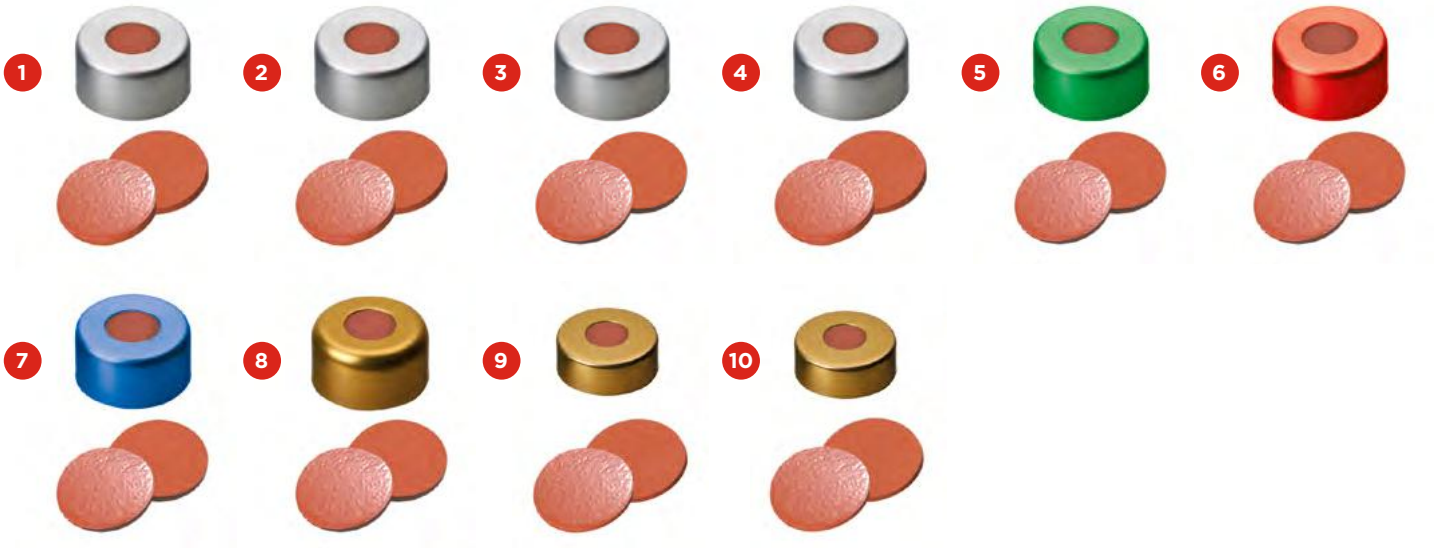
Crimp seals ND11 are made of aluminium. They are clear or lacquered in different colours and have a 5.5 mm hole. They are supplied with fitted septa made of a variety of materials.

WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Septa made of natural rubber/butyl/TEF combine the good physical properties of natural rubber (resealability) and the good chemical properties of butyl (analytical cleanliness).

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent, IM quality, clear cap	60° shore A	1.0	100	7.608 142
(2)	Natural rubber red-orange/TEF transparent, clear cap	60° shore A	1.0	100	7.647 473
(3)	Natural rubber red-orange/TEF transparent, clear cap	45° shore A	1.0	100	7.608 161
(4)	Natural rubber red-orange/butyl red/TEF transparent, clear cap	60° shore A	1.3	100	7.618 902
(5)	Natural rubber red-orange/butyl red/TEF transparent, green cap	45° shore A	1.0	100	7.631 300
(6)	Natural rubber red-orange/butyl red/TEF transparent, red cap	45° shore A	1.0	100	7.631 301
(7)	Natural rubber red-orange/butyl red/TEF transparent, blue cap	45° shore A	1.0	100	7.615 164
(8)	Natural rubber red-orange/butyl red/TEF transparent, gold cap	45° shore A	1.0	100	7.617 087
(9)	Natural rubber red-orange/TEF transparent, gold, magnetic cap	60° shore A	1.3	1000	7.619 308
(10)	Natural rubber red-orange/TEF transparent, gold, magnetic cap	60° shore A	1.0	1000	7.653 236



WITH REDRUBBER/PTFE SEPTA

These septa with instrument manufacturer's quality are temperature-resistant from -40°C to 110°C.
They are easier to penetrate and have lower particle formation than septa made of natural rubber.

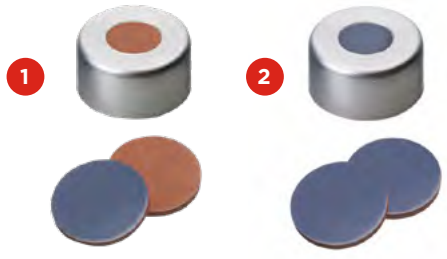
Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige, clear cap	45° shore A	1.0	100	7.618 903
(2)	RedRubber/PTFE beige, green cap	45° shore A	1.0	1000	7.671 640
(3)	RedRubber/PTFE beige, red cap	45° shore A	1.0	1000	7.671 641
(4)	RedRubber/PTFE beige, blue cap	45° shore A	1.0	1000	7.671 642
(5)	RedRubber/PTFE beige, gold cap	45° shore A	1.0	1000	7.671 643

WITH BUTYL/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey, clear cap	55° shore A	1.3	100	7.616 840
(2)	PTFE grey/butyl red/PTFE grey, clear cap*	55° shore A	1.3	100	7.615 681

* Very low particle formation during penetration thanks to double-sided PTFE coating



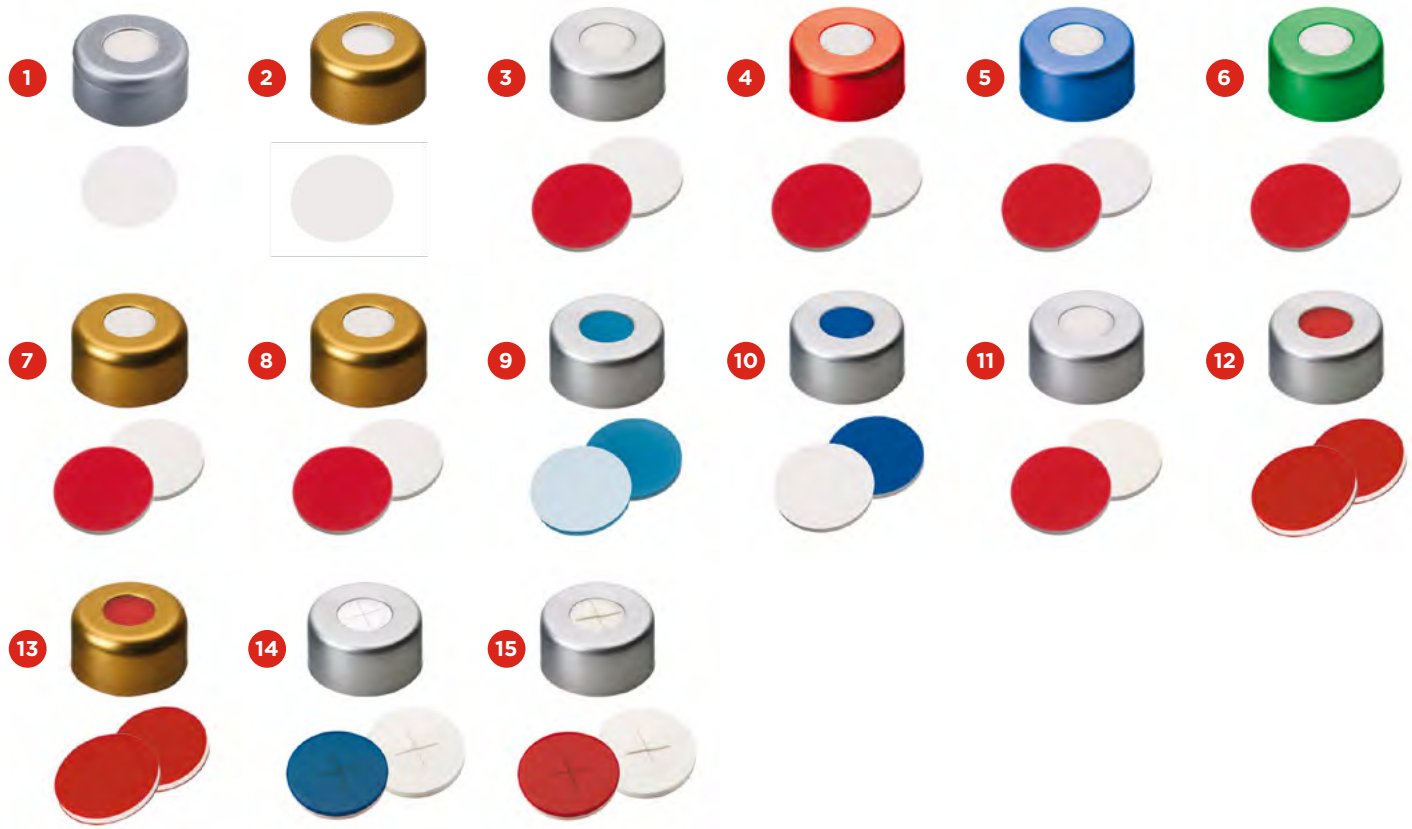
WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60 °C to 200 °C and have a better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

The magnetic seals are suitable for CTC PAL and Thermo Scientific TriPlus autosampler.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal	53° shore D	0.25	100	7.630 452
(2)	PTFE virginal, magnetic cap	53° shore D	0.25	100	7.615 809
(3)	Silicone white/PTFE red, Ultraclean, clear cap	45° shore A	1.3	100	6.205 787
(4)	Silicone white/PTFE red, Ultraclean, red cap	45° shore A	1.3	100	7.646 367
(5)	Silicone white/PTFE red, Ultraclean, green cap	45° shore A	1.3	100	7.622 819
(6)	Silicone white/PTFE red, Ultraclean, blue cap	45° shore A	1.3	100	7.635 033
(7)	Silicone white/PTFE red, Ultraclean, gold cap	45° shore A	1.3	100	7.646 368
(8)	Silicone white/PTFE red, Ultraclean, magnetic cap	45° shore A	1.3	100	7.616 841
(9)	Silicone blue-transparent/PTFE white, clear cap	45° shore A	1.3	100	7.631 188
(10)	Silicone dark-blue/PTFE white, clear cap	45° shore A	1.3	1000	4.653 905
(11)	Silicone cream/PTFE red, clear cap	55° shore A	1.5	100	7.621 138
(12)	PTFE red/silicone white/PTFE red, clear cap*	45° shore A	1.0	100	6.902 301
(13)	PTFE red/silicone white/PTFE red, magnetic cap*	45° shore A	1.0	100	7.616 842
(14)	Silicone white/PTFE blue, cross-slitted, clear cap	55° shore A	1.5	100	7.616 151
(15)	Silicone cream/PTFE red, slitted, clear cap	55° shore A	1.5	100	7.647 474

* Very low particle formation during penetration thanks to double-sided PTFE coating



WITH VITON SEPTA

Septa made from Viton have a very high resistance against a wide range of solvents.
These septa are highly recommended for use with chlorinated solvents.

Viton septa are not suitable for multiple injections or high injection speeds.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Viton 1A black, clear cap	70° shore A	1.0	100	7.630 453
(2)	Viton 1A black, clear cap	70° shore A	1.5	100	7.647 472

WITH ALUMINIUM SEPTA

Septa made of aluminium are free of halogens and elastomers and suitable for storing standards or reactive substances that can attack normal septum materials. There is also no risk of contamination of the samples with plasticizers, silicone or butyl rubbers or PTFE, FEP or TEF components. A ring placed above the aluminium septum achieves an excellent seal on the stopper system.

Application areas
- Elastomer and plastomer analysis
- Phthalate analysis
- Analysis of fluorinated/halogenated organic compounds
- VOC analysis (volatile organic compounds)
- Analysis of polymerisation catalysts

Type	Description	Thickness mm	PK	Art. no.
(1)	Aluminium septum with O-ring seal	0.06	100	7.660 047

SPECIAL SEALS FOR CRIMP NECK ND11

The blue Push-On caps made of PE have a thinned penetration point, but no additional septum.
They are an inexpensive alternative to crimp caps for non-critical applications.

The transparent PE caps are 13 x 7.5 mm and have a 4.5 mm centre hole.

Septa made of silicone are temperature-resistant from -60 °C to 200 °C and have a better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PE Push-On cap, blue, thinned penetration point			100	7.616 553
(2)	PE cap, transparent, silicone white/PTFE red, Ultraclean	55° shore A	1.0	100	7.616 844

KITS ND11, CRIMP NECK

The LABSOLUTE® kits ND11 contain shrink-wrapped crimp neck vials ND11 made of clear or amber first hydrolytic class glass and corresponding crimp caps made of clear lacquered aluminum with 5.5 mm centre hole.

Description	Capacity ml	Size mm	PK	Art. no.
Clear glass, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	100	7.622 985
Clear glass, **pre-crimped**, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	1000	7.614 026
Clear glass, **pre-crimped**, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	1000	7.643 985
Clear glass, label, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	100	7.623 005
Clear glass, label, **pre-crimped**, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	1000	7.643 966
Clear glass, natural rubber red-orange/butyl red/TEF transparent, 45° shore A, 1.0 mm	1.5	32 x 11.6	100	9.003 564
Clear glass, **pre-crimped**, natural rubber red-orange/butyl red/TEF transparent, 45° shore A, 1.0 mm	1.5	32 x 11.6	1000	7.643 979
Clear glass, label, natural rubber red-orange/butyl red/TEF transparent, 45° shore A, 1.0 mm	1.5	32 x 11.6	100	9.003 565
Amber glass, label, natural rubber red-orange/butyl red/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	100	9.003 566
Clear glass, magnetic cap, 5 mm centre hole, RedRubber/PTFE beige, 45° shore A, 1.3 mm	1.5	32 x 11.6	100	7.624 595
Clear glass, **pre-crimped**, butyl red/PTFE grey, 55° shore A, 1.3 mm	1.5	32 x 11.6	1000	7.647 415
Clear glass, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	32 x 11.6	100	6.238 979
Clear glass, silicone cream/PTFE red, 55° shore A, 1.5 mm	1.5	32 x 11.6	100	7.644 010
Clear glass, magnetic cap, 5 mm centre hole, silicone white/PTFE red, 45° shore A, 1.3 mm	1.5	32 x 11.6	100	7.624 594
Clear glass, PTFE red/silicone white/PTFE red, 45° shore A, 1.0 mm*	1.5	32 x 11.6	100	7.644 037

* Very low particle formation during penetration thanks to double-sided PTFE coating

LABSOLUTE® **crimping and decapping tools** are shown on page 82 ff.

SNAP RING VIALS AND MICRO-VIALS ND11, WIDE OPENING

Snap ring vials and micro-vials ND11 made of clear and amber first hydrolytic class glass can be used on almost all autosamplers and can also be used on equipment with robotic handling.

As an alternative to snap ring seals, snap ring vials and micro-vials, ND11 can also be sealed with crimp seals ND11 since the two snap ring lips together have the same height as a crimp neck.

Vials with snap ring seal are only recommended for HPLC.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	1.5	32 x 11.6	100	7.608 132
(2)	Clear glass, flat bottom "silanized"	1.5	32 x 11.6	1000	7.672 236
(3)	Amber glass, flat bottom	1.5	32 x 11.6	100	7.647 475
(4)	Clear glass, flat bottom, with label	1.5	32 x 11.6	100	7.622 228
(5)	Amber glass, flat bottom, with label	1.5	32 x 11.6	100	7.613 330
(6)	Amber glass, flat bottom, with label "silanized"	1.5	32 x 11.6	100	7.645 501
(7)	Clear glass, flat bottom, with integrated micro-insert "Base Bonded"	0.3	32 x 11.6	100	7.660 048
(8)	Amber glass, flat bottom, with integrated micro-insert "Base Bonded"	0.3	32 x 11.6	1000	7.644 559
(9)	Amber glass, flat bottom, with label, with integrated micro-insert "Base Bonded"	0.3	32 x 11.6	100	7.647 479
(10)	Microlitre vial, clear glass	0.9	32 x 11.6	100	7.655 281

Suitable LABSOLUTE® **micro inserts** are shown on page 21

SNAP RING VIALS AND MICRO-VIALS ND11, PMP OR PP

Snap ring vials and micro-vials ND11 with wide opening made of natural or amber PMP or PP are a shatterproof alternative to glass vials.

Type	Description	Capacity ml	Material	Size mm	PK	Art. no.
(1)	Clear, flat bottom, with integrated glass micro-insert, TopSert	0.2	PMP	32 x 11.6	100	7.631 402
(2)	Clear, flat bottom, with integrated glass micro-insert, TopSert “silanized”	0.2	PMP	32 x 11.6	100	7.616 109
(3)	Amber, flat bottom, with integrated glass micro-insert, TopSert	0.2	PMP	32 x 11.6	100	7.616 839
(4)	Amber, flat bottom, with integrated glass micro-insert, TopSert “silanzed”	0.2	PMP	32 x 11.6	100	7.616 932
(5)	Clear, flat bottom, with integrated TPX micro-insert	0.3	PMP	32 x 11.6	100	7.616 860
(6)	Clear, flat bottom, with integrated PP micro-insert	0.3	PP	32 x 11.6	100	6.901 405
(7)	Amber, flat bottom, with integrated PP micro-insert	0.3	PP	32 x 11.6	100	7.616 861
(8)	Clear, flat bottom	0.7	PP	32 x 11.6	100	6.901 955

Tip: As an alternative to snap ring seals, snap ring vials and micro-vials ND11 can also be sealed with crimp seals ND11 since the two snap ring lips together have the same height as a crimp neck.

SNAP RING SEALS ND11

Snap ring seals ND11 are made of PE and are supplied with fitted septa made of a variety of materials. They are available in a soft and hard version as well as in different colours. Snap ring seals are very easy to use, time-saving and inexpensive.

WITH NATURAL RUBBER/TEF SEPTA

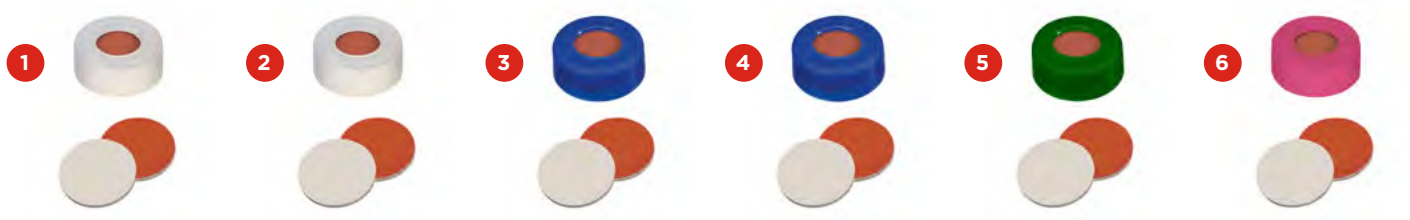
These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent, transparent hard cap	60° shore A	1.0	100	7.608 133
(2)	Natural rubber red-orange/TEF transparent, transparent soft cap	60° shore A	1.0	100	7.618 921
(3)	Natural rubber red-orange/TEF transparent, blue hard cap	60° shore A	1.0	100	7.616 862
(4)	Natural rubber red-orange/TEF transparent, blue soft cap	60° shore A	1.0	100	7.618 920
(5)	Natural rubber red-orange/TEF transparent, red hard cap	60° shore A	1.0	100	7.616 866
(6)	Natural rubber red-orange/TEF transparent, green hard cap	60° shore A	1.0	100	7.647 481
(7)	Natural rubber red-orange/TEF transparent, yellow hard cap	60° shore A	1.0	100	7.647 482
(8)	Natural rubber red-orange/TEF transparent, pink soft cap	60° shore A	1.0	100	7.647 486

WITH REDRUBBER/PTFE SEPTA

These septa with instrument manufacturer's quality are temperature-resistant from -40°C to 110°C. They are easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige, transparent hard cap	45° shore A	1.0	100	7.651 441
(2)	RedRubber/PTFE beige, transparent soft cap	45° shore A	1.0	1000	7.627 551
(3)	RedRubber/PTFE beige, blue hard cap	45° shore A	1.0	100	7.651 442
(4)	RedRubber/PTFE beige, blue soft cap	45° shore A	1.0	100	7.618 916
(5)	RedRubber/PTFE beige, green hard cap	45° shore A	1.0	100	7.651 444
(6)	RedRubber/PTFE beige, pink soft cap	45° shore A	1.0	100	7.647 489

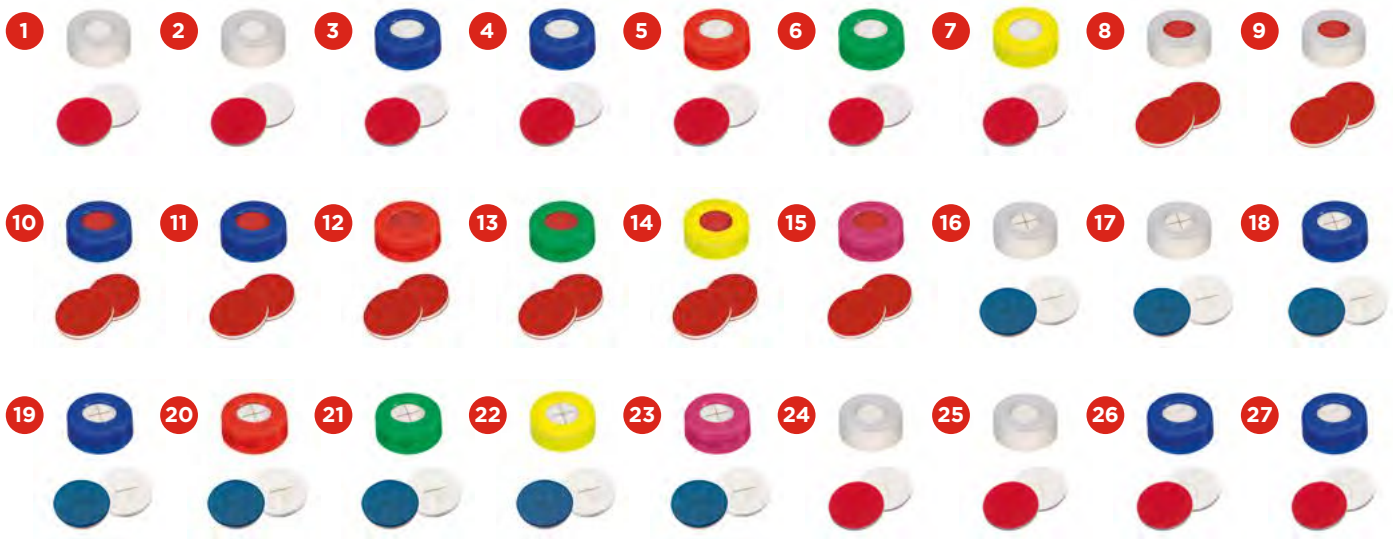


WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE red, Ultraclean, transparent hard cap	45° shore A	1.3	100	7.614 940
(2)	Silicone white/PTFE red, Ultraclean, transparent soft cap	45° shore A	1.3	100	7.618 922
(3)	Silicone white/PTFE red, Ultraclean, blue hard cap	45° shore A	1.3	100	7.616 863
(4)	Silicone white/PTFE red, Ultraclean, blue soft cap	45° shore A	1.3	100	7.618 917
(5)	Silicone white/PTFE red, Ultraclean, red hard cap	45° shore A	1.3	100	7.616 867
(6)	Silicone white/PTFE red, Ultraclean, green hard cap	45° shore A	1.3	1000	4.652 669
(7)	Silicone white/PTFE red, Ultraclean, yellow hard cap	45° shore A	1.3	100	7.647 485
(8)	PTFE red/silicone white/PTFE red, transparent hard cap*	45° shore A	1.0	100	7.630 864
(9)	PTFE red/silicone white/PTFE red, transparent soft cap*	45° shore A	1.0	100	7.618 923
(10)	PTFE red/silicone white/PTFE red, blue hard cap*	45° shore A	1.0	100	7.616 864
(11)	PTFE red/silicone white/PTFE red, blue soft cap*	45° shore A	1.0	100	7.618 918
(12)	PTFE red/silicone white/PTFE red, red hard cap*	45° shore A	1.0	100	7.616 868
(13)	PTFE red/silicone white/PTFE red, green hard cap*	45° shore A	1.0	100	7.644 290
(14)	PTFE red/silicone white/PTFE red, yellow hard cap*	45° shore A	1.0	100	7.647 483
(15)	PTFE red/silicone white/PTFE red, pink soft cap*	45° shore A	1.0	100	7.647 487
(16)	Silicone white/PTFE blue, cross-slitted, transparent hard cap	55° shore A	1.0	100	7.613 331
(17)	Silicone white/PTFE blue, cross-slitted, transparent soft cap	55° shore A	1.0	100	7.618 924
(18)	Silicone white/PTFE blue, cross-slitted, blue hard cap	55° shore A	1.0	100	7.615 797
(19)	Silicone white/PTFE blue, cross-slitted, blue soft cap	55° shore A	1.0	100	7.618 919
(20)	Silicone white/PTFE blue, cross-slitted, red hard cap	55° shore A	1.0	100	7.616 869
(21)	Silicone white/PTFE blue, cross-slitted, green hard cap	55° shore A	1.0	100	7.647 484
(22)	Silicone white/PTFE blue, cross-slitted, yellow hard cap	55° shore A	1.0	1000	7.657 165
(23)	Silicone white/PTFE blue, cross-slitted, pink soft cap	55° shore A	1.0	100	7.647 488
(24)	Silicone white/PTFE red, pre-cut (Y), transparent hard cap	45° shore A	1.3	100	7.644 297
(25)	Silicone white/PTFE red, pre-cut (Y), transparent soft cap	45° shore A	1.3	100	7.644 301
(26)	Silicone white/PTFE red, pre-cut (Y), blue hard cap	45° shore A	1.3	100	7.654 496
(27)	Silicone white/PTFE red, pre-cut (Y), blue soft cap	45° shore A	1.3	100	7.654 497

* Very low particle formation during penetration thanks to double-sided PTFE-coating



KITS ND11, SNAP RING

The LABSOLUTE® kits ND11 contain shrink-wrapped snap ring vials ND11 made of clear or amber first hydrolytic class glass and corresponding snap caps made of PE with 6 mm centre hole.

Description	Capacity ml	Size mm	PK	Art. no.
Clear glass, transparent hard cap, natural rubber red-orange/TEF transparent, 60° shore A, 1.0 mm	1.5	32 x 11.6	100	6.255 820
Clear glass, transparent hard cap, silicone white/PTFE red, 45° shore A, 1.3 mm, Ultraclean	1.5	32 x 11.6	100	7.644 366
Clear glass, transparent hard cap, silicone white/PTFE blue, 55° shore A, 1.0 mm, cross-slitted	1.5	32 x 11.6	100	7.644 379

More LABSOLUTE® **ND11** vials, caps, septa and kits are available on request

SCREW NECK VIALS ND13

Screw neck vials ND13 with 13-425 thread made of clear and amber first hydrolytic class glass facilitate easy filling with viscous substances thanks to their wide opening.

The LABSOLUTE® vials for optimised micro-sampling are the best solution for very small sample volumes.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	4.0	45 x 14.7	100	7.613 421
(2)	Amber glass, flat bottom	4.0	45 x 14.7	100	7.603 252
(3)	Clear glass, flat bottom, with label	4.0	45 x 14.7	100	7.616 808
(4)	Amber glass, flat bottom, with label	4.0	45 x 14.7	100	7.616 870
(5)	Clear glass, flat bottom, optimised micro-sampling	3.5	45 x 14.7	100	7.648 254
(6)	Amber glass, flat bottom, optimised micro-sampling	3.5	45 x 14.7	100	7.648 518

MICRO-INSERTS FOR SCREW NECK VIALS ND13

The micro-inserts made of first hydrolytic class glass are suitable for screw neck vials ND13.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, conical tip*	0.3	40 x 6	100	7.621 750
(2)	Metal spring		50 x 7.5	100	7.621 748

* Metal spring 7.621 748 required

SCREW SEALS ND13

Screw seals ND13 are made of PP and have a 13–425 thread. They have a 8.5 mm centre hole or are closed. Screw seals are supplied with fitted septa made of a variety of materials or without any septa.

WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	100	7.621 159
(2)	Natural rubber red-orange/TEF transparent, closed	60° shore A	1.3	100	7.613 422
(3)	Natural rubber red-orange/TEF transparent, white cap, closed	60° shore A	1.3	100	7.632 860

WITH REDRUBBER/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 110 °C and easier to penetrate and have lower particle formation than septa made of natural rubber.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	RedRubber/PTFE beige	45° shore A	1.0	100	7.646 877
(2)	RedRubber/PTFE beige, closed	45° shore A	1.0	100	7.646 876

WITH BUTYL/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	1.3	100	7.616 871
(2)	Butyl red/PTFE grey, closed	55° shore A	1.3	100	7.616 209

WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or RedRubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone dark-blue/PTFE white	45° shore A	1.3	100	7.647 513
(2)	Silicone cream/PTFE red	55° shore A	1.5	100	7.621 158
(3)	Silicone cream/PTFE red, closed	55° shore A	1.5	100	7.632 198
(4)	Silicone cream/PTFE red, white cap	55° shore A	1.5	100	7.617 058
(5)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	100	7.616 872
(6)	Silicone white/PTFE blue, cross-slitted	55° shore A	1.5	100	7.616 873

* Very low particle formation during penetration thanks to double-sided PTFE coating

WITHOUT SEPTA

Suitable septa with a diameter of 12 mm made of different materials are available on request.

Type	Description	PK	Art. no.
(1)	Screw cap, black	100	7.615 951
(2)	Screw cap, black, closed	100	6.204 817
(3)	Screw cap, white	100	7.647 512
(4)	Screw cap, white, closed	100	7.615 656

KITS ND13

The LABSOLUTE® kits ND13 contain shrink-wrapped screw vials ND13 made of clear or amber first hydrolytic class glass and corresponding screw caps made of PP.

Description	Capacity ml	Size mm	PK	Art. no.
Clear glass, black caps, 8.5 mm centre hole, natural rubber red-orange/TEF transparent, 60° shore A, 1.3 mm	4.0	45 x 14.7	1	7.621 760
Amber glass, black caps, 8.5 mm centre hole, natural rubber red-orange/TEF transparent, 60° shore A, 1.3 mm	4.0	45 x 14.7	1	7.621 761
Amber glass, black caps, 8.5 mm centre hole, PTFE red/silicone white/PTFE red, 1.0 mm, 45° shore A*	4.0	45 x 14.7	100	7.648 604
Clear glass, black caps, closed, silicone cream/PTFE red, 55° shore A, 1.5 mm	4.0	45 x 14.7	1000	7.633 765

* Very low particle formation during penetration thanks to double-sided PTFE coating

CRIMP NECK VIALS ND13, WIDE OPENING

Crimp neck vials ND13 made of clear first hydrolytic class glass are special products which require a minimum order quantity.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	2.0	32 x 16	1000	7.617 832
(2)	Clear glass, flat bottom	4.0	45 x 14.7	100	7.648 602

CRIMP SEALS ND13

Crimp seals ND13 are made of aluminium. They are clear lacquered and have a 6 mm centre hole, a centre tear-off or complete tear-off. They are supplied with fitted septa made of a variety of materials.

The septa made of silicone white/PTFE red are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

The septa made of butyl red/PTFE grey are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties with regard to cleanliness.

Septa made from Viton have a very high resistance against a wide range of solvents. These septa are highly recommended for use with chlorinated solvents. Viton septa are not suitable for multiple injections or high injections speeds.

On Pharma-Fix seals, it is only the butyl areas that can come into contact with the sample, are PTFE coated. The areas that abut the edges of the glass are not coated. This ensures a particularly good seal.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	100	7.647 502
(2)	Butyl red/PTFE grey	55° shore A	2.0	100	7.632 356
(3)	Butyl red/PTFE grey, centre tear-off	55° shore A	2.0	100	7.647 505
(4)	Butyl red/PTFE grey, complete tear-off	55° shore A	2.0	100	7.647 503
(5)	Butyl/PTFE, Pharma-Fix	50° shore A	2.0	1000	7.670 913
(6)	Butyl/PTFE, Pharma-Fix, centre tear-off	50° shore A	2.0	100	7.615 288
(7)	Butyl/PTFE, Pharma-Fix, complete tear-off	50° shore A	2.0	100	7.647 500
(8)	Silicone white/PTFE red	45° shore A	1.3	100	7.657 319
(9)	Viton 1A black	70° shore A	1.5	100	7.647 501

SHELL VIALS WITH STOPPER

The shell vials made of clear or amber first hydrolytic class glass come in a set with transparent PE plugs.
The star-shaped diaphragm in the plug facilitates easy penetration.

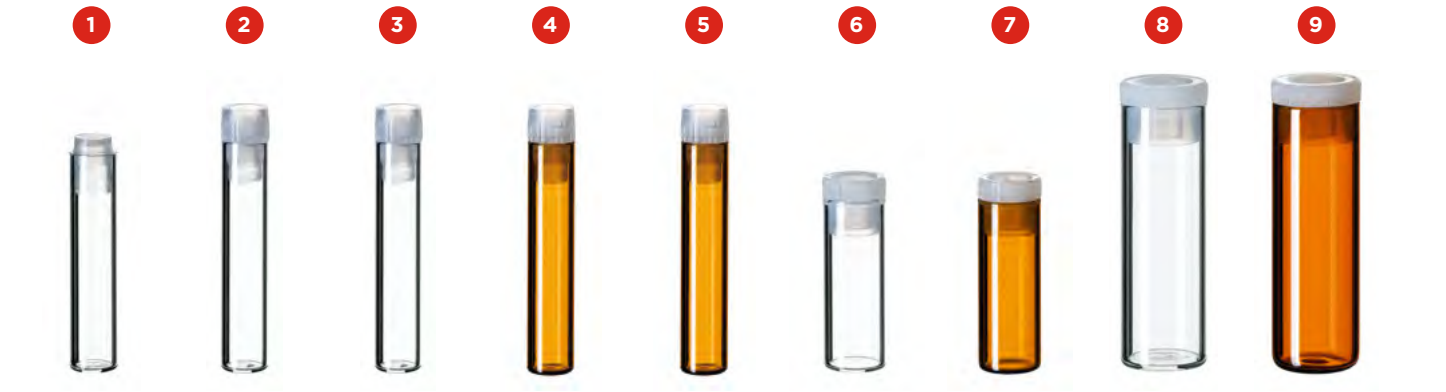
Shell vials made of plastic are a shatter-proof alternative to glass vials. They also come with a PE plug.

This easy-to-use, inexpensive vial/plug combination is suitable for non-critical analyses, especially in the field of HPLC.

GLASS

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass	1	35 x 7.8	100	7.612 017
(2)	Clear glass, plugs without insertion barrier	1	40 x 8.2	1000	7.617 518
(3)	Clear glass, plugs with insertion barrier*	1	40 x 8.2	100	7.620 436
(4)	Amber glass, plugs without insertion barrier	1	40 x 8.2	100	7.618 925
(5)	Amber glass, plugs with insertion barrier*	1	40 x 8.2	100	7.616 878
(6)	Clear glass	2	31.5 x 11.6	100	7.621 467
(7)	Amber glass	2	31.5 x 11.6	100	7.616 879
(8)	Clear glass	4	44.6 x 14.65	100	7.632 226
(9)	Amber glass	4	44.6 x 14.65	100	7.616 880

* Please select this vial/seal set if micro-inserts are used. Please note, however, that penetration of the seal is slightly more difficult due to the insertion barrier.



Suitable LABSOLUTE® **micro inserts** are shown on page 21

PLASTIC, PP

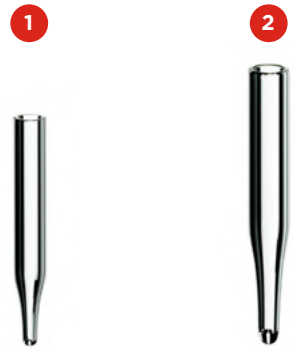
Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Transparent, with inner cone	0.7	40 x 8	100	7.646 559
(2)	Transparent	1	40 x 8	100	7.654 498
(3)	Transparent, with inner cone	3	44.6 x 14.65	100	7.654 505
(4)	Transparent	4	44.6 x 14.65	100	7.654 504

MICRO-INSERTS FOR SHELL VIALS

These micro-inserts made of first hydrolytic class glass are suitable for shell vials only.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, 13 mm conical tip*	0.1	34 x 5	1000	7.616 881
(2)	Clear glass, 13 mm conical tip	0.3	43.45 x 6	1000	7.616 882

* Only in combination with 7.620 436 and 7.616 878



SCREW NECK VIALS ND15/ND18

Screw neck vials ND15 and ND18 made of clear and amber first hydrolytic class glass in combination with the corresponding screw caps are highly suitable as sample storage vials.

Screw neck vials ND15 have a 15–425 thread. ND18 vials have a 18–400 thread.

Type	Description	Capacity ml	For	Size mm	PK	Art. no.
(1)	Clear glass	8	ND15	61 x 16.6	100	7.616 898
(2)	Amber glass	8	ND15	61 x 16.6	100	7.618 935
(3)	Clear glass	12	ND15	66 x 18.5	100	7.616 655
(4)	Amber glass	12	ND15	66 x 18.5	100	7.618 936
(5)	Clear glass, flat bottom	16	ND18	71 x 20.6	100	7.616 899
(6)	Clear glass, rounded bottom*	20	ND18	75.5 x 23.5	100	7.616 139

* Suitable for headspace analysis (Perkin Elmer)

SCREW SEALS ND15/ND18

Screw seals ND15 are made of PP and are supplied without or with fitted septa made of a variety of materials. They have a 15–425 thread, a 9 mm centre hole or are closed.

Screw seals ND18 are made of PP and are supplied with or without fitted septa made of a variety of materials. They have a 18–400 thread, a 12 mm centre hole or are closed.

These ND18 screw caps are not compatible with ND18 precision thread vials!

WITH NATURAL RUBBER/TEF SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and ideal for multiple injections thanks to their excellent resealability properties.

Type	Description	Hardness	Thickness mm	For	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	ND15*	100	7.658 824
(2)	Natural rubber red-orange/TEF transparent, closed	60° shore A	1.3	ND15*	100	7.660 050

* Seals suitable for items 7.616 898, 7.618 935, 7.616 655 and 7.618 936

WITH BUTYL/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.

Type	Description	Hardness	Thickness mm	For	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	1.6	ND15*	100	7.659 991
(2)	Butyl red/PTFE grey, closed	55° shore A	1.6	ND15*	100	7.616 653
(3)	Butyl red/PTFE grey, closed	55° shore A	1.3	ND18**	100	7.647 516
(4)	Butyl red/PTFE grey	55° shore A	1.6	ND18**	100	7.616 885
(5)	Butyl red/PTFE grey, closed	55° shore A	1.6	ND18**	100	7.616 140
(6)	Butyl red/PTFE grey, closed	55° shore A	2.0	ND18**	1000	7.672 039

* Seals suitable for items 7.616 898, 7.618 935, 7.616 655 and 7.618 936
** Seals suitable for items 7.616 899 and 7.616 139

WITH SILICONE/PTFE SEPTA

These septa are temperature-resistant from -60°C to 200°C and have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	For	PK	Art. no.
(1)	Silicone white/PTFE red	45° shore A	1.3	ND15*	100	7.671 516
(2)	Silicone white/PTFE red, closed	45° shore A	1.3	ND15*	100	7.616 654
(3)	Silicone white/PTFE red	55° shore A	1.5	ND18**	1000	7.639 588
(4)	Silicone white/PTFE red, closed	55° shore A	1.5	ND18**	1000	7.672 038
(5)	Silicone blue transparent/PTFE white	45° shore A	1.7	ND18**	100	7.616 886
(6)	Silicone blue transparent/PTFE white, closed	45° shore A	1.7	ND18**	100	7.616 887

* Seals suitable for items 7.616 898, 7.618 935, 7.616 655 and 7.618 936
** Seals suitable for items 7.616 899 and 7.616 139

WITH SILICONE/ALUMINIUM SEPTA

These septa are temperature-resistant from -60 °C to 220 °C and have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.
The silicone is fully coated with a silver aluminium foil.

Type	Description	Hardness	Thickness mm	For	PK	Art. no.
(1)	Silicone white/aluminium foil silver, closed	50° shore A	1.3	ND15*	1000	7.670 379

* Seals suitable for items 7.616 898, 7.618 935, 7.616 655 and 7.618 936

WITHOUT SEPTA

Suitable septa with a diameter of 16 mm (only for ND18 screw caps) made of different materials are available on request.

Type	Description	For	PK	Art. no.
(1)	Screw cap	ND15*	1000	7.644 004
(2)	Screw cap, closed	ND15*	1000	7.647 537
(3)	Screw cap	ND18**	1000	7.629 085
(4)	Screw cap, closed	ND18**	1000	7.671 846

* Seals suitable for items 7.616 898, 7.618 935, 7.616 655 and 7.618 936
** Seals suitable for items 7.616 899 and 7.616 139

Suitable LABSOLUTE® **septa** are shown on page 92 ff.

PRECISION THREAD HEADSPACE VIALS ND18

Precision thread headspace vials ND18 made of clear and amber first hydrolytic class glass are a practical alternative to the corresponding crimp neck vials ND20. Thanks to its many thread turns, the precision thread ensures that the septum is pressed firmly against the glass neck, keeping the vial gas-tight.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, flat bottom	10	46 x 22.5	100	7.620 815
(2)	Amber glass, flat bottom	10	46 x 22.5	100	7.616 895
(3)	Clear glass, flat bottom	20	75.5 x 22.5	100	7.630 303
(4)	Amber glass, flat bottom	20	75.5 x 22.5	100	7.621 127

Tip: The vials are suitable both for solid phase microextraction (SPME) and for headspace applications. They are especially used with autosamplers made by CTC Pal, Varian, Gerstel, Atas, Shimadzu and Agilent.

PRECISION THREAD SCREW SEALS ND18, MAGNETIC

Precision thread screw seals ND18 are made of metal and supplied with fitted septa made of a variety of materials. The hole size is selected so that the cap is suitable both for SPME and headspace applications. However, enough surface is left for the magnet to be able to transport a completely filled vial. The screw-on mechanism ensures that the cap always has a flat surface so that the bottle cannot fall from the magnet. Separation of the vial and cap for disposal after analysis is much easier than with crimp caps.

Closed caps in combination with precision thread screw vials ND18 are ideal for sample storage.

Precision thread screw seals are not suitable for item 7.616 139 !

WITH BUTYL/PTFE SEPTA

Septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	1.6	100	7.615 717
(2)	Butyl red/PTFE grey, closed	55° shore A	1.6	100	7.622 171

WITH SILICONE/PTFE SEPTA

Septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE red, Ultraclean	45° shore A	1.3	100	7.621 126
(2)	Silicone white/PTFE red, Ultraclean, closed	45° shore A	1.3	100	7.616 897
(3)	Silicone transparent blue/PTFE white, Ultraclean*	45° shore A	1.3	100	7.630 304
(4)	Silicone white/PTFE blue, Ultraclean*	55° shore A	1.5	100	7.621 125
(5)	Silicone white/PTFE red, pre-cut (star)**	55° shore A	1.5	1000	7.629 761

* Tested and approved by CTC

** Especially suitable for SPME application due to the pre-cut septum

WITH SILICONE/ALUMINIUM SEPTA

These septa are temperature-resistant from -60 °C to 220 °C and have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications. The silicone is fully coated with a silver aluminium foil. These kind of septa are often used for applications on Pekrin Elmer instruments.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/aluminium foil silver	50° shore A	1.3	100	7.644 779

SNAP CAP VIALS ND18/ND22

Snap cap vials ND18/ND22 are made of clear third hydrolytic class glass. They are easy to handle and can be opened and sealed very quickly. Transparent PE caps have to be ordered separately.

Type	Description	Size mm	Capacity ml	PK	Art. no.
(1)	Snap cap vial ND18	40 x 20	5	100	7.621 182
(2)	Snap cap vial ND18	50 x 22	10	100	7.620 831
(3)	Snap cap vial ND22	48 x 26	15	100	7.634 393
(4)	Snap cap vial ND22	65 x 26	25	100	7.630 475

CAPS FOR SNAP CAP VIALS ND18/ND22

The transparent PE caps fit perfectly to the snap cap vials ND18/ND22.

Type	Description	Size mm	PK	Art. no.
(1)	Snap cap ND18	19.8 x 5.2	100	7.620 830
(2)	Snap cap ND22	23.5 x 5.5	100	7.630 476

CRIMP NECK AND HEADSPACE VIALS ND20

Crimp neck and headspace vials ND20 with rounded or flat bottom made of clear and amber first hydrolytic class glass need to be able to withstand very high internal pressures and, as a result, their walls are generally 1.2 mm thick. The vials are available with a flat DIN crimp neck or with a bevelled neck (HS neck).

On the flat DIN crimp neck, liners have a greater contact surface, which ensures a better seal. A bevelled HS neck is required if the overpressure safety seal system patented by Perkin Elmer is used, since excess pressure can only be reliably dissipated in vials with an HS neck.

Type	Description	Compatible with	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, crimp neck, flat bottom	Varian	5	38 x 20	100	7.620 148
(2)	Amber glass, crimp neck, flat bottom**	Varian	5	38 x 20	100	7.648 634
(3)	Clear glass, HS neck, rounded bottom	Perkin Elmer	5	38.2 x 22	100	7.615 908
(4)	Clear glass, DIN crimp neck, rounded bottom	Carlo Erba, CTC, Fisons, Varian (CP)	10	46 x 22.5	100	7.615 808
(5)	Amber glass, DIN crimp neck, rounded bottom	Carlo Erba, CTC, Fisons, Varian (CP)	10	46 x 22.5	100	7.616 883
(6)	Clear glass, DIN crimp neck, flat bottom, long neck	Carlo Erba, Dani, Fisons, Agilent	10	46 x 22.5	100	7.621 813
(7)	Clear glass, crimp neck, flat bottom	Varian	10	54.5 x 20	100	7.620 147
(8)	Amber glass, crimp neck, flat bottom**	Varian	10	54.5 x 20	100	7.648 635
(9)	Clear glass, DIN crimp neck, flat bottom, long neck	Carlo Erba, Dani, Fisons, Agilent	20	75.5 x 22.5	100	6.204 710
(10)	Clear glass, DIN crimp neck, rounded bottom, long neck	CTC PAL, Varian, Gerstel, Atas, Shimadzu und TriPlusHS	20	75.5 x 22.5	100	7.612 926
(11)	Amber glass, DIN crimp neck, rounded bottom, long neck	CTC PAL, Varian, Gerstel, Atas, Shimadzu und TriPlusHS	20	75.5 x 22.5	100	7.616 552
(12)	Clear glass, special crimp neck, rounded bottom*	CTC PAL	20	75.5 x 22.5	100	7.632 402
(13)	Clear glass, HS neck, rounded bottom	Perkin Elmer, Tekmar	20	75.5 x 23	100	7.620 798
(14)	Amber glass, HS neck, rounded bottom	Perkin Elmer, Tekmar	20	75.5 x 23	100	7.613 394
(15)	Clear glass, HS neck, rounded bottom, with label	Perkin Elmer, Tekmar	20	75.5 x 23	100	7.613 328
(16)	Clear glass, HS neck, flat bottom, long neck	Agilent	20	75.5 x 22.5	100	7.648 101

* Especially for SPME applications

** Special item with higher minimum order quantity

CRIMP AND HEADSPACE SEALS ND20

Crimp and headspace seals ND20 are made of aluminium and are supplied with fitted septa made of a variety of materials. There are the following different types of caps available:

Plain caps with a 10 mm center hole. These caps are suitable for standard applications. They are available in several colours on request.

Clear lacquered caps, so called **headspace caps**, with a special score line that breaks when the internal pressure reaches 3.0 ±0.5 bar. The excess pressure is then released, and the risk of the vial exploding can be avoided.

Clear lacquered **centre tear-off caps** and **complete tear-off caps**. These caps are available in several colours on request.

Gold lacquered, **magnetic crimp caps with 5 mm centre hole** to be used with CE HS500/HS800, CTC 500, as well as Fisons HS500/HS800 instruments.

Gold lacquered, **magnetic crimp caps with 8 mm centre hole** to be used with CTC Combi PAL instruments.

Red lacquered, **magnetic bimetal crimp caps with 8 mm centre hole** to be used with CTC Combi PAL instruments.

WITH CHLORO-BUTYL SEPTA

These dark grey septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties. They are 3.0 mm thick and have a hardness of 55° shore A. Because of the missing PTFE coating, the pure butyl septa are an economic alternative for non-critical analysis.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	7.630 898
(2)	Headspace	100	7.608 140
(3)	Centre tear-off	100	7.633 655
(4)	Complete tear-off	100	7.631 029
(5)	Magnetic, 5 mm	100	7.630 472
(6)	Magnetic, 8 mm	1000	6.240 960

Rounded or flat bottom?

A rounded bottom is more stable and therefore more resistant to high internal pressures during tempering. Vials with a rounded bottom also slide more easily into the heating block.

A flat bottom, on the other hand, may be necessary if the vials need to run slightly downwards in the instrument.

WITH BROMO-BUTYL/PTFE SEPTA

These grey septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.
They are 3.0 mm thick and have a hardness of 50° shore A.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	7.615 320
(2)	Headspace	100	7.613 446
(3)	Centre tear-off	100	7.612 177
(4)	Complete tear-off	100	7.612 176
(5)	Magnetic, 5 mm	100	7.631 586
(6)	Magnetic, 8 mm	100	7.612 927
(7)	Magnetic, bimetal, 8 mm	100	7.637 329

WITH BROMO-BUTYL/PTFE SEPTA, PHARMA-FIX

These grey septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.
They are 3.0 mm thick and have a hardness of 50° shore A.

Also on Pharma-Fix seals, it is only the butyl areas that can come into contact with the sample, and these are PTFE coated.
The areas that abut the edges of the glass are not coated. This ensures a particularly good seal.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	7.614 955
(2)	Headspace	100	7.621 340
(3)	Centre tear-off	100	7.636 094
(4)	Complete tear-off	100	7.622 285
(5)	Magnetic, 5 mm	100	7.621 341
(6)	Magnetic, 8 mm	100	7.613 329

WITH BUTYL/PTFE SEPTA

These septa made of red butyl and grey PTFE are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties. They are 3.0 mm thick and have a hardness of 50° shore A.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	7.648 632
(2)	Headspace	100	7.646 405

WITH SILICONE/PTFE SEPTA, ULTRACLEAN

These septa, made of silicone blue transparent/PTFE white, are temperature-resistant from -60 °C to 200 °C. They are 3.0 mm thick and have a hardness of 45° shore A. They have better purity than septa made of natural rubber or red rubber. However they have less effective resealability properties and are therefore more suitable for single-injection applications.

Due to their high cleanliness, they are especially used for critical and sensitive analysis.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	6.204 709
(2)	Headspace	100	7.615 893
(3)	Centre tear-off	100	7.647 520
(4)	Complete tear-off	1000	6.239 164
(5)	Magnetic, 5 mm*	100	7.615 224
(6)	Magnetic, 8 mm*	100	7.615 866
(7)	Magnetic, bimetal, 8 mm*	100	7.616 884

* Septa silicone blue-transparent/PTFE transparent, 45° shore A, 3.0 mm

WITH SILICONE/PTFE SEPTA, HT QUALITY

These septa, made of silicone white/PTFE beige, are temperature-resistant from -60 °C to 200 °C. They are 3.2 mm thick and have a hardness of 45° shore A. They have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

Due to their high cleanliness, they are especially used for critical and sensitive analysis.

These seals correspond to competitor HT liner!

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	7.621 046
(2)	Headspace	100	7.621 047
(3)	Magnetic, 8 mm	1000	7.659 620
(4)	Magnetic, bimetal, 8 mm	100	7.648 631

WITH SILICONE/ALUMINIUM SEPTA

These septa are temperature-resistant from -60 °C to 220 °C. They are 3.0 mm thick and have a hardness of 50° shore A. They have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications. The silicone is fully coated with a silver aluminium foil and is often used on Perkin Elmer instruments.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	100	6.086 772
(2)	Headspace	100	7.615 848
(3)	Magnetic, 5 mm	1000	6.229 530

WITH VITON SEPTA

Septa made from Viton with a hardness of 70° shore A and a thickness of 1.0 mm have a very high resistance against a wide range of solvents. These septa are highly recommended for use with chlorinated solvents. Viton septa are not suitable for multiple injections or high injection speeds.

Type	Caps	PK	Art. no.
(1)	Magnetic, 8 mm	100	7.647 525

WITHOUT SEPTA

Suitable septa with a diameter of 20 mm made of different materials are available on request.

Type	Caps	PK	Art. no.
(1)	Standard, 10 mm	1000	7.615 550
(2)	Headspace	1000	7.670 648
(3)	Centre tear-off	1000	7.626 356
(4)	Complete tear-off	1000	7.638 103

LABSOLUTE® **Crimping and decapping tools** are shown on page 82 ff.

PE CAPS FOR HEADSPACE/CRIMP NECK VIALS ND20

These caps made of transparent PE are generally used to seal washing bottles of autosamplers, but also for intermediate closure when collecting samples out in the field. They are available in three different dimensions with several septa.

22 X 8.4 MM, 4.3 MM CENTRE HOLE

Suitable for the following vials:
7.620 798, 7.615 908, 7.613 328 and 7.613 394.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	100	7.661 597
(2)	Butyl red/PTFE grey	55° shore A	1.3	100	7.634 142
(3)	Silicone blue-transparent/PTFE white	45° shore A	1.3	100	7.647 542
(4)	Without septum*			100	7.670 153

* Suitable septa with a diameter of 19.5 mm made of different materials are available on request

22 X 9.1 MM, 4.3 MM CENTRE HOLE

Suitable for the following vials:
7.612 175, 7.620 146, 7.621 813, 6.204 710, 7.620 148, 7.620 147, 7.612 926, 7.615 808, 7.616 552 and 7.616 883.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	100	7.616 888
(2)	Butyl red/PTFE grey	55° shore A	1.3	100	7.616 889
(3)	Silicone blue transparent/PTFE white	45° shore A	1.3	100	7.616 890
(4)	Silicone blue transparent/PTFE white, Y-slitted	45° shore A	1.3	100	7.657 337
(5)	Without septum*			100	7.647 541

* Suitable septa with a diameter of 19.5 mm made of different materials are available on request

22 X 9.1 MM, 8.0 MM CENTRE HOLE

Suitable for the following vials:
7.612 175, 7.620 146, 7.621 813, 6.204 710, 7.620 148, 7.620 147, 7.612 926, 7.615 808, 7.616 552 and 7.616 883.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone blue transparent/PTFE white, Y-slitted	45° shore A	1.3	100	7.671 337

CRIMP NECK AND HEADSPACE VIALS ND20/ND40, SPECIAL DIMENSIONS

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, crimp neck ND20	50	101 x 31	100	7.612 175
(2)	Clear glass, crimp neck ND20	100	94.5 x 51.6	88	7.620 146
(3)	Clear glass, screw neck ND40*	50	69.5 x 44	1000	7.622 167
(4)	Clear glass, screw neck 20-400	20	86 x 22.7	100	7.622 430

* The screw cap 7.622 166 has to be ordered separately

SCREW SEALS ND20

Screw seals ND20 are made of white PP and supplied with fitted septa made of a variety of materials. They have a 20–400 thread and are closed.

Suitable for screw neck vial 7.622 430.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	1000	6.251 097
(2)	Butyl red/PTFE grey	55° shore A	1.3	100	7.639 759
(3)	Silicone white/PTFE red	45° shore A	1.3	100	7.657 799

SCREW NECK VIALS ND24 (EPA)

Screw neck vials ND24 made of clear and amber first hydrolytic class glass are suitable for EPA (Environmental Protection Association) analysis and can, upon request, be supplied with a sterility certificate that is specifically required for TOC analyses.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass	20	57 x 27.5	100	7.609 926
(2)	Amber glass	20	57 x 27.5	100	7.631 988
(3)	Clear glass	30	72.5 x 27.5	100	7.615 411
(4)	Amber glass	30	72.5 x 27.5	100	7.632 370
(5)	Clear glass	40	95 x 27.5	100	7.612 150
(6)	Amber glass	40	95 x 27.5	100	7.632 371
(7)	Clear glass	60	140 x 27.5	100	7.616 901
(8)	Amber glass	60	140 x 27.5	100	7.616 902

Tip: These vials are especially used with autosamplers made by Agilent, Dionex, Shimadzu, Tekmar, Thermo Scientific and Varian.

SCREW SEALS ND24 (EPA)

Screw seals ND24 (EPA) are made of PP and are supplied with or without fitted septa made of a variety of materials. They have a 24–400 thread, a 15 mm centre hole or are closed.

WITH BUTYL/PTFE SEPTA

These septa are temperature-resistant from -40 °C to 120 °C and have excellent chemical properties.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	2.5	100	7.631 987
(2)	Butyl red/PTFE grey, closed	55° shore A	2.5	100	7.615 156

WITH SILICONE/PTFE SEPTA, EPA QUALITY

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However they have less effective resealability properties and are therefore more suitable for single-injection applications.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE beige	45° shore A	3.2	100	7.632 010
(2)	Silicone white/PTFE beige, closed	45° shore A	3.2	100	7.632 011

WITH SILICONE/PTFE SEPTA, ULTRABOND, EPA QUALITY

These septa are temperature-resistant from -60 °C to 200 °C and have better purity than septa made of natural rubber, butyl or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications.

With Ultrabond seals, the caps and septa form an inseparable unit, which means that even a blunt needle is unable to push the septa into the vial.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone natural/PTFE beige	45° shore A	3.2	100	7.612 151
(2)	Silicone natural/PTFE beige, closed	45° shore A	3.2	100	7.616 000

WITH SILICONE/ALUMINIUM SEPTA

These septa are temperature-resistant from -60 °C to 220 °C and have better purity than septa made of natural rubber or red rubber. However, they have less effective resealability properties and are therefore more suitable for single-injection applications. The silicone is fully coated with a silver aluminium foil.

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/aluminium foil silver, closed	50° shore A	3.0	1000	7.625 559

WITHOUT SEPTA

Suitable septa with a diameter of 22 mm made of different materials are available on request.

Type	Description	PK	Art. no.
(1)	Screw cap	1000	7.609 928
(2)	Screw cap, closed	100	7.615 412

1

2

Suitable LABSOLUTE® **septa** are shown on page 92 ff.

KITS ND24

The LABSOLUTE® kits ND24 contain shrink-wrapped screw vials ND24 made of clear or amber first hydrolytic class glass and corresponding screw caps made of PP.

Description	Capacity ml	Size mm	PK	Art. no.
Clear glass, white caps, 15 mm centre hole, **pre-screwed**, silicone white/PTFE beige, 45° shore A, 3.2 mm	40.0	95 x 27.5	100	7.657 480
Clear glass, white caps, 15 mm centre hole, **pre-screwed**, silicone white/PTFE beige, 45° shore A, 3.2 mm, Ultrabond	40.0	95 x 27.5	1000	7.660 179

VASE VIALS

The LABSOLUTE® vials for optimised micro-sampling are the best solution for very small sample volumes. The universally usable, so called vase vials with a residual volume of max. 15 µl can be tighly closed with the suitable LABSOLUTE® caps. All the vials are made of clear or amber first hydrolytic class glass. Because of their wide base, the vials stand independent and safe in almost every autosampler.

Type	Description	Capacity ml	Size mm	PK	Art. no.
(1)	Clear glass, crimp neck ND11	1.2	32 x 11.6	100	7.648 512
(2)	Amber glass, crimp neck ND11	1.2	32 x 11.6	100	7.648 513
(3)	Clear glass, snap ring ND11	1.2	32 x 11.6	100	7.648 514
(4)	Amber glass, snap ring ND11	1.2	32 x 11.6	100	7.648 515
(5)	Clear glass, short thread neck ND9	1.2	32 x 11.6	100	7.648 516
(6)	Amber glass, short thread neck ND9	1.2	32 x 11.6	100	7.648 517

Further vials with ND8 or ND10 screw neck are available on request.

VIALS WITH DIRECTLY CLOSABLE MICRO-INSERT

The special LABSOLUTE® vials made of clear or amber first hydrolytic class glass have a base bonded micro-insert with the vial head on it. The micro-insert can be directly closed by a suitable LABSOLUTE® cap. These vials are therefore ideal for volatile samples and micro reactions, because substances cannot escape into the space between insert and outer shell. In addition, the universally applicable vials with a nominal volume of 250 µl also have a significantly smaller residual volume than the combinations of vials and micro-inserts.

Type	Description	Capacity µl	Size mm	PK	Art. no.
(1)	Clear glass, crimp neck ND11	250	32 x 11.6	100	7.648 521
(2)	Amber glass, crimp neck ND11	250	32 x 11.6	100	7.648 522
(3)	Clear glass, snap ring ND11	250	32 x 11.6	100	7.648 523
(4)	Amber glass, snap ring ND11	250	32 x 11.6	100	7.648 524
(5)	Clear glass, short thread neck ND9	250	32 x 11.6	100	7.648 525
(6)	Amber glass, short thread neck ND9	250	32 x 11.6	100	7.648 526

KIT FOR TITRATION ACCORDING TO KARL-FISCHER

The LABSOLUTE® kit ND20 consists of crimp neck vials made of clear glass of the first hydrolytic class and corresponding aluminum crimp closures with an ultraclean septum made of silicone/PTFE. The special dimensions of the vials and the modification of the closures are perfectly adapted for the use with the Metrohm 774 & 874 Oven Sample Processor for the determination of the water content according to Karl-Fischer.

Description	Capacity ml	Size mm	PK	Art. no.
Crimp neck vial ND20, clear glass, flat bottom, crimp cap ND20, aluminium, septa silicone blue transparent/PTFE white, 3.0 mm, 45° shore A, Ultraclean	6.0	38.2 x 21.7	100	7.648 231

COMPATIBLE WITH METROHM 774 & 874 OVEN SAMPLE PROCESSOR

BLOCK SYSTEMS

STANDARD BLOCK SYSTEMS

All well plates made of PP and sealmats are fully chromatography tested. There are several advantages compared to usual vials and caps. Furthermore, the SBS/ANSI footprint assures compatibility with all well plate capable prep stations and chromatography autosamplers.

Well plates and sealmats are suitable for polar and non-polar solvents, in case of very critical analysis and very low sample concentrations.

- Space saving on the lab bench and when stored
- Faster sample preparation when multichannel pipettes are used
- Time saving because many different samples are prepared on one single plate

STANDARD WELL PLATES, 96 POSITIONS

The plates made of PP are non-coated, non-sterile and chromatography tested.

Type	Description	Height mm	Usable volume µl	PK	Art. no.
(1)	Micro well plate, round opening, 96 positions, 8 mm diameter, V shape	14.4	10–450	20	7.644 703
(2)	Micro well plate, round opening, 96 positions, 8 mm diameter, U shape	31.6	50–1000	5	7.644 705
(3)	Micro well plate, round opening, 96 positions, 8 mm diameter, U shape	44	50–2000	5	7.644 706
(4)	Micro well plate, square opening, 96 positions	44	50–1900	5	7.644 707

Glass coated well plates are available on request

STANDARD WELL PLATES, 96 POSITIONS, CERTIFIED

The plates made of PP are non-coated, non-sterile and certified.

Type	Description	Height mm	Usable volume µl	PK	Art. no.
(1)	Deep well plate, round opening, 96 positions, 7 mm diameter, U shape	41.6	1,000	5	7.648 649
(2)	Square well plate, 96 positions, V shape	44.4	2,000	5	7.648 650
(3)	Micro well plate, round opening, 96 positions, 7 mm diameter, flat bottom	14.7	350	10	7.648 651
(4)	Micro well plate, round opening, 96 positions, 7 mm diameter, U shape	14.7	270	10	7.648 652
(5)	Micro well plate, round opening, 96 positions, 7 mm diameter, V shape	14.7	220	10	7.648 653

Glass coated well plates are available on request

STANDARD WELL PLATES, 384 POSITIONS

The plates made of PP, with square wells, are non-coated, non-sterile and chromatography tested.

Type	Description	Height mm	Usable volume µl	PK	Art. no.
(1)	Deepwell micro plate, square opening, 384 positions, U shape	22	5–240	5	7.644 708
(2)	Micro well plate, square opening, 384 positions, V shape	14.4	4–120	10	7.644 710

Certified and glass coated well plates are available on request

BLOCK COVERS, 96 POSITIONS

The block covers (Sealmats) are non-sterile and suitable for standard well plates with 96 positions.

Type	Description	Colour	PK	Art. no.
(1)	EVA, round, for 8 mm diameter	Clear	5	7.644 713
(2)	Silicone/PTFE, round, for 8 mm diameter	Blue	5	7.644 715
(3)	Silicone/PTFE, slitted, round, for 8 mm diameter	Blue	5	7.644 716
(4)	Silicone, square	Clear	5	7.644 718
(5)	Silicone, square, slitted	Clear	5	7.644 720

Suitable for items 7.644 703, 7.644 705, 7.644 706 and 7.644 707

BLOCK COVERS, 96 POSITIONS, CERTIFIED

The block covers (Sealmats) are non-sterile and suitable for certified well plates with 96 positions.

Type	Description	Colour	PK	Art. no.
(1)	Silicone/PTFE, round well, Ø = 7 mm	Blue	5	7.648 657
(2)	Silicone/PTFE, round well, Ø = 7 mm, slitted	Blue	5	7.648 660
(3)	Silicone/PTFE, square well	Blue	5	7.648 661
(4)	Silicone, round well, flat base	Clear	5	7.648 662
(5)	Silicone, round well, flat base, slitted	Clear	5	7.648 663

Suitable for items 7.648 649, 7.648 650, 7.648 651, 7.648 652 and 7.648 653

BLOCK COVERS, 384 POSITIONS

The block covers (Sealmats) are non-sterile and suitable for standard well plates with 384 positions and square wells.

Type	Description	Colour	PK	Art. no.
(1)	Silicone, square	Clear	5	7.644 722
(2)	Silicone, slitted, square	Clear	5	7.644 723

Suitable for items 7.644 708 and 7.644 710

SYRINGE FILTERS

SYRINGE FILTERS

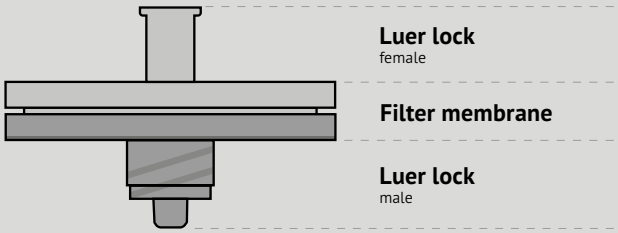
LABSOLUTE® offers a comprehensive range of syringe filters that have been developed especially for the efficient filtration of aqueous and organic solutions and for ventilation. The choice of different housing diameters, membrane types and pore sizes offers the ideal solution for your applications. Intensive quality checks ensure consistently high quality, both of the membrane material and the filter unit as a whole, for all of the filters we supply.

- Made without the use of adhesives: the housing and membrane are welded
- Sterile versions: 100 % sterility thanks to gamma radiation
- Equipped with Luer connections
- The filters are printed, both with the membrane type and the pore size, excluding the possibility of confusion

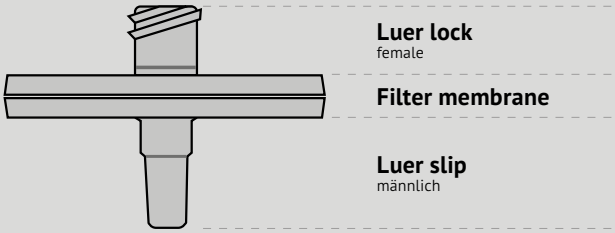
SETUP

The syringe filters have either acrylic or PP housing. Both housing versions have Luer connections, and the membrane is secured in the housing so that the sample fluid cannot flow around the membrane.

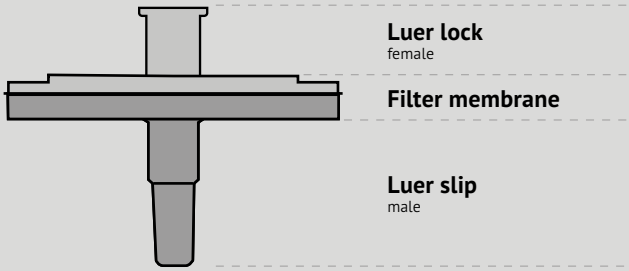
Acrylic housing



PP housing

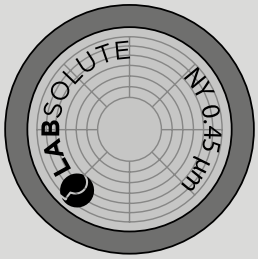


PRO Fill (PP housing)



LABELLING

The membrane type and pore size are printed on the packaging and also on each individual filter in order to avoid mistakes, even if the filters are no longer in their original packaging.



SYRINGE FILTERS, 13 MM

LABSOLUTE® syringe filters with a filter membrane diameter of 13 mm are ideal for the preparation of small-volume samples in which a very small dead volume is particularly important. The non-sterile filters are packed in quantities of 500 in PP pouches, while sterile filters are packaged individually in blisters in quantities of 50 per box. Acrylic housing.

- Membrane diameter: 13 mm
- Filtering surface: 0.6 cm²
- Housing diameter: 18 mm
- Pressure rating: 5.0 bar
- Luer connections: female Luer lock, male Luer lock

Filter material	Sterile	Pore size µm	Colour	PK	Art. no.
Cellulose acetate (CA)	No	0.22	Blue	500	7.699 800
Cellulose acetate (CA)	No	0.45	Yellow	500	7.699 801
Cellulose acetate (CA)	Yes	0.22	Blue	50	7.699 802
Cellulose acetate (CA)	Yes	0.45	Yellow	50	7.699 803

SYRINGE FILTERS, PROFILL, 17 MM

The colour-coded ring enables easy identification of the filter's membrane type. Furthermore, membrane type and pore size are printed onto the PE bag in which the filters are tamper-proof evidently packed with 100 pieces each. An additional blue reclosable PP box offers further protection for the filters during transportation. PP housing.

- Membrane diameter: 17 mm
- Filtering surface: 1.33 cm²
- Housing diameter: 22.3 mm
- Pressure rating: 7.9 bar
- Luer connections: female Luer lock, male Luer slip

Type	Filter material	Pore size µm	Colour	PK	Art. no.
(1)	Nylon (PA)	0.20	Purple	100	7.629 086
(2)	Nylon (PA)	0.45	Green	100	7.670 320
(3)	Polytetrafluoroethylene (PTFE)	0.20	Blue	100	7.629 127
(4)	Polytetrafluoroethylene (PTFE)	0.45	Yellow	100	7.656 547
(5)	Regenerated cellulose (RC)	0.20	Grey	100	7.636 877
(6)	Regenerated cellulose (RC)	0.45	Brown	100	7.629 480
(7)	Glass fibre prefilter/polyvinylidene difluoride (PVDF)	0.45	Red	100	7.629 934

SYRINGE FILTERS, 25 MM

LABSOLUTE® syringe filters with a filter membrane diameter of 25 mm are ideal for the preparation of samples with a volume ranging from 1.5 ml to 100 ml. The non-sterile filters are packed in quantities of 500 in PP pouches, while sterile filters are packaged individually in blisters in quantities of 50 per box.

- Membrane diameter: 25 mm
- Filtering surface: 4.6 cm^2
- Housing diameter: 33 mm
- Pressure rating: 5.0 bar
- Luer connections: acrylic housing with female Luer lock and male Luer lock; PP housing with female Luer lock and male Luer slip

Filter material	Housing	Sterile	Pore size µm	Colour	PK	Art. no.
Cellulose acetate (CA)	Acrylic	No	0.22	Blue	500	7.699 820
Cellulose acetate (CA)	Acrylic	No	0.45	Yellow	500	7.699 821
Cellulose acetate (CA)	Acrylic	Yes	0.22	Blue	50	7.699 822
Cellulose acetate (CA)	Acrylic	Yes	0.45	Yellow	50	7.699 823
Nylon (NY)	PP	No	0.20	Transparent	500	7.699 814
Nylon (NY)	PP	No	0.45	Transparent	500	7.699 815
Polyethersulfone (PES)	PP	No	0.22	Transparent	500	7.699 818
Polyethersulfone (PES)	PP	No	0.45	Transparent	500	7.699 819
Polyvinylidene difluoride (PVDF)	PP	No	0.22	Transparent	500	7.699 816
Polyvinylidene difluoride (PVDF)	PP	No	0.45	Transparent	500	7.699 817
Polytetrafluoroethylene (PTFE)	PP	No	0.20	Transparent	500	7.699 810
Polytetrafluoroethylene (PTFE)	PP	No	0.45	Transparent	500	7.699 811
Regenerated cellulose (RC)	PP	No	0.20	Transparent	500	7.699 812
Regenerated cellulose (RC)	PP	No	0.45	Transparent	500	7.699 813

SYRINGE FILTERS WITH AND WITHOUT GLASS FIBRE PREFILTERS, PROFILL, 30 MM

The colour-coded ring enables easy identification of the filter's membrane type. Furthermore, membrane type and pore size are printed onto the PE bag in which the filters are tamper-proof evidently packed with 100 pieces each. An additional blue reclosable PP box offers further protection for the filters during transportation. PP housing.

- Membrane diameter: 30 mm
- Filtering surface: 4.91 cm^2
- Housing diameter: 35.6 mm
- Pressure rating: 6.2 bar
- Luer connections: female Luer lock, male Luer slip

Type	Filter material	Pore size µm	Colour	PK	Art. no.
(1)	Glass fibre prefilter/nylon (PA)	0.20	Purple	100	7.638 848
(2)	Glass fibre prefilter/polytetrafluoroethylene (PTFE)	0.20	Blue	100	6.239 018
(3)	Glass fibre prefilter/polytetrafluoroethylene (PTFE)	0.45	Yellow	100	7.638 421
(4)	Glass fibre prefilter/regenerated cellulose (RC)	0.20	Grey	100	7.629 428
(5)	Regenerated cellulose (RC)	0.45	Brown	100	7.629 128
(6)	Polyvinylidene difluoride (PVDF)	0.45	Red	100	7.629 935
(7)	Glass fibre prefilter/GL microfibre	1.20	Orange	100	7.671 876

DISPOSABLE SYRINGES, PP, NON-STERILE

The two-part, non-sterile LABSOLUTE® disposable syringes, with Luer lock connection according to DIN EN 1707 or Luer slip connection complying with DIN EN 20594-1, are fully manufactured from robust, chemical-resistant PP. They are free of latex, plasticizers and PVC. There are no rubber plunger seals or silicone lubricants that can cause contamination of your samples. The syringes are also impressive due to the safe functional back-stop feature and an easy-to-read permanent graduation.

DISPOSABLE SYRINGES, PP, LUER LOCK, NON-STERILE

Capacity ml	PK	Art. no.
2	100	7.672 433
5	100	7.643 933
10	100	6.259 211
20	100	7.672 432

DISPOSABLE SYRINGES, PP, LUER SLIP, NON-STERILE

Capacity ml	PK	Art. no.
1	100	7.657 545
2	100	7.644 125
5	100	7.644 126
10	100	7.644 127
20	100	7.644 128


ACCESSORIES

CRIMPING AND DECAPPING TOOLS, MANUAL, STANDARD

The crimping and decapping tools feature a chemically resistant surface lacquer that has been developed especially for use in the laboratory. Additionally, the crimping tools have hardened closing jaws with a special alloy that guarantee a long service life. The crimping pressure and crimping height of the crimping tools can also be adapted to the design of the crimp neck and septal thickness.

CRIMPING TOOLS

Description	PK	Art. no.
Crimper for 8 mm crimp caps	1	9.003 470
Crimper for 11 mm crimp caps	1	9.003 471
Crimper for 13 mm crimp caps	1	9.003 473
Crimper for 13 mm Flip Top/Flip Off seals	1	7.652 437
Crimper for 20 mm crimp caps	1	9.003 475
Crimper for 20 mm Flip Top/Flip Off seals	1	7.610 160
Crimper for 28 mm crimp caps	1	6.281 869
Crimper for 32 mm crimp caps	1	6.301 675

DECAPPING TOOLS

Description	PK	Art. no.
Decapper for 8 mm crimp caps	1	9.003 511
Decapper for 11 mm crimp caps	1	9.003 367
Decapper for 13 mm crimp caps	1	9.003 368
Decapper for 20 mm crimp caps	1	9.003 369
Decapper for 28 mm crimp caps	1	7.647 543
Decapper for 32 mm crimp caps	1	7.621 611

CRIMPING AND DECAPPING TOOLS, MANUAL, STAINLESS STEEL

Crimping and decapping tools are completely made of stainless steel and feature lasting durability despite steam sterilization and autoclaving. Additionally, the crimping tools have hardened closing jaws with a special alloy that guarantee a long service life. The crimping pressure and crimping height of the crimping tools can also be adapted to the design of the crimp neck and septal thickness.

CRIMPING TOOLS

Description	PK	Art. no.
Crimper for 11 mm crimp caps	1	7.654 510
Crimper for 13 mm crimp caps	1	7.654 511
Crimper for 13 mm Flip Top/Flip Off seals	1	7.644 158
Crimper for 20 mm crimp caps	1	7.654 512
Crimper for 20 mm Flip Top/Flip Off seals	1	7.644 157

SUITABLE FOR CLEANROOM APPLICATIONS!

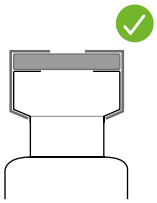
DECAPPING TOOLS

Description	PK	Art. no.
Decapper for 11 mm crimp caps	1	7.654 513
Decapper for 13 mm crimp caps	1	7.654 514
Decapper for 20 mm crimp caps	1	7.654 515
Decapper for 32 mm crimp caps	1	7.672 257

Tip: In light of the different crimp neck designs and septal thicknesses that are used, both the crimping pressure and the crimping height of crimping tools need to be adjustable.

The crimping pressure can be limited using an adjusting screw in the handle. The crimping height is adjusted using the Allen key supplied. To do this, hold the crimping edge of the forceps firmly and insert the Allen key into the opening provided on the crimping head. Turning the key to the right moves the crimping head upwards, and the crimping is looser. Turning the Allen key to the left moves the crimping head downwards, and the crimping is firmer.

Correct crimping



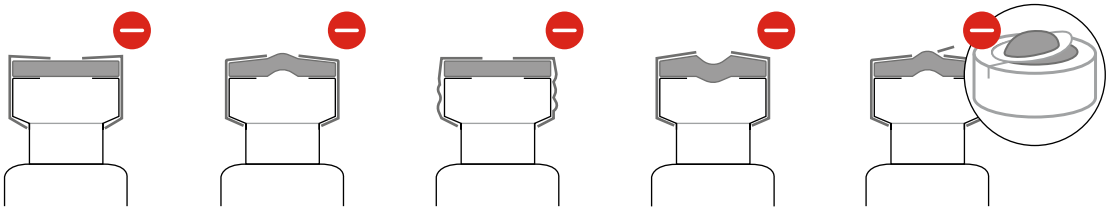
Close proximity of the aluminium cap edge

Flat and undamaged cap sides

Flat cap surface

Flat septum surface

Incorrect crimping



Space between the aluminium cap edges

Curving of the crimp cap

Deformity of the cap sides

Convex-looking liner

Rounded cap edges
Curving of the cap liner upwards

CRIMPING TOOL, PNEUMATIC, MANUAL

The pneumatic hand-held crimping tool makes crimping and decapping of vials very easy and ergonomic. The time spent to crimp or decap a series of many samples, especially, is shortend clearly. As the balancer compensates the weight of the pneumatic crimper, steady and precise crimping is no problem.

- Operated by compressed air (min. 6.2 bar = 90 psi)
- Easy handling
- Interchangeable heads for crimping and decapping
- Adjustable, constant and reproducible crimping pressure
- Space-saving installation with a balancer on your working bench (Art. no. 7.618 928)
- CE mark of conformity

Inlet air supply connector G 1/4" thread (female) has to be provided by the customer!

Description	PK	Art. no.
Pneumatic basic crimping tool incl. pressure regulator, safety valve and PA twisted hose	1	7.618 927
Hanging device with balancer	1	7.618 928
Stand with foot switch	1	7.644 958

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CRIMPING AND DECAPPING HEADS FOR PNEUMATIC CRIMPING TOOL

Suitable for use with the pneumatic crimping tool 7.618 927.

Description	PK	Art. no.
Crimping head for 8 mm crimp caps	1	7.618 929
Decapping head for 8 mm crimp caps	1	7.618 930
Crimping head for 11 mm crimp caps	1	7.618 933
Decapping head for 11 mm crimp caps	1	7.618 931
Crimping head for 13 mm crimp caps	1	7.647 506
Decapping head for 13 mm crimp caps	1	7.647 511
Crimping head for 20 mm crimp caps	1	7.621 742
Decapping head for 20 mm crimp caps	1	7.618 932
Crimping head for 32 mm crimp caps	1	7.647 544
Decapping head for 32 mm crimp caps	1	7.647 545

Further crimping and decapping heads for standard crimp caps and Flip Top/Flip Off seals are available on request

CRIMPING TOOL, PNEUMATIC, AIRGO

The pneumatic crimping tool makes crimping quite easy and shortens the time to crimp all your vials in daily routine analysis. The completely new designed ergonomic tool with easy push button guarantees a fully joint-friendly work position.

- Unique ultra slim design of the crimping jaws is perfect for in-tray crimping of the vials
- Suitable for cleanroom applications
- Optional balancer helps to save space on the lab bench and keeps the crimper clean and ready to use in reach
- High-pressure and low-pressure version available

Description	PK	Art. no.
11 mm high pressure AIRGO crimping tool	1	7.648 346
11 mm low pressure AIRGO crimping tool	1	7.644 981
20 mm low pressure AIRGO crimping tool	1	7.645 712

Other types of the AIRGO crimping tool are available on request

CRIMPING AND DECAPPING TOOL, ELECTRONIC

Electronic crimpers and decappers provide secure, reproducible crimps and quick and easy removal of aluminium seals. The tools can be used quite mobile because of the built-in rechargeable long life lithium ion battery. Ergonomic design and push button operation eliminates wrist strain especially at large sample series. Adjustable crimp settings make the crimping tool compatible with most vial/seal combinations. The adjusted crimping pressure can be seen easily at any time. A brush-less gear technology guarantees a longer lifetime and less particle emission.

- Vials can be crimped and decapped while they remain in the sample tray
- Tools can be used while recharging
- Universal 100–240 V charger included

CRIMPING TOOL, ELECTRONIC

Description	PK	Art. no.
Crimping tool for 8 mm crimp caps	1	7.646 583
Crimping tool for 11 mm crimp caps	1	7.662 425
Crimping tool for 13 mm crimp caps	1	7.646 885
Crimping tool for 20 mm crimp caps	1	7.662 426

Other types of the electronic crimper are available on request

DECAPPING TOOL, ELECTRONIC

Description	PK	Art. no.
Decapping tool for 11 mm crimp caps	1	7.646 804
Decapping tool for 13 mm crimp caps	1	7.646 926
Decapping tool for 20 mm crimp caps	1	7.646 958

Other types of the electronic decapper are available on request

HIGH-POWER CRIMP STATION, ELECTRONIC, PROGRAMMABLE

The electronic high-power crimp station guarantees best crimp results for various closures, septa thickness and vials. It is especially used for magnetic steel caps. The tool is fully programmable. The different crimp and decapping heads can be removed and installed in seconds. Crimp-force sensing automatically determines when a proper seal has been formed and opens the jaws to release the vial. Overcrimping is almost completely avoided.

- 10 adjustment programms is available for each crimp and decapping head
- Including crimp and decapping head for 20 mm crimp seals
- Also suitable for aluminium and bimetal caps

Description	PK	Art. no.
High-power crimp station, electronic, programmable	1	7.649 571

CRIMPING HEADS FOR HIGH-POWER CRIMP STATION

Description	PK	Art. no.
Crimping head for 8 mm crimp caps	1	7.646 616
Crimping head for 11 mm crimp caps	1	7.646 806
Crimping head for 13 mm crimp caps	1	7.646 939
Crimping head for 20 mm crimp caps	1	7.646 968

Further crimping heads are available on request

DECAPPING HEADS FOR HIGH-POWER CRIMP STATION

Description	PK	Art. no.
Decapping head for 8 mm crimp caps	1	7.646 643
Decapping head for 11 mm crimp caps	1	7.646 884
Decapping head for 13 mm crimp caps	1	7.646 945
Decapping head for 20 mm crimp caps	1	7.647 037

Further decapping heads are available on request

VIAL RACKS

The stackable vial racks made of transparent acrylic or blue PP allow the easy handling and secure transport of sample vials.

Transparent acrylic allows the fill level of the sample vials to be easily checked. PP is not transparent, but more robust than acrylic.

VIAL RACKS, ACRYLIC

Type	Dimensions W x H x D mm	Positions	For	PK	Art. no.
(1)	173 x 20 x 95	50	ND8*	1	7.621 486
(2)	173 x 20 x 95	50	ND8**, ND9, ND10, ND11	1	7.620 863
(3)	175.8 x 20 x 115.5	40	ND13, 4 ml shell vials	1	7.616 896
(4)	160 x 30 x 160	25	ND18, ND20	1	7.620 864

* ND8 crimp neck vials and micro-vials

** ND8 screw neck vials, small opening

1

2

3

4

VIAL RACKS, PP

Type	Dimensions W x H x D mm	Positions	For	PK	Art. no.
(1)	200 x 17 x 105	50	ND8*, ND9, ND10, ND11	1	7.654 509
(2)	230 x 28 x 117	50	ND13, 4 ml shell vials	1	7.671 275

* ND8 screw neck vials

1

2

THE VIAL RACKS ARE SUITABLE FOR SAMPLE VIALS WITH THE FOLLOWING ARTICLE NUMBERS:

ND8*	ND8**, ND9, ND10, ND11			ND13, 4 ml shell vials	ND18, ND20
7.612 017	6.088 871	7.616 861	7.639 477	7.603 252	6.204 710
7.614 045	6.205 647	7.616 879	7.639 478	7.613 421	7.612 926
7.616 829	6.258 862	7.616 932	7.643 512	7.616 808	7.613 328
7.616 830	6.401 175	7.616 934	7.644 559	7.616 870	7.613 394
7.616 831	6.901 405	7.616 935	7.647 475	7.616 880	7.615 808
7.616 832	6.901 955	7.618 897	7.647 476	7.632 226	7.615 908
7.616 878	7.608 132	7.618 914	7.647 477	7.648 254	7.616 139
7.617 518	7.608 141	7.620 828	7.647 478	7.648 518	7.616 552
7.618 925	7.608 160	7.620 829	7.647 479	7.648 602	7.616 883
7.620 436	7.612 960	7.620 898	7.647 480	7.654 504	7.616 895
7.621 750	7.613 087	7.621 171	7.648 146	7.654 505	7.616 899
7.622 387	7.613 330	7.621 337	7.648 519		7.620 147
7.631 599	7.613 388	7.621 467	7.648 520		7.620 148
	7.615 163	7.622 228	7.648 597		7.620 798
	7.615 291	7.626 843	7.648 599		7.620 815
	7.615 715	7.626 899	7.651 116		7.621 127
	7.616 003	7.629 622	7.654 554		7.621 813
	7.616 019	7.630 175	7.655 281		7.630 303
	7.616 109	7.631 401	7.660 024		7.632 402
	7.616 839	7.631 402	7.660 048		7.648 101
	7.616 848	7.631 774	7.670 623		7.648 634
	7.616 849	7.631 798	7.672 235		7.648 635
	7.616 850	7.632 401	7.672 236		
	7.616 851	7.636 093	7.970 595		
	7.616 859	7.639 156			
	7.616 860	7.639 476			

* ND8 crimp neck vials and micro vials
** ND 8 screw neck vials, small opening

STORAGE BOXES, PP

The chemically resistant and autoclaveable storage boxes made of PP are temperature-resistant from -80 °C to 100 °C and stackable. They offer space-saving storage and simple transport for several types of vials. The alphanumerically coded positions ensure that each sample vial can be clearly identified in the box.

ND8, ND9, ND10, ND11 – 81 POSITIONS

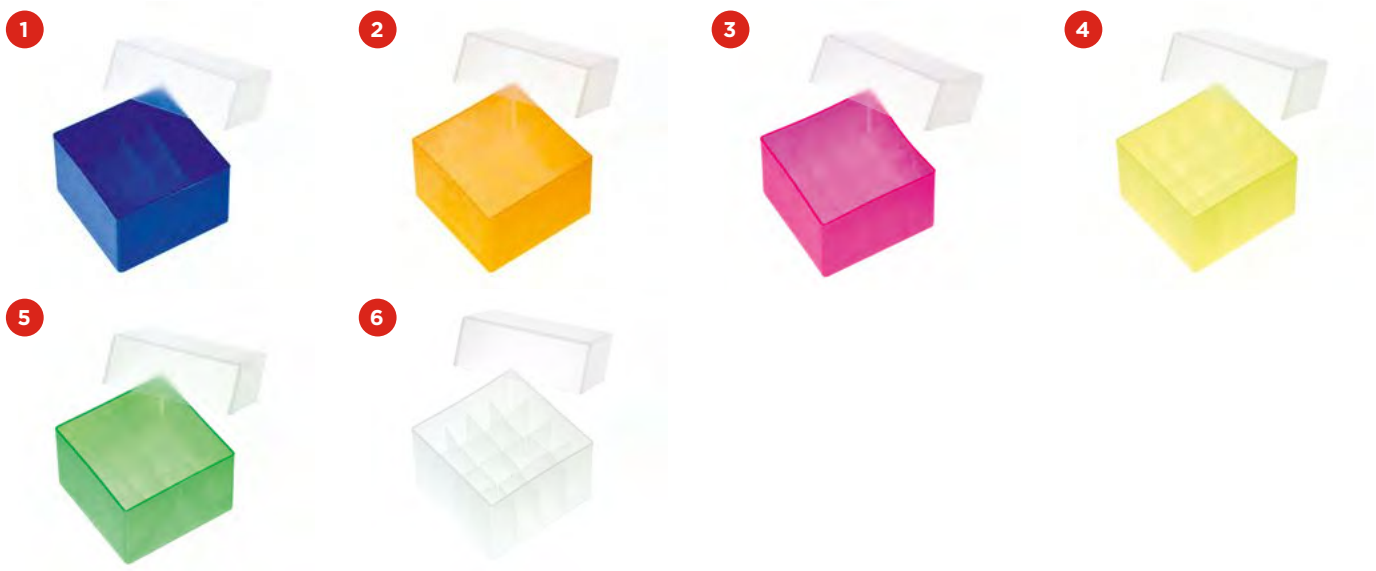
All storage boxes are suitable for ND8, ND9, ND10 and ND11 vials and shell vials with a nominal volume of 1.5 ml, 1.8 ml or 2.0 ml.

Type	Dimensions W x H x D mm	Colour	PK	Art. no.
(1)	130 x 45 x 130	Blue	1	7.638 664
(2)	130 x 45 x 130	Orange	1	7.638 665
(3)	130 x 45 x 130	Pink	1	7.638 666
(4)	130 x 45 x 130	Yellow	1	7.638 667
(5)	130 x 45 x 130	Green	1	7.638 668
(6)	130 x 45 x 130	Transparent	1	7.638 669

ND8, ND9, ND10, ND11 – 16 POSITIONS

All storage boxes are suitable for ND8, ND9, ND10 and ND11 vials and shell vials with a nominal volume of 1.5 ml, 1.8 ml or 2.0 ml.

Type	Dimensions W x H x D mm	Colour	PK	Art. no.
(1)	67 x 45 x 67	Blue	1	7.647 459
(2)	67 x 45 x 67	Orange	1	7.647 460
(3)	67 x 45 x 67	Pink	1	7.647 458
(4)	67 x 45 x 67	Yellow	1	7.647 461
(5)	67 x 45 x 67	Green	1	7.647 462
(6)	67 x 45 x 67	Transparent	1	7.647 463



ND13, ND18, ND20 HEADSPACE, ND24 (EPA)

Type	Dimensions W x H x D mm	Colour	Positions	For	Vial size ml	PK	Art. no.
(1)	130 x 52 x 130	Red	49	ND13	4	1	7.657 553
(2)	130 x 102 x 130	Blue	25	ND18, ND20*	5, 10, 20	1	7.657 554
(3)	130 x 102 x 130	Violet	16	ND24 (EPA)	20	1	7.659 996
(4)	130 x 105 x 130	Violet	10	ND24 (EPA)	30, 40	1	7.659 995

* For headspace vials

SEPTA

The choice of the right septa depends on the application. Many septa are PTFE coated on one side. PTFE is highly resistant against many chemicals and forms an inert border between the sample and the base material of the septa.

The septa's base material has various physical and chemical properties, like temperature resistance, resealability, cleanliness, hardness and thickness.

Natural rubber/TEF
- Temperature-resistant from -40 °C to 120 °C
- Excellent resealability properties
- Inexpensive for standard applications in the fields of GC and HPLC

RedRubber/PTFE
- Temperature-resistant from -30 °C to 110 °C
- Softer and therefore easier to penetrate than natural rubber
- Not as good resealability properties as natural rubber
- Higher chemical purity than natural rubber
- Inexpensive for standard applications in the fields of GC and HPLC

Butyl/PTFE
- Temperature-resistant from -40 °C to 120 °C
- Higher chemical purity than natural rubber and RedRubber

Silicone/PTFE
- Temperature-resistant from -60 °C to 200 °C
- More suitable for single-injection applications
- Much higher chemical purity than natural rubber and RedRubber
- Very low particle formation during penetration in case of double-sided PTFE coating
- Best for the thin and fragile needles of the autosampler
- Best for critical analysis (Ultraclean quality)

WHICH SEPTUM FITS WHICH CAP?

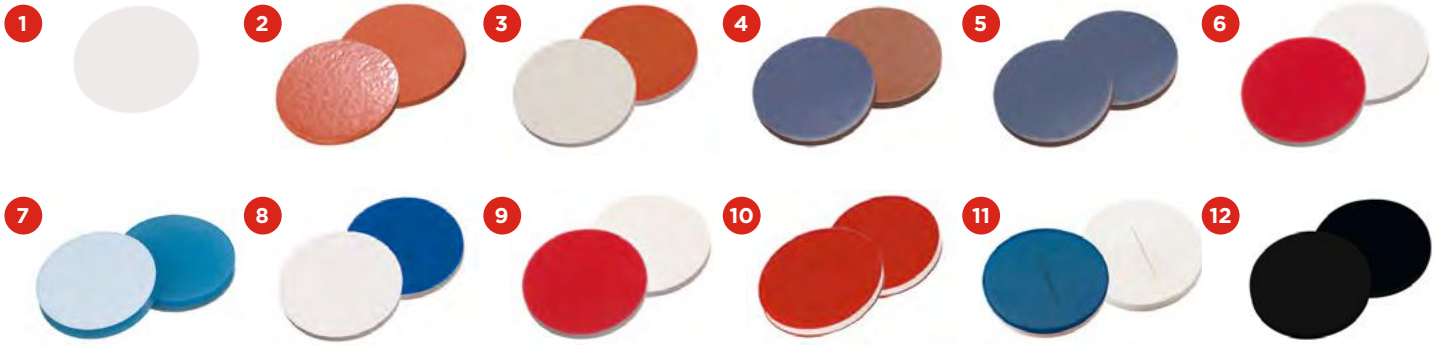
Diameter of the septum	Cap
8 mm	8 mm screw caps (ND8) 8 mm crimp caps (ND8)
9 mm	9 mm short thread screw caps (ND9)
10 mm	10 mm screw caps (ND10)
11 mm	11 mm crimp caps (ND11)
12 mm	13 mm screw caps (ND13)
13 mm	13 mm crimp caps (ND13)
16 mm	18 mm crimp caps (ND18)
17.5 mm	18 mm precision thread screw caps (ND18)
19.5 mm	22 mm PE caps
20 mm	20 mm crimp caps
22 mm	24 mm screw caps (ND24 EPA)

SEPTA, 8 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal**	53° shore D	0.25	1000	7.620 438
(2)	Natural rubber red-orange/TEF transparent	60° shore A	1.0	1000	7.630 195
(3)	RedRubber/PTFE beige	45° shore A	1.0	1000	7.654 480
(4)	Butyl red/PTFE grey	55° shore A	1.3	1000	7.621 194
(5)	PTFE grey/butyl red/PTFE grey*	55° shore A	1.3	1000	7.627 590
(6)	Silicone white/PTFE red	45° shore A	1.3	1000	7.615 160
(7)	Silicone blue transparent/PTFE white	45° shore A	1.3	1000	7.613 313
(8)	Silicone dark blue/PTFE white	45° shore A	1.3	1000	7.646 521
(9)	Silicone cream/PTFE red	55° shore A	1.5	1000	7.615 159
(10)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	1000	7.616 847
(11)	Silicone white/PTFE blue, slitted**	55° shore A	0.9	1000	7.615 125
(12)	Viton 1A black	70° shore A	1.5	1000	7.646 520

* Very low particle formation during penetration thanks to double-sided PTFE coating

** Especially suitable for VWR (Merck®)/Hitachi instruments



SEPTA, 9 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.0	100	7.639 222
(2)	RedRubber/PTFE beige	45° shore A	1.0	1000	7.639 093
(3)	Silicone white/PTFE red	55° shore A	1.0	1000	7.634 821
(4)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	1000	7.671 084

* Very low particle formation during penetration thanks to double-sided PTFE coating

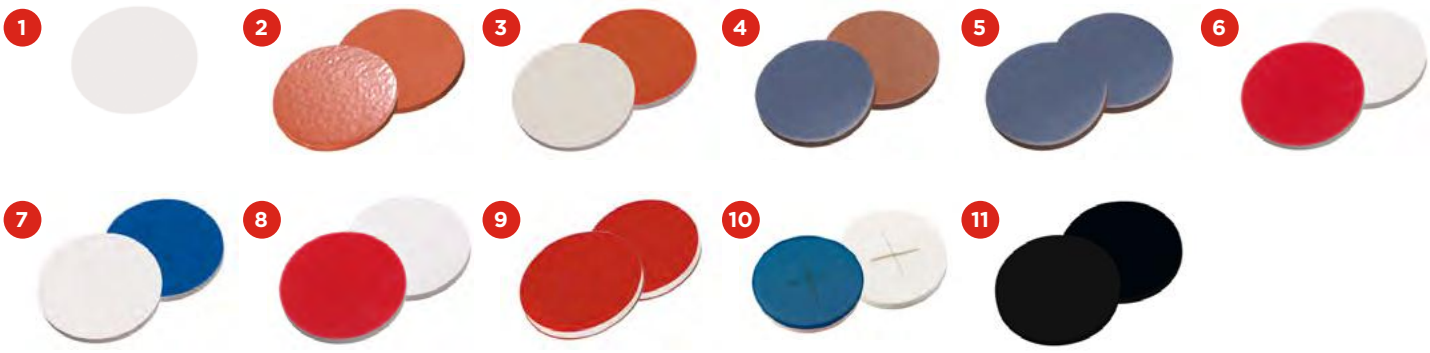
SEPTA, 10 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal	53° shore D	0.25	1000	7.615 718

SEPTA, 11 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal	53° shore D	0.25	1000	7.646 572
(2)	Natural rubber red-orange/TEF transparent	60° shore A	1.0	1000	7.646 575
(3)	RedRubber/PTFE beige	45° shore A	1.0	1000	7.639 959
(4)	Butyl red/PTFE grey	55° shore A	1.3	1000	7.646 577
(5)	PTFE grey/butyl red/PTFE grey*	55° shore A	1.3	1000	6.241 083
(6)	Silicone white/PTFE red	45° shore A	1.3	1000	7.646 570
(7)	Silicone dark-blue/PTFE white	45° shore A	1.3	1000	7.646 576
(8)	Silicone cream/PTFE red	55° shore A	1.5	1000	7.625 909
(9)	PTFE red/silicone white/PTFE red*	45° shore A	1.3	1000	7.646 571
(10)	Silicone white/PTFE blue, cross-slitted	55° shore A	1.5	1000	7.646 574
(11)	Viton 1A black	70° shore A	1.5	1000	7.646 573

* Very low particle formation during penetration thanks to double-sided PTFE coating



SEPTA, 12 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	PTFE virginal	53° shore A	0.25	1000	7.613 332
(2)	Natural rubber red-orange/TEF transparent	60° shore A	1.0	1000	7.647 494
(3)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	1000	7.616 874
(4)	RedRubber/PTFE beige	45° shore A	1.0	100	7.646 875
(5)	Butyl red/PTFE grey	55° shore A	1.3	1000	7.616 875
(6)	Silicone blue-transparent/PTFE white	45° shore A	1.3	1000	6.254 775
(7)	Silicone cream/PTFE red	55° shore A	1.5	1000	6.204 825
(8)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	1000	7.616 876
(9)	Silicone white/PTFE blue, cross-slitted	55° shore A	1.5	1000	7.616 877

* Very low particle formation during penetration thanks to double-sided PTFE coating

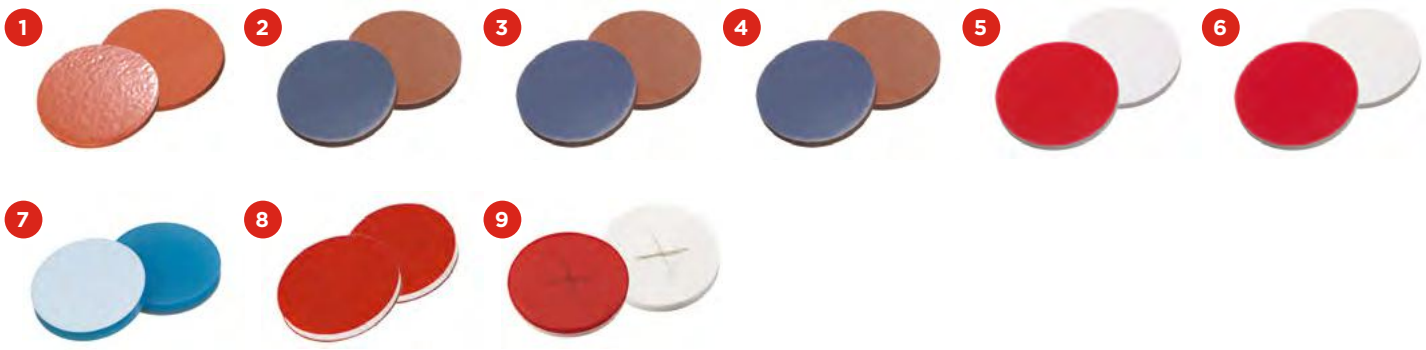
SEPTA, 13 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	1000	7.647 496
(2)	Butyl red/PTFE grey	55° shore A	1.3	1000	7.616 210
(3)	Butyl red/PTFE grey	55° shore A	1.6	1000	9.003 537
(4)	Butyl red/PTFE grey	55° shore A	2.0	1000	7.629 516
(5)	Butyl/PTFE grey, Pharma-Fix	50° shore A	2.0	1000	7.647 495
(6)	Silicone white/PTFE red	45° shore A	1.3	1000	7.647 498
(7)	Viton 1A black	70° shore A	1.5	1000	7.647 497

SEPTA, 16 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	1000	6.239 687
(2)	Butyl red/PTFE grey	55° shore A	1.3	1000	7.619 780
(3)	Butyl red/PTFE grey	55° shore A	1.6	1000	7.635 110
(4)	Butyl red/PTFE grey	55° shore A	2.0	1000	7.671 847
(5)	Silicone white/PTFE red	45° shore A	1.3	1000	6.205 339
(6)	Silicone white/PTFE red	55° shore A	1.5	1000	7.647 515
(7)	Silicone blue transparent/PTFE white	45° shore A	1.7	1000	7.623 987
(8)	PTFE red/silicone white/PTFE red*	45° shore A	1.0	1000	7.629 087
(9)	Silicone white/PTFE red, cross-slitted	55° shore A	1.5	1000	7.662 067

* Very low particle formation during penetration thanks to double-sided PTFE coating



SEPTA, 17.5 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	1.6	1000	7.626 292
(2)	Silicone white/PTFE red	45° shore A	1.3	1000	6.280 903
(3)	Silicone blue transparent/PTFE white	45° shore A	1.3	1000	7.619 097
(4)	Silicone blue transparent/PTFE white	45° shore A	3.0	1000	7.644 961
(5)	Silicone white/PTFE blue	55° shore A	1.5	1000	7.634 826
(6)	Silicone white/aluminium foil silver	50° shore A	1.3	1000	7.646 016

SEPTA, 18 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Silicone white/PTFE red	45° shore A	1.3	1000	7.657 868
(2)	RedRubber/PTFE beige*	45° shore A	1.0	1000	7.636 839

* Diameter 18.2 mm

SEPTA, 19.5 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Natural rubber red-orange/TEF transparent	60° shore A	1.3	1000	7.647 517
(2)	Butyl red/PTFE grey	55° shore A	1.3	1000	7.647 518
(3)	Silicone white/PTFE red	45° shore A	1.3	1000	7.639 443
(4)	Silicone blue transparent/PTFE white	45° shore A	1.3	1000	7.629 630

SEPTA, 20 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl dark grey	55° shore A	3.0	1000	7.616 891
(2)	Butyl/PTFE grey	50° shore A	3.0	1000	7.616 892
(3)	Butyl/PTFE grey, Pharma-Fix	50° shore A	3.0	1000	7.621 812
(4)	Butyl red/PTFE grey	55° shore A	1.3	100	7.646 878
(5)	Butyl red/PTFE grey	50° shore A	3.0	100	7.648 617
(6)	Silicone blue transparent/PTFE white	45° shore A	3.0	1000	7.616 893
(7)	Silicone blue transparent/PTFE transparent	45° shore A	3.0	100	7.648 633
(8)	Silicone white/PTFE beige, IM quality	45° shore A	3.2	1000	7.616 894
(9)	Silicone white/aluminium foil silver	50° shore A	3.0	1000	6.204 824
(10)	Butyl injection stopper grey			1000	7.615 551
(11)	Freeze drying stopper grey			2000	7.628 885

SEPTA, 22 MM

Type	Description	Hardness	Thickness mm	PK	Art. no.
(1)	Butyl red/PTFE grey	55° shore A	1.6	1000	6.262 073
(2)	Butyl red/PTFE grey	55° shore A	2.5	1000	6.207 230
(3)	Silicone white/PTFE beige, EPA quality	45° shore A	3.2	1000	7.609 927
(4)	Silicone white/PTFE blue, cross-slitted	55° shore A	1.5	1000	7.636 710
(5)	Silicone white/PTFE red	45° shore A	1.3	1000	7.625 234
(6)	Silicone white/aluminium foil silver	50° shore A	3.0	1000	7.644 928

SEPTA FOR SCHOTT SCREW CAPS

The septa are especially designed for the screw caps with GL thread made by Schott.

Type	Description	Hardness	Thickness mm	For	PK	Art. no.
(1)	Silicone cream/PTFE beige	55° shore A	3.2	GL14	1000	7.655 503
(2)	Silicone cream/PTFE beige	55° shore A	3.2	GL18	1000	7.634 547
(3)	Silicone cream/PTFE beige	55° shore A	3.2	GL25	1000	6.234 529
(4)	Silicone cream/PTFE beige	55° shore A	3.2	GL32	1000	7.647 695
(5)	Silicone cream/PTFE beige	55° shore A	3.2	GL45	500	6.902 397
(6)	Butyl red/PTFE grey	55° shore A	2.5	GL45	500	7.672 765

GC INJECTION PORT SEPTA

The GC septa are universal and longlife. They are delivered in resealable amber screw neck vials of 1st hydrolytic class and ready-to-use. You have several advantages using our GC septa:

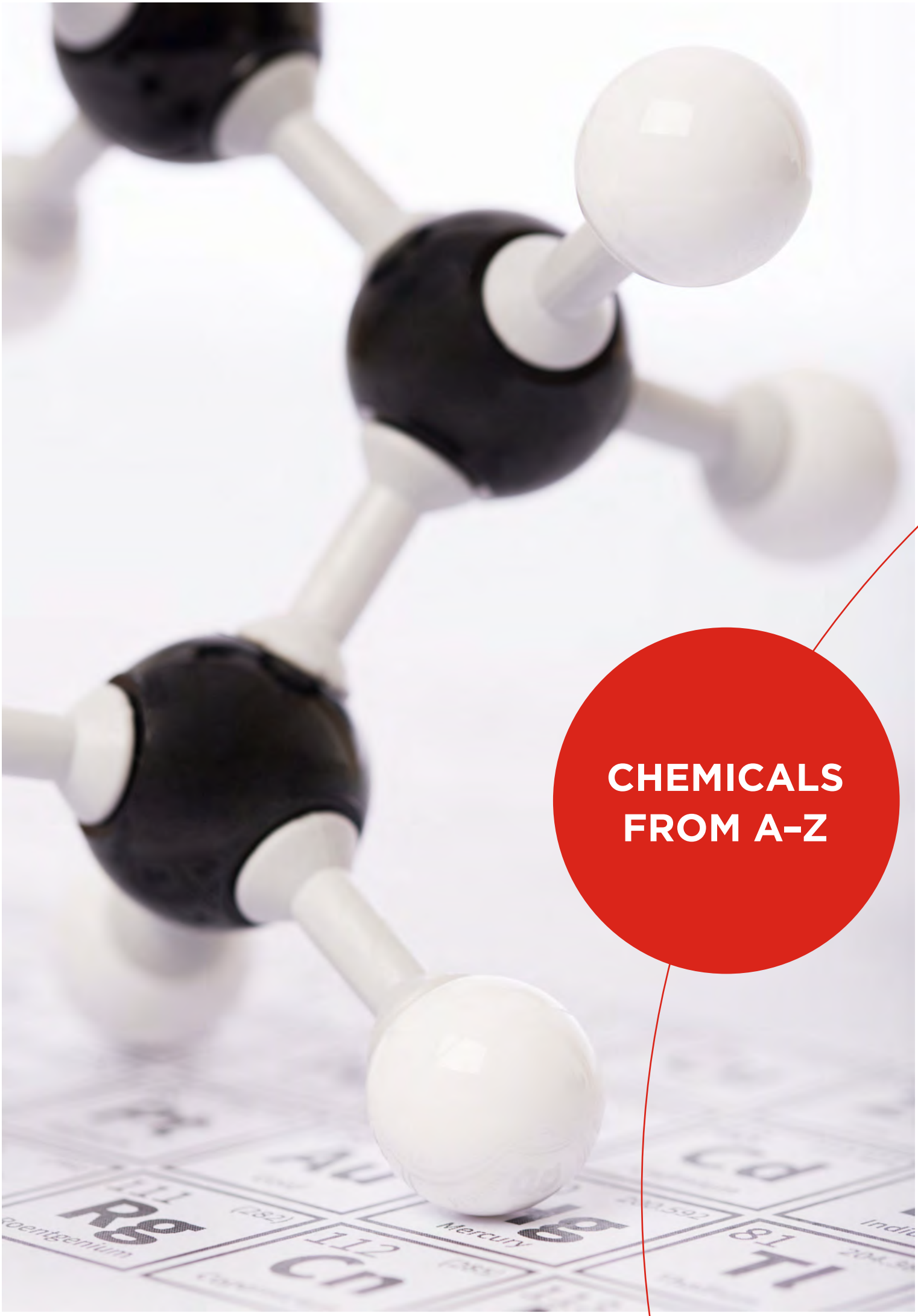
- Suitable for inlet temperatures up to 340 °C
- Low release of siloxanes
- Good penetration and sealing properties
- No sticking to hot surfaces

Ø mm	For	PK	Art. no.
	Shimadzu	25	7.621 124
9.5	Agilent, Varian, Varian (CP), Tracor, Gow-Mac, Finnigan, Antek Unicam	25	7.629 437
10	Agilent, Varian	25	7.648 606
11	Agilent, Varian, Gow-Mac, Perkin Elmer	25	7.635 081
12.5	Tracor	25	7.648 607
17	Thermo Scientific Quest, Fisons/Carlo Erba, Finnigan	25	7.639 885
17*	Thermo Scientific Quest, Fisons/Carlo Erba, Finnigan	25	7.671 706

* Septa cross-slitted

MODEL OVERVIEW

Shimadzu stopper (7.621 124)	Shimadzu: All models
9.5 mm septum (7.629 437)	Agilent: Series 5700/5800 Varian: Injector type for packed columns Varian (CP): All models Tracor: 550, 560 Gow-Mac: All models Finnigan: 9001, QCQ, GCQ, Trace 2000 Antek Unicam: 4600
10 mm septum (7.648 606)	Agilent (HP): Series 5700/5880, 5890/6890 Varian: Injector type for packed columns and SSL
11 mm septum (7.635 081)	Agilent: Series 5890/6850/6890, 5700/5880, 5880A Varian: 3300, 3400, 3500, 3600, 3700, Vista SSL Gow-Mac: Series 6890 Perkin Elmer: Sigma series, 900, 990, Serie 8000, Autosystem XL
12.5 mm septum (7.648 607)	Tracor: 220, 222
17 mm septum (7.639 885)	Thermo Scientific Quest: Trace Fisons/Carlo Erba: Series 8000 Finnigan: GCQ, Trace



CHEMICALS FROM A–Z

HPLC SOLVENTS

Under its CHEMSOLUTE® brand, Th. Geyer offers solvents of a quality developed especially for the requirements of HPLC. The low evaporation residue and extremely low water content provide maximum protection for the columns and reduce possible solvent effects.

We also offer solvents in “gradient grade” and “ultra gradient grade” for HPLC with gradients. These solvents allow you to minimise the gradient effect, for example in enantiomeric separations in chiral phases.

All packaging is of course inert in relation to its contents, as well as being practical and robust for transport and handling.

LC-MS SOLVENTS

CHEMSOLUTE® LC-MS solvents are produced from specially selected raw materials and are subjected to a range of purification steps prior to final packaging. They are also tested specifically for their LC-MS suitability and comply with all requirements of modern LC-MS ionisation methods (ESI/APCI – positive and negative mode).

Because of their low ion background content and low ion suppression, they guarantee high reproducibility and ionisation efficiency.

HEADSPACE-GC SOLVENTS

CHEMSOLUTE® solvents for headspace gas chromatography have been developed especially for the analysis of solvent residues in medicines, excipients and medicinal products in accordance with Ph. Eur and USP. These solvents obtain their high purity through special production methods that ensure correct, reliable and reproducible analysis results.

Do you have any questions regarding our current or planned products, suggestions or ideas for improvement?
Would you like more information about our products?

If so, give us a call or send us an e-mail – your personal contacts and the specialists in LABSOLUTE® and CHEMSOLUTE® will be happy to help you.

DERIVATIZATION REAGENTS FOR GC – DETECT THE UNDETECTABLE

For analyses of compounds that have poor volatility or thermal stability, Th. Geyer offers under its CHEMSOLUTE® brand a range of high-quality Derivatization reagents.
Compounds such as acids, alcohols and amines are often difficult to analyze via gas chromatography. In an attempt to analyze these types of compounds, they may react with the surface of the injection port or the analytical column, resulting in tailing peaks and low response. In addition, they may be highly soluble in the sample phase, leaving only a small part in the headspace. The derivatization may improve their volatility and reduce a potential surface adsorption.

With our top-quality acylating, alkylating and silylating derivatization reagents you will enhance the sensitivity and detectability of these chemical compound classes in GC.

ACETONE

- CH_3COCH_3
- M = 58.08 g/mol
- CAS no. 67-64-1
- EC Index no. 606-001-00-8
- EC no. 200-662-2
- Density 0.789 – 0.793 g/ml
- UN-No. 1090
- ADR 3, II

GHS

- H225 H319 H336 EUH066
- P210 P233 P241 P243 P261 P271 P280 P303+P361+P353 P304+P340 P305+P351+P338 P312 P337+P313 P370+P378 P403+P235 P405 P501

Specification

- Clear, colourless liquid
- Melting point -94 – -95 °C
- Boiling point 55.6 – 56.6 °C

ACETONE FOR HPLC (MIN. 99.8 %)

Specification

- Refractive index (20 °C) 1.357 - 1.361
- Water (KF) max. 500 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- UV transmittance at 330 nm min. 10.0 %
- UV transmittance at 335 nm min. 40.0 %
- UV transmittance at 340 nm min. 75.0 %
- UV transmittance at 345 nm min. 90.0 %
- UV transmittance at 350 nm min. 98.0 %
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2626.1000
2.5 l	Glass bottle	2626.2500
4 l	Glass bottle	2626.4000

ACETONE FOR RESIDUE ANALYSIS (MIN. 99.8 %)

Specification

- Refractive index (20 °C) 1.357 - 1.361
- Water (KF) max. 500 mg/kg
- Non-volatile substances max. 2 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2661.1000
2.5 l	Glass bottle	2661.2500

ACETONE FOR PESTICIDE ANALYSIS (MIN. 99.8 %)

Specification

- Identity complies
- Refractive index (20 °C) 1.357 - 1.361
- Water max. 0.05 %
- Non-volatile substances max. 2 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	2676.2500

ACETONITRILE

- C_2H_3N
- M = 41.05 g/mol
- CAS no. 75-05-8
- EC Index no. 608-001-00-3
- EC no. 200-835-2
- Density (20 °C) 0.781 – 0.786 g/ml
- UN-No. 1648
- ADR 3, II

GHS

- H225 H302+H312+H332 H319
- P210 P241 P261 P280 P303+P361+P353 P305+P351+P338 P501

Specification

- Clear, colourless liquid
- Melting point -45 – -46 °C
- Boiling point 80 – 82.5 °C

ACETONITRILE FOR HPLC (MIN. 99.9 %)

Specification

- Refractive index (20 °C) 1.342 - 1.346
- Water (KF) max. 300 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- UV transmittance at 197 nm min. 82.0 %
- UV transmittance at 200 nm min. 85.0 %
- UV transmittance at 210 nm min. 90.0 %
- UV transmittance at 220 nm min. 94.0 %
- UV transmittance at 230 nm min. 97.0 %
- UV transmittance at 240 nm min. 98.0 %
- Fluorescence (as quinine) at 254 nm max. 1 ppb
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2637.1000
2.5 l	Glass bottle	2637.2500

ACETONITRILE GRADIENT GRADE FOR HPLC (MIN. 99.9 %)

Specification

- Refractive index (20 °C) 1.342 - 1.346
- Water (KF) max. 300 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- HPLC gradient (peak) at 210 nm max. 5 mAU
- HPLC gradient (peak) at 254 nm max. 0.8 mAU
- UV transmittance at 197 nm min. 82.0 %
- UV transmittance at 200 nm min. 90.0 %
- UV transmittance at 210 nm min. 94.0 %
- UV transmittance at 220 nm min. 96.0 %
- UV transmittance at 230 nm min. 98.0 %
- Fluorescence (as quinine) at 254 nm max. 1 ppb
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2653.1000
2.5 l	Glass bottle	2653.2500

ACETONITRILE ULTRAGRADIENT GRADE FOR HPLC (MIN. 99.9 %)

Specification

- Refractive index (20 °C) 1.342 - 1.346
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 2 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- HPLC gradient test complies
- HPLC gradient (peak) at 210 nm max. 2 mAU
- HPLC gradient (peak) at 254 nm max. 0.5 mAU
- UV transmittance at 197 nm min. 85.0 %
- UV transmittance at 200 nm min. 92.0 %
- UV transmittance at 210 nm min. 95.0 %
- UV transmittance at 220 nm min. 98.0 %
- Fluorescence (as quinine) at 254 nm max. 1 ppb
- Gradient baseline drift at 210 nm max. 12 mAU
- UV cut off max. 190 nm
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2685.1000
2.5 l	Glass bottle	2685.2500

ACETONITRILE FOR LC-MS (MIN. 99.95 %)

Specification

- Identity (IR) complies
- Refractive index (20 °C) 1.342 - 1.346
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 2 mg/kg
- Free acid max. 0.0005 meq/g
- Free alkali max. 0.0002 meq/g
- UV transmittance at 195 nm min. 80.0 %
- UV transmittance at 200 nm min. 95.0 %
- UV transmittance at 220 nm min. 98.0 %
- UV transmittance at 230 nm min. 99.0 %
- UV cut off max. 190 nm
- HPLC gradient test complies
- HPLC gradient (peak) at 210 nm max. 1 mAU
- HPLC gradient (peak) at 254 nm max. 0.2 mAU
- Fluorescence (as quinine) at 254 nm max. 1 ppb
- Fluorescence (as quinine) at 365 nm max. 0.5 ppb
- Aluminium (Al) max. 0.000005 %
- Iron (Fe) max. 0.000005 %
- Sodium (Na) max. 0.000005 %
- Calcium (Ca) max. 0.000005 %
- Magnesium (Mg) max. 0.000005 %
- Potassium (K) max. 0.000005 %
- Sensitive impurities (reserpine) max. 100 ppb
- Colour (Hazen) max. 10
- Filtered through 0.1 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2697.1000
2.5 l	Glass bottle	2697.2500

ACETONITRILE FOR UHPLC-MS (99.97 – 100.0 %)

Specification

- Assay (GC, on anhydrous basis) 99.97 - 100.0 %
- Water (KF) max. 0.01 % w/w
- Residue on evaporation max. 0.0001 % w/w
- UHPLC-MS suitability test (reserpine) max. 5 ppb
- Absorption at 190 nm max. 1.00 AU
- Absorption at 195 nm max. 0.07 AU
- Absorption at 200 nm max. 0.02 AU
- Absorption at 205 nm max. 0.01 AU
- Absorption at 210 nm max. 0.01 AU
- Absorption at 220 nm max. 0.008 AU
- Absorption at 254 nm max. 0.005 AU
- Fluorescence (as quinine) at 254 nm max. 0.30 ppb
- Fluorescence (as quinine) at 365 nm max. 0.30 ppb
- Gradient test at 210 nm max. 1 mAU
- Gradient test at 254 nm max. 0.5 mAU
- Acidity max. 0.0002 meq/g
- Alkalinity max. 0.0001 meq/g
- Aluminium (Al) max. 20 ppb
- Calcium (Ca) max. 50 ppb
- Iron (Fe) max. 20 ppb
- Potassium (K) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Sodium (Na) max. 100 ppb
- Lead (Pb) max. 20 ppb
- Filtered through 0.1 µm
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2690.1000
2.5 l	Glass bottle	2690.2500

ACETONITRILE WITH 0.1 % FORMIC ACID FOR LC-MS (MIN. 99.5 %)

- UN-No. 1993
- ADR 3, II

GHS

- H225 H302+H312+H332 H319
- P210 P241 P264 P303+P361+P353 P304+P340 P305+P351+P338 P403+P235 P501

Specification

- Clear, colourless liquid
- Colour (APHA) max. 10
- Acidity (as HCOOH) 0.095 - 0.105 %
- HPLC gradient at 254 nm max. 50 mAU
- UV transmittance at 210 nm min. 5.0 %
- UV transmittance at 230 nm min. 15.0 %
- UV transmittance at 254 nm min. 90.0 %
- Aluminium (Al) max. 0.5 ppm
- Iron (Fe) max. 0.5 ppm
- Calcium (Ca) max. 0.5 ppm
- Magnesium (Mg) max. 0.5 ppm
- Sodium (Na) max. 2 ppm
- Potassium (K) max. 0.5 ppm
- Sensitive impurities (reserpine) max. 50 ppb

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2645.1000
2.5 l	Glass bottle	2645.2500

ACETONITRILE WITH 0.1 % TRIFLUOROACETIC ACID FOR LC-MS (MIN. 99.9 %)

- Density (20 °C) 0.78 g/cm³
- UN-No. 1648
- ADR 3, II

GHS

- H225 H302+H312+H332 H319
- P210 P241 P261 P280 P303+P361+P353 P305+P351+P338 P501

Specification

- Clear, colourless liquid
- Melting point -46 °C
- Boiling point 81 °C
- Assay (GC, without TFA) min. 99.9 %
- Trifluoroacetic acid ($C_2HF_3O_2$) 0.095 - 0.105 % v/v
- Water (KF) max. 150 ppm
- Residue on evaporation max. 2 ppm
- UV transmittance at 195 nm min. 20.0 %
- UV transmittance at 230 nm min. 50.0 %
- UV transmittance at 254 nm min. 90.0 %
- UV transmittance at 260 nm min. 95.0 %
- Fluorescence (as quinine) at 254 nm max. 1 ppb
- Fluorescence (as quinine) at 365 nm max. 0.5 ppb
- HPLC gradient at 254 nm max. 2 mAU
- Drift at 254 nm max. 30 mAU
- Sensitive impurities (reserpine) max. 50 ppb
- Aluminium (Al) max. 30 ppb
- Iron (Fe) max. 50 ppb
- Sodium (Na) max. 50 ppb
- Calcium (Ca) max. 50 ppb
- Magnesium (Mg) max. 30 ppb
- Potassium (K) max. 50 ppb

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	2664.2500

N,O-BIS(TRIMETHYLSILYL)TRIFLUOROACETAMIDE P. A. (BSTFA) (MIN. 98.0 %)

- $C_8H_{18}F_3NOSi_2$
- M = 257.39 g/mol
- CAS no. 25561-30-2
- EC no. 247-103-9
- Density max. 0.985 g/ml
- UN-No. 2920
- ADR 8 (3), II

GHS

- H226 H314
- P210 P241 P280 P301+P330+P331 P303+P361+P353 P304+P340 P305+P351+P338 P403+P235 P501

Specification

- Clear, yellow liquid
- Identity complies
- Boiling point 145 °C
- Melting point -10 °C

Quantity	Packaging material	Art. no.
25 ml	Glass bottle	769.0025

TERT-BUTYL METHYL ETHER FOR HPLC (MIN. 99.8 %)

- $C_5H_{12}O$
- M = 88.15 g/mol
- CAS no. 1634-04-4
- EC Index no. 603-181-00-X
- EC no. 216-653-1
- Density (20 °C) 0.74 g/ml
- UN-No. 2398
- ADR 3, II

GHS

- H225 H315
- P210 P233 P241 P243 P280 P303+P361+P353 P332+P313 P403+P235 P501

Specification

- Colourless liquid
- Melting point -108.6 °C
- Boiling point 55 °C
- Refractive index (20 °C) 1.367 - 1.371
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 10 mg/kg
- Methanol (CH_3OH) and tert.-Butanol (C_4H_9OH) max. 0.05 %
- UV transmittance at 210 nm min. 10.0 %
- UV transmittance at 230 nm min. 40.0 %
- UV transmittance at 250 nm min. 75.0 %
- UV transmittance at 280 nm min. 92.0 %
- UV transmittance at 300 nm min. 98.0 %
- Hydrocarbons up to C_8 max. 0.05 %
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2529.1000
2.5 l	Glass bottle	2529.2500

CYCLOHEXANE

- C_6H_{12}
- M = 84.16 g/mol
- CAS no. 110-82-7
- EC Index no. 601-017-00-1
- EC no. 203-806-2
- Density 0.775 – 0.782 g/ml
- UN-No. 1145
- ADR 3, II

GHS
- H225 H304 H315 H336 H410
- P210 P240 P273 P280 P301+P310 P302+P352 P331 P403+P233 P501

Specification
- Colourless liquid
- Melting point 6 – 7 °C
- Boiling point 80 – 81 °C

CYCLOHEXANE FOR RESIDUE ANALYSIS (MIN. 99.8 %)

Specification
- Refractive index (20 °C) 1.424 - 1.428
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 2 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	2429.2500

CYCLOHEXANE FOR PESTICIDE ANALYSIS (MIN. 99.8 %)

Specification
- Identity complies
- Refractive index (20 °C) 1.424 - 1.428
- Water max. 100 ppm
- Non-volatile substances max. 2 ppm
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	2448.2500

DICHLOROMETHANE

- CH_2Cl_2
- M = 84.93 g/mol
- CAS no. 75-09-2
- EC Index no. 602-004-00-3
- EC no. 200-838-9
- Density (20 °C) 1.32 – 1.33 g/ml
- UN-No. 1593
- ADR 6.1, III

GHS
- H351
- P201 P202 P280 P308+P313 P405 P501

Specification
- Colourless liquid
- Melting point -95 °C
- Boiling point 39 – 40 °C

DICHLOROMETHANE FOR HPLC (MIN. 99.9 % (STAB.))

Specification
- Refractive index (20 °C) 1.422 - 1.426
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as HCl) max. 5 mg/kg
- UV transmittance at 240 nm min. 60.0 %
- UV transmittance at 250 nm min. 92.0 %
- UV transmittance at 255 nm min. 96.0 %
- Colour (Hazen) max. 10
- Stabilized with amylene 30 - 60 mg/kg
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2356.1000
2.5 l	Glass bottle	2356.2500

DICHLOROMETHANE FOR RESIDUE ANALYSIS (MIN. 99.9 % (STAB.))

Specification

- Assay (without stabilizer) min. 99.9 %
- Refractive index (20 °C) 1.422 - 1.426
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as HCl) max. 5 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10
- PAH-test acc. ISO 17993 complies
- Stabilized with ethanol 0.1 - 0.4 % m/m

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	2311.2500

DICHLOROMETHANE FOR PESTICIDE ANALYSIS (MIN. 99.9 % (STAB.))

Specification

- Identity complies
- Water max. 0.01 %
- Non-volatile substances max. 5 mg/kg
- Free acids (as HCl) max. 5 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10
- PAH-test acc. ISO 17993 complies
- Stabilized with amylene 30 - 50 mg/kg

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	2333.2500

N,N-DIMETHYLACETAMIDE HEADSPACE GRADE (MIN. 99.99 %)

- C_4H_9NO
- M = 87.12 g/mol
- CAS no. 127-19-5
- EC Index no. 616-011-00-4
- EC no. 204-826-4
- Density 0.937 g/ml

GHS

- H312+H332 H360D
- P201 P261 P280 P308+P313

Specification

- Clear, colourless liquid
- Melting point -20 °C
- Boiling point 164 – 166 °C
- Assay (GC, on anhydrous basis) 99.99 - 100 %
- Refractive index (20 °C) 1.436 - 1.438
- Acidity (as CH_3COOH) max. 0.003 %
- Water (KF) max. 0.02 % w/w
- UV cut off 190 - 268 nm
- GC-Headspace complies
- UV transmittance at 268 nm min. 10 %
- UV transmittance at 275 nm min. 55 %
- UV transmittance at 300 nm min. 85 %
- UV transmittance at 350 nm min. 98 %
- UV transmittance at 400 nm min. 99 %
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2345.1000

N,N-DIMETHYLFORMAMIDE HEADSPACE GRADE (MIN. 99.98 %)

- C_3H_7NO
- M = 73.10 g/mol
- CAS no. 68-12-2
- EC Index no. 616-001-00-X
- EC no. 200-679-5
- Density 0.945 g/ml
- UN-No. 2265
- ADR 3, III

GHS

- H226 H312+H332 H319 H360D
- P201 P210 P261 P280 P308+P313 P501

Specification

- Clear, colourless liquid
- Melting point -61 °C
- Boiling point 153 °C
- Assay (GC, on anhydrous basis) 99.98 - 100 %
- Water (KF) max. 0.025 % w/w
- GC-Headspace complies
- Colour (APHA) max. 10
- Absorption at 275 nm max. 0.25 AU
- Absorption at 290 nm max. 0.15 AU
- Absorption at 300 nm max. 0.07 AU
- Absorption at 320 nm max. 0.02 AU
- Absorption at 350 - 400 nm max. 0.01 AU
- Methanol (CH_3OH) not detected
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2350.1000

1,3-DIMETHYL-2-IMIDAZOLIDINONE HEADSPACE GRADE (MIN. 99.5 %)

- $C_5H_{10}N_2O$
- M = 114.15 g/mol
- CAS no. 80-73-9
- EC no. 201-304-8
- Density 1.06 g/ml
- UN-No. 2810
- ADR 6.1, III

GHS

- H302 H318 H361d H373
- P260 P280 P305+P351+P338 P310 P501

Specification

- Clear liquid
- Melting point 8.2 °C
- Boiling point 225.5 °C
- Assay (GC, on anhydrous basis) 99.5 - 100 %
- Water (KF) max. 0.03 % w/w
- GC-Headspace complies
- Colour (APHA) max. 10
- Absorption at 275 nm max. 0.50 AU
- Absorption at 300 nm max. 0.22 AU
- Absorption at 325 nm max. 0.10 AU
- Absorption at 350 - 400 nm max. 0.05 AU
- Filled under inert gas

Quantity	Packaging material	Art. no.
500 ml	Glass bottle	2355.0500

DIMETHYL SULFOXIDE HEADSPACE GRADE (MIN. 99.98 %)

- C_2H_6OS
- M = 78.13 g/mol
- CAS no. 67-68-5
- EC no. 200-664-3
- Density (20 °C) 1.1 g/ml

Specification

- Colourless liquid
- Melting point 18 °C
- Boiling point 189 °C
- Assay (GC, on anhydrous basis) 99.98 - 100 %
- Water (KF) max. 0.03 % w/w
- GC-Headspace complies
- Colour (APHA) max. 10
- Absorption at 270 nm max. 0.50 AU
- Absorption at 275 nm max. 0.22 AU
- Absorption at 300 nm max. 0.07 AU
- Absorption at 350 - 400 nm max. 0.02 AU

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2365.1000

ETHANOL ABSOLUTE FOR HPLC (MIN. 99.9 %)

- C_2H_5OH
- M = 46.07 g/mol
- CAS no. 64-17-5
- EC Index no. 603-002-00-5
- EC no. 200-578-6
- Density (20 °C) 0.79 g/ml
- UN-No. 1170
- ADR 3, II

GHS

- H225 H319
- P210 P233 P241 P243 P280 P337+P313 P403+P235

Specification

- Clear, colourless liquid
- Melting point -114 °C
- Boiling point 78.0 – 79.0 °C
- Refractive index (20 °C) 1.358 - 1.362
- Water (KF) max. 500 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as CH_3COOH) max. 10 mg/kg
- Assay (20 °C) min. 99.9 % v/v
- UV transmittance at 210 nm min. 30.0 %
- UV transmittance at 240 nm min. 80.0 %
- UV transmittance at 250 nm min. 90.0 %
- UV transmittance at 260 nm min. 98.0 %
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2222.1000
2.5 l	Glass bottle	2222.2500

ETHYL ACETATE

- $CH_3COOC_2H_5$
- M = 88.11 g/mol
- CAS no. 141-78-6
- EC Index no. 607-022-00-5
- EC no. 205-500-4
- Density (20 °C) 0.898 – 0.902 g/ml
- UN-No. 1173
- ADR 3, II

GHS

- H225 H319 H336 EUH066
- P210 P241 P280 P303+P361+P353 P305+P351+P338 P405 P501

Specification

- Colourless liquid
- Melting point -83 °C
- Boiling point 77 – 78 °C

ETHYL ACETATE FOR HPLC (MIN. 99.8 %)

Specification

- Refractive index (20 °C) 1.370 - 1.374
- Water (KF) max. 200 mg/kg
- Non-volatile substances max. 10 mg/kg
- Free acids (as CH_3COOH) max. 30 mg/kg
- UV transmittance at 260 nm min. 75.0 %
- UV transmittance at 270 nm min. 90.0 %
- UV transmittance at 300 nm min. 95.0 %
- Ethanol (C_2H_5OH) max. 0.04 %
- Methanol (CH_3OH) max. 0.01 %
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2237.1000
2.5 l	Glass bottle	2237.2500

ETHYL ACETATE FOR RESIDUE ANALYSIS (MIN. 99.8 %)

Specification

- Refractive index (20 °C) 1.370 - 1.374
- Water (KF) max. 300 mg/kg
- Non-volatile substances max. 2 mg/kg
- Free acids (as CH_3COOH) max. 30 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2219.1000
2.5 l	Glass bottle	2219.2500

ETHYL ACETATE FOR LC-MS (MIN. 99.95 %)

Specification

- Identity (IR) complies
- Colour (Hazen) max. 10
- Refractive index (20 °C) 1.370 - 1.374
- Water (KF) max. 200 mg/kg
- Residue on evaporation max. 2 mg/kg
- Free acids (as CH_3COOH) max. 0.0030 %
- Free alkali (as NH_3) max. 0.0005 %
- UV transmittance at 260 nm min. 75.0 %
- UV transmittance at 275 nm min. 97.0 %
- UV transmittance at 300 nm min. 98.0 %
- Aluminium (Al) max. 0.000005 %
- Iron (Fe) max. 0.000005 %
- Sodium (Na) max. 0.000005 %
- Magnesium (Mg) max. 0.000005 %
- Calcium (Ca) max. 0.000005 %
- Potassium (K) max. 0.000005 %
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2278.1000

ETHYL ACETATE FOR UHPLC-MS (MIN. 99.95 %)

Specification

- Assay (GC, on anhydrous basis) 99.95 - 100 %
- Water (KF) max. 0.02 % w/w
- Residue on evaporation max. 0.0002 % w/w
- LC-MS suitability test (reserpine) max. 50 ppb
- Absorption at 255 nm max. 0.60 AU
- Absorption at 260 nm max. 0.10 AU
- Absorption at 275 nm max. 0.01 AU
- Fluorescence (as quinine) at 254 nm max. 2.0 ppb
- Fluorescence (as quinine) at 365 nm max. 1.0 ppb
- Acidity max. 0.0004 meq/g
- Alkalinity max. 0.0004 meq/g
- Aluminium (Al) max. 20 ppb
- Calcium (Ca) max. 50 ppb
- Iron (Fe) max. 20 ppb
- Potassium (K) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Sodium (Na) max. 100 ppb
- Lead (Pb) max. 20 ppb
- Filtered through 0.1 µm
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	2279.1000
2.5 l	Glass bottle	2279.2500

N-HEPTANE FOR HPLC (MIN. 99.2 %)

- C_7H_{16}
- M = 100.21 g/mol
- CAS no. 142-82-5
- EC Index no. 601-008-00-2
- EC no. 205-563-8
- Density (20 °C) 0.680 – 0.687 g/ml
- UN-No. 1206
- ADR 3, II

GHS

- H225 H304 H315 H336 H410
- P210 P241 P243 P261 P271 P273 P280 P301+P310 P303+P361+P353 P304+P340 P312 P331 P403+P233 P501

Specification

- Clear, colourless liquid
- Melting point -90.5 °C
- Boiling point 97.0 – 98.9 °C
- Identity complies
- Refractive index (20 °C) 1.3836 - 1.3916
- Water (KF) max. 100 ppm
- Residue on evaporation max. 5 ppm
- Acidity or alkalinity max. 0.00015 meq/g
- UV transmittance at 200 nm min. 20.0 %
- UV transmittance at 210 nm min. 55.0 %
- UV transmittance at 220 nm min. 80.0 %
- UV transmittance at 230 nm min. 92.0 %
- UV transmittance at 240 nm min. 96.0 %
- UV transmittance at 250 nm min. 98.0 %
- UV transmittance at 260 nm min. 99.0 %
- Aromatic compounds max. 5 ppm
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	1968.2500

HEXAFLUORO-2-PROPANOL P. A. (MIN. 99.0 %)

- $CF_3CH(OH)CF_3$
- M = 168.04 g/mol
- CAS no. 920-66-1
- EC no. 213-059-4
- Density (20 °C) ~1.6 g/cm³
- UN-No. 3265
- ADR 8, II

GHS

- H302+H312+H332 H314
- P260 P280 P301+P330+P331 P303+P361+P353 P304+P340 P305+P351+P338 P501

Specification

- Colourless liquid
- Melting point -3.4 °C
- Boiling point 58.2 °C
- Identity (IR) complies
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
100 ml	Glass bottle	1909.0100
500 ml	Glass bottle	1909.0500

HEXAMETHYLDISILAZANE P. A. (HMDS) (MIN. 97.5 %)

- $C_6H_{19}NSi_2$
- M = 161.39 g/mol
- CAS no. 999-97-3
- EC no. 213-668-5
- Density (20 °C) 0.774 g/cm³
- UN-No. 3286
- ADR 3 (6.1, 8), II

GHS

- H225 H302 H311 H315 H319 H335
- P210 P241 P280 P303+P361+P353 P304+P340 P305+P351+P338 P403+P235 P501

Specification

- Clear liquid
- Melting point -82 °C
- Boiling point 126 °C
- Identity complies
- Colour (Hazen) max. 10
- Refractive index (20 °C) 1.4060 - 1.4090

Quantity	Packaging material	Art. no.
25 ml	Glass bottle	1918.0025

N-HEXANE

- C_6H_{14}
- M = 86.18 g/mol
- CAS no. 110-54-3
- EC Index no. 601-037-00-0
- EC no. 203-777-6
- Density 0.655 – 0.665 g/ml
- UN-No. 1208
- ADR 3, II

GHS

- H225 H304 H315 H336 H361f H373 H411
- P201 P202 P210 P241 P242 P243 P260 P264 P271 P273 P281 P301+P310 P303+P361+P353 P304+P340 P308+P313 P331 P403+P233 P501

Specification

- Colourless liquid
- Melting point -95.0 °C
- Boiling point 68.0 – 69.2 °C

N-HEXANE FOR HPLC (MIN. 95.0 %)

Specification

- Refractive index (20 °C) 1.373 - 1.377
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 5 mg/kg
- Aromatic compounds max. 10 mg/kg
- UV transmittance at 220 nm min. 82.0 %
- UV transmittance at 230 nm min. 92.0 %
- UV transmittance at 245 nm min. 98.0 %
- Total sulphur (S) max. 5 mg/kg
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1964.1000
2.5 l	Glass bottle	1964.2500

N-HEXANE FOR RESIDUE ANALYSIS (MIN. 95.0 %)

Specification

- Identity complies
- Refractive index (20 °C) 1.373 - 1.377
- Water (KF) max. 150 mg/kg
- Non-volatile substances max. 5 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1973.1000
2.5 l	Glass bottle	1973.2500

METHANOL

- CH_3OH
- M = 32.04 g/mol
- CAS no. 67-56-1
- EC Index no. 603-001-00-X
- EC no. 200-659-6
- Density (20 °C) 0.79 – 0.793 g/ml
- UN-No. 1230
- ADR 3 (6.1), II

GHS

- H225 H301+H311+H331 H370
- P210 P280 P301+P310 P303+P361+P353 P304+P340 P405 P501

Specification

- Colourless liquid
- Melting point -98 °C
- Boiling point 65 °C

METHANOL GRADIENT GRADE FOR HPLC (MIN. 99.85 %)

Specification

- Refractive index (20 °C) 1.327 - 1.331
- Water (KF) max. 300 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as HCOOH) max. 10 mg/kg
- Free alkali (as NH_3) max. 1 mg/kg
- Carbonyl compounds (as CH_3COCH_3) max. 20 mg/kg
- HPLC gradient test complies
- HPLC gradient (peak) at 235 nm max. 2 mAU
- HPLC gradient (peak) at 254 nm max. 1 mAU
- UV transmittance at 210 nm min. 30.0 %
- UV transmittance at 220 nm min. 50.0 %
- UV transmittance at 235 nm min. 80.0 %
- UV transmittance at 260 nm min. 98.0 %
- Ethanol (C_2H_5OH) max. 200 mg/kg
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1481.1000
2.5 l	Glass bottle	1481.2500

METHANOL ULTRAGRADIENT GRADE FOR HPLC, PH. EUR. (MIN. 99.9 %)

Specification

- Identity complies
- Colour (APHA) max. 10
- Refractive index (20 °C) 1.3270 - 1.3300
- Distillation range 64.1 - 65.1 °C
- Acidty max. 0.0003 meq/g
- Alkalinity max. 0.00006 meq/g
- Water (KF) max. 0.02 %
- Residue on evaporation max. 5 ppm
- Carbonyl compounds (as CH_3COCH_3) max. 20 ppm
- Ethanol (C_2H_5OH) max. 50 ppm
- $KMnO_4$ reducing compounds (as O) max. 2 ppm
- Fluorescence at 254 nm max. 1 ppb
- Fluorescence at 365 nm max. 1 ppb
- UV transmittance at 210 nm min. 30 %
- UV transmittance at 220 nm min. 55 %
- UV transmittance at 225 nm min. 65 %
- UV transmittance at 235 nm min. 85 %
- UV transmittance at 240 nm min. 90 %
- UV transmittance at 250 nm min. 95 %
- UV transmittance at 260 nm min. 98 %
- HPLC Gradient (peak) at 235 nm max. 2 mAU
- HPLC Gradient (peak) at 254 nm max. 1 mAU
- HPLC Gradient test complies
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	1455.2500

METHANOL FOR RESIDUE ANALYSIS (MIN. 99.9 %)

Specification

- Refractive index (20 °C) 1.327 - 1.331
- Water (KF) max. 500 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as HCOOH) max. 10 mg/kg
- Free alkali (as NH_3) max. 1 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1448.1000
2.5 l	Glass bottle	1448.2500

METHANOL FOR LC-MS (MIN. 99.95 %)

Specification

- Refractive index (20 °C) 1.327 - 1.331
- Water (KF) max. 200 mg/kg
- Non-volatile substances max. 2 mg/kg
- Free acid max. 0.0003 meq/g
- Free alkali max. 0.00006 meq/g
- UV transmittance at 210 nm min. 30.0 %
- UV transmittance at 225 nm min. 65.0 %
- UV transmittance at 235 nm min. 85.0 %
- UV transmittance at 250 nm min. 95.0 %
- UV transmittance from 260 nm min. 98.0 %
- Fluorescence (as quinine) at 254 nm max. 1 ppb
- Fluorescence (as quinine) at 365 nm max. 1 ppb
- HPLC gradient (peak) at 235 nm max. 2 mAU
- HPLC gradient (peak) at 254 nm max. 1 mAU
- Aluminium (Al) max. 0.000005 %
- Iron (Fe) max. 0.000005 %
- Sodium (Na) max. 0.000005 %
- Calcium (Ca) max. 0.000005 %
- Magnesium (Mg) max. 0.000005 %
- Potassium (K) max. 0.000005 %
- Sensitive impurities (reserpine) max. 100 ppb
- Colour (Hazen) max. 10
- Identity (IR) complies
- Filtered through 0.1 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1428.1000
2.5 l	Glass bottle	1428.2500

METHANOL FOR UHPLC-MS (MIN. 99.97 %)

Specification

- Assay (GC, on anhydrous basis) 99.97 - 100 %
- Water (KF) max. 0.03 % w/w
- Residue on evaporation max. 0.0001 % w/w
- LC-MS suitability test (reserpine) max. 30 ppb
- Absorption at 210 nm max. 0.40 AU
- Absorption at 220 nm max. 0.20 AU
- Absorption at 230 nm max. 0.10 AU
- Absorption at 254 nm max. 0.02 AU
- Fluorescence (as quinine) at 254 nm max. 0.5 ppb
- Fluorescence (as quinine) at 365 nm max. 0.5 ppb
- Gradient test at 220 nm max. 4 mAU
- Gradient test at 235 nm max. 2 mAU
- Acidity max. 0.0004 meq/g
- Alkalinity max. 0.0001 meq/g
- Aluminium (Al) max. 20 ppb
- Calcium (Ca) max. 50 ppb
- Iron (Fe) max. 20 ppb
- Potassium (K) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Sodium (Na) max. 100 ppb
- Lead (Pb) max. 20 ppb
- Filtered through 0.1 µm
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1485.1000
2.5 l	Glass bottle	1485.2500

2-METHYLTETRAHYDROFURAN FOR HPLC, ISOCRATIC (MIN. 99.5 % (UNSTAB.))

- $C_5H_{10}O$
- M = 86.14 g/mol
- CAS no. 96-47-9
- EC no. 202-507-4
- Density (20 °C) 0.855 g/cm³
- UN-No. 2536
- ADR 3, II

GHS

- H225 H302 H318 H335 EUH019
- P210 P241 P280 P303+P361+P353 P304+P340 P305+P351+P338 P403+P235 P501

Specification

- Colourless liquid
- Melting point -136 °C
- Boiling point 80.2 °C
- Identity complies
- Colour (APHA) max. 10
- Refractive index (20 °C) 1.404 - 1.408
- Water (KF) max. 200 mg/kg
- Non-volatile substances max. 5 mg/kg
- Peroxides (as H_2O_2) max. 300 mg/kg
- UV transmittance at 240 nm min. 30 %
- UV transmittance at 250 nm min. 50 %
- UV transmittance at 260 nm min. 70 %
- UV transmittance at 280 nm min. 90 %
- UV transmittance from 310 nm min. 98 %

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1474.1000
2.5 l	Glass bottle	1474.2500

MIXTURE ETHYL ACETATE/CYCLOHEXANE 50 : 50 (% V/V) FOR RESIDUE ANALYSIS

- UN-No. 1993
- ADR 3, II

GHS

- H225 H304 H315 H319 H336 H410 EUH66
- P210 P261 P273 P280 P301+P310+P331 P312 P501

Specification

- Ethyl acetate ($C_4H_8O_2$) 49.5 - 50.5 % v/v
- Cyclohexane (C_6H_{12}) 49.5 - 50.5 % v/v
- GC-ECD: Peak (lindane) max. 3 ng/l

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	697.2500

PETROLEUM BENZINE

- CAS no. 64742-49-0
- EC Index no. 649-328-00-1
- EC no. 265-151-9
- UN-No. 1268
- ADR 3, II

GHS

- H225 H304 H336 H411 EUH066
- P210 P241 P243 P261 P271 P273 P280 P301+P310 P303+P361+P353 P304+P340 P403+P233 P501

Specification

- Colourless liquid

PETROLEUM BENZINE FOR RESIDUE ANALYSIS (BOILING RANGE 35 – 60 °C)

Specification

- Boiling point 35 – 60 °C
- Refractive index (20 °C) 1.355 - 1.359
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 2 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Total sulphur (S) max. 10 ppm
- Colour (Hazen) max. 10

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	1152.2500

PETROLEUM BENZINE FOR PESTICIDE ANALYSIS (BOILING RANGE 40 – 65 °C)

Specification

- Boiling point 40 – 65 °C
- Water (KF) max. 100 mg/kg
- Non-volatile substances max. 2 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l
- Colour (Hazen) max. 10
- Density (d 15/4) 0.640 - 0.655

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	1145.2500

2-PROPANOL

- $CH_3CH(OH)CH_3$
- M = 60.10 g/mol
- CAS no. 67-63-0
- EC Index no. 603-117-00-0
- EC no. 200-661-7
- UN-No. 1219
- ADR 3, II

GHS

- H225 H319 H336
- P210 P233 P241 P243 P261 P280 P305+P351+P338 P312 P403+P235 P501

Specification

- Clear, colourless liquid
- Melting point -89 °C
- Boiling point 81 – 83 °C

2-PROPANOL FOR HPLC (MIN. 99.8 %)

- Density (20 °C) 0.78 g/ml

Specification

- Refractive index (20 °C) 1.375 - 1.379
- Water (KF) max. 500 mg/kg
- Non-volatile substances max. 7 mg/kg
- Free acids (as CH_3COOH) max. 10 mg/kg
- UV transmittance at 210 nm min. 20.0 %
- UV transmittance at 230 nm min. 75.0 %
- UV transmittance at 260 nm min. 98.0 %
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1164.1000
2.5 l	Glass bottle	1164.2500

2-PROPANOL FOR LC-MS (MIN. 99.95 %)

- Density (20 °C) 0.78 g/ml

Specification

- Identity (IR) complies
- Refractive index (20 °C) 1.375 - 1.379
- Water (KF) max. 200 mg/kg
- Residue on evaporation max. 2 mg/kg
- Free acids (as CH_3COOH) max. 0.0010 %
- Free alkali (as NH_3) max. 0.0005 %
- UV transmittance at 220 nm min. 64.0 %
- UV transmittance at 230 nm min. 80.0 %
- UV transmittance at 260 nm min. 98.5 %
- HPLC gradient (peak) at 254 nm max. 2 mAU
- Aluminium (Al) max. 0.000005 %
- Iron (Fe) max. 0.000005 %
- Sodium (Na) max. 0.000005 %
- Calcium (Ca) max. 0.000005 %
- Magnesium (Mg) max. 0.000005 %
- Potassium (K) max. 0.000005 %
- Sensitive impurities (reserpine) max. 100 ppb
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1178.1000
2.5 l	Glass bottle	1178.2500

2-PROPANOL FOR UHPLC-MS (MIN. 99.95 %)

- Density 0.785 g/ml

Specification

- Assay (GC, on anhydrous basis) 99.95 - 100.0 %
- Colour (APHA) max. 5
- Residue on evaporation max. 0.0001 % w/w
- Water (KF) max. 0.05 % w/w
- Acidity (as CH_3COOH) max. 0.001 %
- Alkalinity (as NH_4) max. 0.0001 %
- LC-MS suitability test (reserpine) max. 20 ppb
- Gradient test at 235 nm max. 1.0 mAU
- Gradient test at 254 nm max. 1.0 mAU
- Fluorescence (as quinine) at 254 nm max. 0.5 ppb
- Fluorescence (as quinine) at 365 nm max. 0.5 ppb
- UV transmittance at 220 nm min. 80 %
- UV transmittance at 230 nm min. 90 %
- UV transmittance at 250 nm min. 99 %
- Silver (Ag) max. 50 ppb
- Aluminium (Al) max. 20 ppb
- Barium (Ba) max. 50 ppb
- Bismuth (Bi) max. 50 ppb
- Calcium (Ca) max. 50 ppb
- Cadmium (Cd) max. 50 ppb
- Cobalt (Co) max. 20 ppb
- Chromium (Cr) max. 20 ppb
- Iron (Fe) max. 20 ppb
- Potassium (K) max. 50 ppb
- Lithium (Li) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Manganese (Mn) max. 20 ppb
- Molybdenum (Mo) max. 50 ppb
- Sodium (Na) max. 50 ppb
- Nickel (Ni) max. 20 ppb
- Lead (Pb) max. 20 ppb
- Tin (Sn) max. 50 ppb
- Strontium (Sr) max. 50 ppb
- Zinc (Zn) max. 50 ppb
- Filtered through 0.1 µm
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	1179.1000
2.5 l	Glass bottle	1179.2500

TETRAHYDROFURAN

- C_4H_8O
- M = 72.11 g/mol
- CAS no. 109-99-9
- EC Index no. 603-025-00-0
- EC no. 203-726-8
- UN-No. 2056
- ADR 3, II

GHS

- H225 H319 H335 H351 EUH019
- P201 P210 P241 P243 P261 P280 P308+P313 P403+P233

Specification

- Clear, colourless liquid
- Melting point -108 °C
- Boiling point 64 – 66 °C

TETRAHYDROFURAN FOR HPLC (MIN. 99.9 % (UNSTAB.))

Specification

- Refractive index (20 °C) 1.405 - 1.409
- Water (KF) max. 200 mg/kg
- Non-volatile substances max. 5 mg/kg
- Free acids (as CH_3COOH) max. 20 mg/kg
- Peroxides (as H_2O_2) max. 300 mg/kg
- UV transmittance at 240 nm min. 20.0 %
- UV transmittance at 250 nm min. 45.0 %
- UV transmittance at 300 nm min. 90.0 %
- UV transmittance at 320 nm min. 95.0 %
- Colour (Hazen) max. 10
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	797.1000
2.5 l	Glass bottle	797.2500

TETRAHYDROFURAN FOR UHPLC-MS (MIN. 99.9 % (UNSTAB.))

- Density 0.89 g/ml

Specification

- Assay (GC, on anhydrous basis) 99.9 - 100 %
- Water (KF) max. 0.02 % w/w
- Residue on evaporation max. 0.0001 % w/w
- LC-MS suitability test (reserpine) max. 50 ppb
- Absorption at 220 nm max. 0.55 AU
- Absorption at 235 nm max. 0.40 AU
- Absorption at 245 nm max. 0.26 AU
- Absorption at 255 nm max. 0.15 AU
- Absorption at 275 nm max. 0.05 AU
- Absorption at 285 nm max. 0.02 AU
- Absorption at 315 nm max. 0.01 AU
- Fluorescence (as quinine) at 254 nm max. 1.0 ppb
- Fluorescence (as quinine) at 365 nm max. 1.0 ppb
- Gradient test at 254 nm max. 10 mAU
- Gradient test at 280 nm max. 5 mAU
- Peroxides (as H_2O_2) max. 0.01 %
- Acidity max. 0.004 meq/g
- Alkalinity max. 0.0004 meq/g
- Aluminium (Al) max. 20 ppb
- Calcium (Ca) max. 50 ppb
- Iron (Fe) max. 20 ppb
- Potassium (K) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Sodium (Na) max. 100 ppb
- Lead (Pb) max. 20 ppb
- Filtered through 0.2 µm
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	790.1000
2.5 l	Glass bottle	790.2500

TOLUENE

- $C_6H_5CH_3$
- M = 92.14 g/mol
- CAS no. 108-88-3
- EC Index no. 601-021-00-3
- EC no. 203-625-9
- UN-No. 1294
- ADR 3, II

GHS

- H225 H304 H315 H336 H361d H373
- P201 P210 P241 P243 P260 P271 P281 P301+P310 P303+P361+P353 P304+P340 P308+P313 P331 P403+P233 P501

Specification

- Clear, colourless liquid
- Melting point -95 °C
- Boiling point 110 – 111 °C

TOLUENE FOR RESIDUE ANALYSIS (MIN. 99.8 %)

Specification

- Colour (Hazen) max. 10
- Refractive index (20 °C) 1.494 - 1.498
- Non-volatile substances max. 5 mg/kg
- Water (KF) max. 100 mg/kg
- Free acids (as HCl) max. 10 mg/kg
- GC-ECD: Peak (lindane) (Retention range trichlorobenzene to mirex) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) (Retention range atrazin to coumaphos) max. 3 ng/l

Quantity	Packaging material	Art. no.
1 l	Glass bottle	715.1000
2.5 l	Glass bottle	715.2500

TOLUENE FOR PESTICIDE ANALYSIS (MIN. 99.8 %)

Specification

- Identity complies
- Colour (Hazen) max. 10
- Non-volatile substances max. 5 ppm
- Water max. 100 ppm
- Acidity (HCl) max. 10 ppm
- GC-ECD: Peak (lindane) max. 3 ng/l
- GC-NPD: Peak (ethylparathion) max. 3 ng/l

Quantity	Packaging material	Art. no.
2.5 l	Glass bottle	739.2500

WATER

- H_2O
- M = 18.02 g/mol
- CAS no. 7732-18-5
- EC no. 231-791-2
- Density 1.00 g/ml

Specification

- Clear, colourless liquid
- Melting point 0 °C
- Boiling point 100 °C

WATER FOR HPLC

Specification

- HPLC gradient test complies
- HPLC gradient (peak) at 210 nm max. 5 mAU
- HPLC gradient (peak) at 254 nm max. 0.5 mAU
- Conductivity max. 0.1 µS/cm
- Total organic carbon (TOC) max. 3 ppb
- Filtered through 0.1 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	418.1000
2.5 l	Glass bottle	418.2500

WATER FOR LC-MS

Specification

- HPLC gradient test complies
- HPLC gradient (peak) at 210 nm max. 5 mAU
- HPLC gradient (peak) at 254 nm max. 1 mAU
- Residue on evaporation max. 1 mg/kg
- Total organic carbon (TOC) max. 100 ppb
- Aluminium (Al) max. 0.000005 %
- Iron (Fe) max. 0.000005 %
- Calcium (Ca) max. 0.000005 %
- Magnesium (Mg) max. 0.000005 %
- Sodium (Na) max. 0.00001 %
- Potassium (K) max. 0.000005 %
- Sensitive impurities (reserpine) max. 100 ppb
- Conductivity max. 0.1 µS/cm
- Filtered through 0.2 µm

Quantity	Packaging material	Art. no.
1 l	Glass bottle	455.1000
2.5 l	Glass bottle	455.2500

WATER FOR UHPLC-MS

Specification

- Residue on evaporation max. 0.0001 % w/w
- LC-MS suitability test (reserpine) max. 30 ppb
- Fluorescence (as quinine) at 254 nm max. 0.30 ppb
- Fluorescence (as quinine) at 365 nm max. 0.30 ppb
- Gradient test at 210 nm max. 1 mAU
- Gradient test at 254 nm max. 0.5 mAU
- Total organic carbon (TOC) max. 10 ppb
- Acidity max. 0.00004 meq/g
- Alkalinity max. 0.00004 meq/g
- Aluminium (Al) max. 20 ppb
- Calcium (Ca) max. 50 ppb
- Iron (Fe) max. 20 ppb
- Potassium (K) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Sodium (Na) max. 100 ppb
- Lead (Pb) max. 20 ppb
- Resistance 18.2 - 30 MΩcm
- Filtered through 0.1 µm
- Filled under inert gas

Quantity	Packaging material	Art. no.
1 l	Glass bottle	470.1000
2.5 l	Glass bottle	470.2500

WATER LC-MS WITH 0.1 % V/V FORMIC ACID

Specification

- Clear, colourless liquid
- Colour (APHA) max. 10
- Acidity (as HCOOH) 0.095 - 0.105 %
- HPLC gradient (peak) at 210 nm max. 50 mAU
- HPLC gradient (peak) at 254 nm max. 10 mAU
- UV transmittance at 210 nm min. 5.0 %
- UV transmittance at 230 nm min. 45.0 %
- UV transmittance at 254 nm min. 99.0 %
- pH (20 °C) 2.6 - 2.8
- Sensitive impurities (reserpine) max. 50 ppb
- Aluminium (Al) max. 20 ppb
- Iron (Fe) max. 30 ppb
- Calcium (Ca) max. 50 ppb
- Magnesium (Mg) max. 20 ppb
- Sodium (Na) max. 100 ppb
- Potassium (K) max. 50 ppb

Quantity	Packaging material	Art. no.
1 l	Glass bottle	456.1000
2.5 l	Glass bottle	456.2500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		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Agilent	1050						+		+	+
Agilent	1050 (34 Pos. Tray)	+								
Agilent	1090						+		+	+
Agilent	1090 (34 Pos. Tray)	+								
Agilent	1100						+		+	+
Agilent	1200						+		+	+
Agilent	G1888A									
Agilent	7673A	+					+		+	
Agilent	7683A	+					+		+	
Agilent	HS7694									
Agilent	7695A									
Agilent	79855(A)						+		+	+
Agilent	5880						+		+	
Agilent	5890						+		+	
Agilent	6850 (27 Pos. Tray)						+		+	
Agilent	6850 (22 Pos. Tray)									
Agilent	6890						+		+	
Agilent	CTC HTS+HTC PAL	+	+				+		+	+
Agilent	CTC GC PAL	+	+				+		+	
Agilent	CTC Combi PAL									
Agilent	Tekmar SOLATek72									
Agilent	Archon Pluge + Trap									
Agilent	AQUATek 70									
Agilent	7693A					+			+	+
Agilent	HS7694									
Agilent	7697A									
AI	42 vial tray				+	+	+		+	
AI	60 vial tray	+		+		+	+		+	
AI	CTC A200S		+			+	+		+	
AI	Headspace									
AIM	CPS-100					+	+		+	
AIM	CPS-200					+	+		+	
Alcott	708 AL									
Alcott	728									
Alcott	738					+	+	+	+	+
Alcott	719 AL					+	+	+	+	+
Alcott	719 D/ D-PCS					+	+	+	+	+
Analytik Jena	multi N/C 3000 (TOC)									
Antec Leyden	AS 100					+	+	+	+	+
Antek	736 Unisampler					+	+	+	+	+
Antek	738					+	+	+	+	+
Beckman	501	+				+	+	+	+	+
Beckman	502/502e	+				+	+	+	+	+
Beckman	504		+							
Beckman	507/507e	+			+	+	+	+	+	+
Beckman	508 (System Gold)						+			
Beckman	Marathon				+	+	+		+	+
Beckman	Promis				+	+	+		+	+
Beckman	Triathlon Standard Tray				+	+	+		+	+

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread	Crimp neck and headspace						Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**	**ND20**						**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371

Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)

+												+			
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AUTOSAMPLER COMPATIBILITY

LABSOLUTE®
A BRAND OF TH.GEYER

		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Beckman	Triathlon LSV Tray	+								
Beckman	Triathlon Super-LSV Tray									
Beckman	Triathlon Micro-Tray		+							
Bruker	LC51									
Cambridge Scientific Instruments	205 Series					+	+	+	+	
Cambridge Scientific Instruments	300 Series					+	+	+	+	
Carlo Erba	AS100	+	+		+	+	+		+	+
Carlo Erba	AS200		+			+	+		+	
Carlo Erba	A200LC		+		+	+	+		+	+
Carlo Erba	AS200S		+		+	+	+		+	
Carlo Erba	AS300	+	+		+	+	+		+	+
Carlo Erba	AS800 42 vial tray					+	+		+	
Carlo Erba	AS800 60 vial tray	+		+		+	+		+	
Carlo Erba	HS250									
Carlo Erba	HS500									
Carlo Erba	HS800									
Carlo Erba	HS850									
Cecil Instruments	CE4800					+	+	+	+	+
Cecil Instruments	AutoQuest				+			+		+
CTC (LEAP)	LC PAL (216 Pos.)				+	+	+	+	+	+
CTC (LEAP)	HTX PAL, HTC PAL, HTS PAL (200 Pos. Tray)		+							
CTC (LEAP)	HTX PAL, HTC PAL, HTS PAL (54/98 Pos. Tray)	+			+	+	+	+	+	+
CTC (LEAP)	HTX PAL, HTC PAL, HTS PAL (32 Pos. Tray)									
CTC (LEAP)	Combi PAL (200 Pos. Tray), GC PAL (200 Pos. Tray)		+							
CTC (LEAP)	Combi PAL (98 Pos. Tray), GC PAL (98 Pos. Tray)	+					+		+	
CTC (LEAP)	Combi PAL SPME Mode (98 Pos. Tray)						+		+	
CTC (LEAP)	Combi PAL (32 Pos. Tray), GC PAL (32 Pos. Tray)									
CTC (LEAP)	Combi PAL SPME Mode (32 Pos. Tray)									
CTC	PAL HPLC-Systems		+			+	+	+	+	
CTC	PAL Combi-xt Liquid Mode		+			+	+	+	+	
CTC	Combi-xt Headspace Option								+	
CTC	GC-xt Headspace Option		+			+	+	+	+	
CTC	PAL HTC-xt		+			+	+	+	+	
CTC	HTS-xt		+			+	+	+	+	
CTC	HTX-xt		+			+	+	+	+	
CTC	Combi-xt SPME Options								+	
CTC	A200S		+			+	+	+	+	
CTC	A200 LC		+		+	+	+	+	+	+
CTC	HS 500									
DANI	ALS 39.80						+		+	+
DANI	ALS 86.80						+		+	+
DANI	ALS 1000						+		+	+
DANI	HS39.50									
DANI	HS86.50									
DANI	Master AS						+		+	+
Dimatec	Dimatoc 2000									
Dionex	Gina 50			+			+		+	+
Dionex	AS 50	+				+	+	+		+
Dionex	Summit ASI 100, Micro-Tray (192 Pos.)			+						
Dionex	Summit ASI 100, Analytical-Tray (117 Pos.)					+	+		+	+

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread			Crimp neck and headspace					Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**			**ND20**					**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371
Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)															
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AUTOSAMPLER COMPATIBILITY

LABSOLUTE®
A BRAND OF TH.GEYER

		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Dionex	Summit ASI 100, Semiprep-Tray (63 Pos.)									
Dionex	Famos (LC Packings/Dionex)					+	+	+	+	+
Dionex	UltiMate Analytical, cylindrical, WPS-3000 SL, 120 Pos. Rack (2 ml)					+	+	+	+	+
Dionex	UltiMate Analytical, conical, WPS-3000 SL, 120 3x40) Pos. Rack (1,1 ml=2 ml w. Inserts)									
Dionex	UltiMate Micro conical, WPS-3000 SL, 120 (3x40) Pos. Rack (250 µl)	+								
Dionex	UltiMate Semipreparative, WPS-3000 SL, 66 (3x22) Pos. Rack (4ml)									
Dionex	UltiMate Nano/Cap/Micro, WPS-3000 SL, 216 (3x72) Pos. Rack (1.2ml)			+						
Dionex	ASE 200									
Dionex	AS 40									
Dionex	HS-HV					+				
Dimatec	Dimatoc 200									
Dimatec	Dimatoc 300									
Dimatec	Dimatoc 400									
D-Star	DAS 10					+			+	
Dynatech	42 vial tray				+	+	+		+	
Dynatech	60 vial tray	+		+		+	+		+	
Dynatech	LC2000			+						
Dynatech	GC111					+			+	
Dynatech	GC311					+			+	
EST Analytical	Cobra L/S GC Autosampler, 120 vial tray					+	+	+	+	
EST Analytical	Cobra L/S GC Autosampler, 60 vial tray									
EST Analytical	Markelov HS9000									
EST Analytical	Archon P/T									
EST Analytical	Centurion 100									
Finnigan	A200S		+			+	+		+	
Fisons	AS100	+	+		+	+	+		+	+
Fisons	AS200		+			+	+		+	
Fisons	A200LC		+		+	+	+		+	+
Fisons	AS200S		+		+	+	+		+	
Fisons	AS300	+	+		+	+	+		+	+
Fisons	AS800, 42 vial tray					+	+		+	
Fisons	AS800, 60 vial tray	+		+		+	+		+	
Fisons	HS250									
Fisons	HS500									
Fisons	HS800									
Fisons	HS850									
GBC	Avanta Ultra Z						+		+	+
GE Instruments	Sievers® 900									
Gerstel	MPS2	+	+						+	
Gilson	201/202					+	+			
Gilson	221/222					+	+			
Gilson	231/401					+	+			
Gilson	232/402					+	+			
Gilson	Aspec Xli					+	+			
Gilson	Aspec XL4					+	+			
Gilson	221XL/222XL	+ (1)	+							
Gilson	223		+							

(1) Only for 221XL

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread	Crimp neck and headspace						Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**	**ND20**						**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371

Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)

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AUTOSAMPLER COMPATIBILITY

LABSOLUTE®
A BRAND OF TH.GEYER

		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Gilson	231XL/232XL/233XL	+ (1)	+							
Gilson	Nano Injektor					+	+			
Gilson	235/235P/SP 235/SP 235P		+			+	+			
Gynkotek	Gina 50			+			+		+	+
Hach Lange	IL 550 TOC-TN									
HTA	HT200H									
HTA	HT250D					+	+	+	+	+
HTA	HT280T					+	+	+	+	+
HTA	HT300A					+	+	+	+	+
HTA	HT310A					+	+	+	+	+
HTA	HT300L					+	+	+	+	+
ICI	LC1600		+							
IMT GmbH	VSP4000									
IMT GmbH	PTA3000									
Jasco	AS 2055/AS 2055 (i)	+				+	+	+	+	+
Jasco	AS 2057/AS 2057 (i)	+				+	+	+	+	+
Jasco	AS 2059	+				+	+	+	+	+
Knauer	K-3800 (Basic Marathon)				+	+	+		+	+
Knauer	Smartline K-3950					+	+		+	+
Knauer	PLATINblue AS-1					+	+		+	+
Konik -Tech	Robokrom Static HS									
Konik -Tech	Robokrom HRGC		+						+	
Konik -Tech	Robokrom HPLC				+	+	+	+	+	+
Kontron	MSI 660					+				
Kontron	360, 460	+			+	+	+		+	+
LDC	713-60	+								
LDC	Marathon				+	+	+		+	+
LDC	Promis				+	+	+		+	+
LEAP	siehe CTC									
O.I. Analytical	1020A									
O.I. Analytical	1088									
O.I. Analytical	1096+									
O.I. Analytical	4551A									
O.I. Analytical	1552									
PerkinElmer	Series 200, 25 vial tray									
PerkinElmer	Series 200, 85 vial tray							+	+	
PerkinElmer	Series 200, 81/100 vial tray							+	+	
PerkinElmer	Series 200, 205 vial tray	+						+	+	
PerkinElmer	Series 200, 225 vial tray	+								
PerkinElmer	AI-1	+							+	
PerkinElmer	AS-100/AS-100B	+							+	
PerkinElmer	AS2000/AS2000B							+	+	
PerkinElmer	AS-300	+							+	
PerkinElmer	AS8300	+							+	
PerkinElmer	Autosystem	+							+	
PerkinElmer	HS 6									
PerkinElmer	HS40/HS100/101									
PerkinElmer	TurboMatrix HS16/HS40/HS40 XL/HS40 Trap/HS110/HS110 Trap									
PerkinElmer	Integral 4000							+	+	

(1) Only for 221XL

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread	Crimp neck and headspace							Screw neck (EPA)
ND13					ND15	ND18	ND18	ND20							ND24
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371

Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)

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								+ (2)			+		+ (3)		

(2) Not suitable for TurbomatrixTM 110 (3) For TurbomatrixTM 16 40 110 produced after 01.09.2006

AUTOSAMPLER COMPATIBILITY

LABSOLUTE®
A BRAND OF TH.GEYER

		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
PerkinElmer	ISS-100, 85 vial tray							+	+	
PerkinElmer	ISS-100, 100 vial tray							+	+	
PerkinElmer	ISS-200, 85 vial tray							+	+	
PerkinElmer	ISS-200, 100 vial tray							+	+	
PerkinElmer	ISS-200, 145 vial tray	+								
PerkinElmer	ISS-225, 205 vial tray	+						+	+	
PerkinElmer	ISS-225, 100 vial tray + 80 vial tray							+	+	
PerkinElmer	ISS-225, 85 vial tray							+	+	
PerkinElmer	ISS-225, 25 vial tray									
PerkinElmer	LC 600, 42 vial tray									
PerkinElmer	LC 600, 60 vial tray							+	+	
PerkinElmer	Clarus 400, 500, 600								+	
Pharmacia	LKB 2157-010					+	+		+	+
Pharmacia	LKB 2157-020		+							
Polymer Laboratories	PL-AS RT					+	+	+	+	+
Quma Elektronik	QHSS-40									
Sedere							+		+	+
SGE	LS-3200		+							
Shimadzu	AOC-5000	+	+				+		+	
Shimadzu	AOC-14/1400				+	+	+	+	+	+
Shimadzu	AOC-17				+	+	+	+	+	+
Shimadzu	AOC-20/20i/20s 150 Pos. Tray				+	+	+	+	+	
Shimadzu	AOC-20/20i/20s 96 Pos. Tray									
Shimadzu	LC-20A				+	+	+	+	+	+
Shimadzu	SIL-2AS	+			+	+	+	+	+	+
Shimadzu	SIL-6A	+			+	+	+	+	+	+
Shimadzu	SIL-6B/SIL-7A/SIL-8A/SIL-9A				+	+	+	+	+	+
Shimadzu	SIL-10A/SIL-10AF/SIL-10AP/ SIL-10Ai/SIL-10AXL/Rack S 100 Pos.	+			+	+	+	+	+	+
Shimadzu	SIL-10A/SIL-10AF/SIL-10AP/ SIL-10Ai/SIL-10AXL/Rack L 80 Pos.									
Shimadzu	SIL-10A/SIL-10AF/SIL-10AP/ SIL-10Ai/SIL-10AXL/Rack MTP2 192 Pos.									
Shimadzu	SIL-10HTA/SIL-10HTC 350 pos. Tray									
Shimadzu	SIL-10HTA/SIL-10HTC 140 Pos. Tray					+	+	+	+	+
Shimadzu	SIL-10HTA/SIL-10HTC 100 Pos. Tray									
Shimadzu	SIL-10ADvp				+	+	+	+	+	+
Shimadzu	HTA 200 H									
Shimadzu	SIL-20A (Prominence) 105 vial tray/SIL-20AC (Prominence) 70 vial tray	+			+	+	+	+	+	+
Shimadzu	SIL-20A/Sil-20AC (Prominence) 175 vial tray									
Shimadzu	SIL-20A/Sil-20AC (Prominence) 50 vial tray									
Shimadzu	LC2010C + LC2010A 350 Pos. Tray									
Shimadzu	LC2010C + LC2010A 140 Pos. Tray					+	+	+	+	+
Shimadzu	LC2010C + LC2010A 100 Pos. Tray									
Shimadzu	ASI-V									
Shimadzu	HSS-2B									
Shimadzu	SIL 30-ACMP					+	+		+	
Sievers (GE Instruments)	Sievers® 900 X									
Spark	Marathon Basic, Standard 96 Pos. Tray				+	+	+		+	+
Spark	Marathon Basic Präp King Size 48 Pos. Tray									
Spark	Midas, Standard 84 Pos. Tray				+	+	+		+	+

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread			Crimp neck and headspace					Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**	**ND20**							**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371
Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)															
								+							
								+							
								+							
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AUTOSAMPLER COMPATIBILITY

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		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Spark	Midas, Large Capacity 96 Pos. Tray				+	+	+		+	+
Spark	Midas, Large Volume 24 Pos. Tray									
Spark	Alias				+	+	+		+	+
Spark	Promis				+	+	+		+	+
Spark	SPH 125				+		+		+	+
Spark	Triathlon, Standard 96 Tray				+	+	+		+	+
Spark	Triathlon, LSV 72 Pos. Tray									
Spark	Triathlon, Super-LSV 32 Pos. Tray									
Spark	Triathlon, Micro 160 Pos. Tray		+							
Spark	Endurance 48 Pos. Tray				+	+	+		+	+
Spark	Reliance 48 Pos. Tray				+	+	+		+	+
Spark	Interity								+	+
Spark	Prospekt 2								+	+
Spark	Reliance/Symbiosis Pharma								+	+
Spark	Dried Blood Spot (DBS)					+	+		+	
Spark	Integrity					+	+		+	
Spark	Optimas					+	+		+	
Spectra-Physics	8875					+	+		+	+
Spectra-Physics	8880					+	+		+	+
Spectra-Physics	SpectraSYSTEM AS1000	+	+			+	+		+	+
Spectra-Physics	SpectraSYSTEM AS 3000	+	+	+		+	+		+	+
Spectra-Physics	SpectraSYSTEM AS 3500	+	+			+	+		+	+
Sykam	S 5200						+			+
Talbot							+		+	+
Teledyne Tekmar	7000/7000HT/7050									
Teledyne Tekmar	AQUATek 70/SOLATek 72TM									
Teledyne Tekmar	STS 8000 TOC									
Teledyne Tekmar	HT3									
Thermo Scientific	AS1000 (Trace GC)	+	+			+	+		+	
Thermo Scientific	AS200		+		+	+	+		+	
Thermo Scientific	AS300	+	+		+	+	+		+	+
Thermo Scientific	AS2000 30 vial tray									
Thermo Scientific	AS2000 90 vial tray (Trace GC)			+	+	+	+		+	
Thermo Scientific	AI3000 (II)/AS3000 (II) AS3500 (Trace GC + Focus GC)	+	+				+		+	
Thermo Scientific	A200LC		+		+	+	+		+	+
Thermo Scientific	SpectraSYSTEM AS 1000	+	+			+	+		+	+
Thermo Scientific	SpectraSYSTEM AS 3000	+	+	+		+	+		+	+
Thermo Scientific	SpectraSYSTEM AS 3500	+	+			+	+		+	+
Thermo Scientific	A200S		+		+	+	+		+	
Thermo Scientific	AS100	+	+		+	+	+		+	+
Thermo Scientific	AS800 42 vial tray					+	+		+	
Thermo Scientific	AS800 60 vial tray	+		+		+	+		+	
Thermo Scientific	HS250									
Thermo Scientific	HS500									
Thermo Scientific	HS800									
Thermo Scientific	HS850									
Thermo Scientific	HS2000									
Thermo Scientific	TriPlus (=GC PAL) (AS+ Duo)	+	+	+		+	+		+	
Thermo Scientific	TriPlus HS									

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread	Crimp neck and headspace						Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**	**ND20**						**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371

Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)

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AUTOSAMPLER COMPATIBILITY

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		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Thermo Scientific	TriPlus SPME									
Thermo Scientific	HiPerTOC									
Thermo Scientific	Surveyor (Surveyor Plus)	+	+			+	+		+	+
Thermo Scientific	Accela High Speed LC Autosampler (200 Pos.)	+	+			+	+		+	+
Thermo Scientific	Accela Open Autosampler		+		+		+		+	+
Thermo Scientific	Trace 1300 Series					+	+	+	+	+
Tosoh	AS-8010						+		+	+
Tosoh	TSK-6080						+		+	+
Tracor	770/771/772					+	+		+	
TSP	8875					+	+		+	+
TSP	8880					+	+		+	
Unicam	4247					+	+		+	
Unicam	4710					+	+		+	
Unicam	4700 (GC)		+							
Unicam	4700 (LC)		+		+	+	+			
Unicam	LC-XP				+	+	+		+	
Unicam	S4/S8		+							
Varian	ProStar 400, Standard 96 Pos. Tray				+	+	+	+	+	+
Varian	ProStar 400, King Size 48 Pos. Tray									
Varian	ProStar 410, Standard 84 Pos. Tray				+	+	+	+	+	+
Varian	ProStar 410, Large Capacity 96 Pos. Tray				+	+	+	+	+	+
Varian	ProStar 410, Large Volume 24 Pos. Tray									
Varian	ProStar 420, Standard 96 Pos. Tray				+	+	+	+	+	+
Varian	ProStar 420, LSV 72 Pos. Tray	+								
Varian	ProStar 420, Super-LSV 32 Pos. Tray									
Varian	ProStar 420, Micro 160 Pos. Tray		+							
Varian	ProStar 430, 48 Pos. Tray				+	+	+		+	+
Varian	8035				+	+	+			
Varian	8000					+	+		+	
Varian	8400 (100 Pos.)					+	+		+	
Varian	8410-Autoinjector (10 x 2ml; 6 x 5ml; 5 x 10ml)					+	+		+	
Varian	8100					+	+		+	
Varian	8200					+	+	+	+	
Varian	CP-910, 911, 912					+	+		+	
Varian	CP-940, 941								+	
Varian	LC 9100/LC 9095/LC 9090						+		+	+
Varian	Archon									
Varian	COMBI PAL (200 Pos. Tray) GC PAL (200 pos. Tray)		+							
Varian	COMBI PAL (98 Pos. Tray) GC PAL (98 Pos. Tray)	+					+		+	
Varian	COMBI PAL SPME mode (98 Pos. Tray)						+		+	
Varian	COMBI PAL (32 Pos. Tray) GC PAL (32 Pos. Tray)									
Varian	COMBI PAL SPME mode (32 Pos. Tray)									
Varian	Genesis									
Varian	Marathon Basic Standard 96 Pos. Tray				+		+		+	+
Varian	Marathon Basic, Präp King Size 48 Pos. Tray									
Varian	Vista					+	+			
Varian	CP-9020/CP-9025									
Varian	CP-9060									
Varian	CP-9010					+	+		+	
Varian	920-LC / 940-LC					+				+

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread			Crimp neck and headspace					Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**	**ND20**							**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371

Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)

										+			+		
															+
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AUTOSAMPLER COMPATIBILITY

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		Crimp neck			Screw neck		Short thread	Screw neck	Crimp neck	Snap ring
		ND8			ND8		ND9	ND10	ND11	ND11
		7.614 045 7.615 704	7.622 388 7.630 552	7.616 830 7.622 387	7.631 774	6.401 175 7.613 388 7.613 087 7.615 163	6.088 871 6.205 647 6.803 174 7.612 960 7.616 848 7.616 849 7.616 850 7.618 897 7.618 914 7.631 401 7.639 476 7.639 477 7.639 478 7.660 024	7.615 291 7.615 715 7.621 171	7.608 141 7.608 160 7.616 019 7.620 828	6.901 405 6.901 955 7.608 132 7.613 330 7.616 839 7.616 860 7.616 861 7.622 228 7.631 402 7.660 048
Manufacturer	Product	Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)								
Viscotek	VortexTM									
Viscotek	GPC Autosampler					+	+	+		
VWR	Hitachi Chromaster					+	+		+	
VWR (Merck)/Hitachi	L2200 (LaChrom Elite)/L2200-U (LaChrom Ultra) (200 Pos. Tray)					+	+			+
VWR (Merck)/Hitachi	L2200 (LaChrom Elite) (128 Pos. Tray)									
VWR (Merck)/Hitachi	L7200 (LaChrom) (80 Pos. Tray)/L7250(LaChrom) (120 Pos. Tray)					+	+			+
VWR (Merck)/Hitachi	L7250 (LaChrom) (Rack Holder for combination Racks)	+				+	+			+
VWR (Merck)/Hitachi	655-A40 (108 Pos. Tray)					+	+			+
VWR (Merck)/Hitachi	L-9100					+	+			+
VWR (Merck)/Hitachi	AS 2000 (50 Pos. Tray)					+	+		+	+
VWR (Merck)/Hitachi	AS 4000 (150 Pos. Tray)					+	+		+	+
VWR (Merck)/Hitachi	AS 4000 (198 Pos. Tray)	+								
VWR (Merck)/Hitachi	AS 6000	+				+	+			+
Waters	ACQUITY™ UPLC Systeme						+			
Waters	Wisp 48 position									
Waters	Wisp 96 position									
Waters	717, 96 Position Carousel									
Waters	717, 48 Position Carousel									
Waters	Alliance®						+	+	+	+
Waters	Alliance® GPC 2000									
Waters	Alliance® HT Syst.						+	+	+	+
Waters	Alliance® 2790/2795						+	+	+	+
Waters	Acquity Sample Organizer						+			+
Waters	Acquity / CapLC / Waters / Nano Acquity						+			+
Waters	Alliance® 2690/2695						+ (1)	+	+	+

(1) Not for 7.616 848

Screw neck	Shell vials				Screw neck	Screw neck	Precision thread	Crimp neck and headspace							Screw neck (EPA)
ND13					**ND15**	**ND18**	**ND18**	**ND20**							**ND24**
7.603 252 7.613 421 7.616 808 7.616 870	7.612 017	7.616 878 7.618 925 7.620 436 7.660 049	7.616 880 7.621 467	7.632 226 7.616 879	7.616 655 7.616 898 7.618 935 7.618 936	7.616 139 7.616 899	7.616 895 7.620 815 7.621 127 7.630 303	7.615 908	7.620 148	7.615 808 7.616 883	7.613 394 7.613 328 7.620 798	6.204 710 7.621 813	7.612 926 7.616 552	7.620 147	7.609 926 7.612 150 7.615 411 7.616 901 7.616 902 7.631 988 7.632 370 7.632 371
Compatibility with the above LABSOLUTE® products guaranteed (please compare article numbers)															
															+
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+ (2)															
+				+	+	+	+								
		+													
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+				+	+	+	+								
+										+					

(2) Only for 24 Position Plate

LABSOLUTE®
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Plastic Resin Code	Description	Appereance	Temperature		Sterilization					Analytical Purity	Fragmentation*	Hardness**	Resealability***
			max °C	min °C	Autoclavable	Dry Heat	Gamma rays	Microwavable	Ethylene oxide				
LDPE	Low-density polyethylene	Translucent	100	-40	No	No	Yes	Yes	Yes	Method dependent	Low	Medium	No resealability
HDPE	High-density polyethylene	Opaque	120	-35	No	No	Yes	Yes	Yes	Method dependent	Medium	Hard	No resealability
PP	Polypropylene	Translucent	135	-20	Yes	No	No	Yes	Yes	Method dependent	Low	Medium hard	No resealability
PTFE	Polytetrafluorethylene	White	260	-200	Yes	Yes	Yes	Yes	Yes	Very high	Low	Very hard	No resealability
TPX®	Polymethylpentene	Transparent	175	0	Yes	No	Yes	Yes	Yes	Method dependent	Low	Very hard	N/A
RR	RedRubber / PTFE	Red / beige	110	-30	No	No	No	No	No	Medium	Medium	Medium hard	Medium
Butyl	Grey butyl	Opaque grey	125	-20	Yes	No	Yes	Yes	Yes	Method dependent	Low to medium	Soft to medium	Highly resealable
T / S	Silicone / PTFE	White / red	200	-60	Yes	Yes	Yes	Yes	Yes	High	Low to medium	Soft	Highly resealable
T / S / T	PTFE / Silicone / PTFE	Red / white / red	200	-60	Yes	Yes	Yes	Yes	Yes	High	Very low	Medium hard	Good
	Viton®	Black	230	-30	Yes	Yes	Yes	Yes	Yes	Medium	Medium	Hard	Low to medium

* Due to hardness and molecular structure (coring)
** Needle penetration
*** In case of multiple injections

This chart provides a guideline for the chemical resistance of materials used for vials and closures. Because so many factors can affect chemical resistance, it may be necessary to test your product under your actual conditions of use.

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Chemical	LDPE	HDPE	PP	PTFE	TPX®	Glass
	Chemical resistance of materials, used at **min. Temp. / max. Temp.**					
1,2 Dichloroethane	-/-	-/-	-/-	++/++	-/-	++/++
1,2,4-Trichlorobenzene	-/-	-/-	-/-	++/++	+/o	++/++
1,4-Dioxane	+/o	+/+	+/o	++/++	+/o	++/++
2,2,4-Trimethylpentane	o/-	o/-	o/-	++/++	o/-	++/++
2,4 Dichlorophenol	-/-	-/-	-/-	++/++	o/-	++/++
2-Butanol	++/++	++/++	++/++	++/++	++/+	++/++
2-Methoxyethanol	++/+	++/++	++/++	++/++	++/++	++/++
2-Propanol	++/++	++/++	++/++	++/++	++/++	++/++
Acetaldehyde	+/-	+/o	+/-	++/++	+/-	++/++
Acetamide, Sat.	++/++	++/++	++/++	++/++	++/++	++/++
Acetic Acid, 5%	++/++	++/++	++/++	++/++	++/++	++/++
Acetic Acid, 50%	++/++	++/++	++/++	++/++	++/++	++/++
Acetic Acid, Glacial	++/+	++/++	++/+	++/++	++/+	++/++
Acetic Anhydride	-/-	o/o	+/o	++/++	++/+	++/++
Acetone	-/-	-/-	++/+	++/++	++/++	++/++
Acetonitrile	++/++	++/++	o/-	++/++	o/-	++/++
Acetophenone	-/-	o/o	o/o	++/++	+/-	++/++
Acrylonitrile	++/++	++/++	o/-	++/++	o/-	++/++
Adipic Acid	++/+	++/++	++/++	++/++	++/++	++/++
Allyl Alcohol	++/++	++/++	++/++	++/++	++/+	++/++
Aluminum Hydroxide	++/+	++/++	++/+	++/++	++/+	S/S
Amino Acids	++/++	++/++	++/++	++/++	++/++	++/++
Ammonia	++/++	++/++	++/++	++/++	++/++	S/S
Ammonia, 25%	++/++	++/++	++/++	++/++	++/++	S/S
Ammonium Glycolate	++/+	++/++	++/+	++/++	++/+	++/++
Ammonium Hydroxide, 30%	++/+	++/++	++/+	++/++	++/+	S/S
Ammonium Hydroxide, 5%	++/++	++/++	++/++	++/++	++/++	S/S
Ammonium Oxalate	++/+	++/++	++/+	++/++	++/+	++/++
Ammonium Salts	++/++	++/++	++/++	++/++	++/++	++/++
Amyl Alcohol	++/++	++/++	++/++	++/++	++/++	++/++
Amyl Chloride	-/-	o/-	-/-	++/++	-/-	++/++
Aniline	++/+	++/+	+/o	++/++	+/o	++/++
Aqua Regia	-/-	-/-	-/-	++/++	-/-	S/S
Arsenic Acid	+/o	++/+	++/++	++/++	++/++	++/++
Benzaldehyde	++/+	+/-	++/+	++/++	++/+	++/++
Benzenamine	++/+	++/+	+/o	++/++	+/o	++/++
Benzene	-/-	-/-	-/-	++/++	+/o	++/++
Benzoic Acid, Sat.	++/++	++/++	++/+	++/++	++/+	++/++
Benzyl Acetate	++/+	++/++	++/+	++/++	++/+	++/++
Benzyl Alcohol	-/-	o/-	-/-	++/++	-/-	++/++
Boric Acid	++/++	++/++	++/++	++/++	++/++	++/++
Bromine	-/-	o/-	-/-	++/++	-/-	++/++
Bromobenzene	-/-	-/-	-/-	++/++	-/-	++/++
Bromoform	-/-	-/-	-/-	++/++	-/-	++/++
Butadiene	-/-	o/-	-/-	++/++	-/-	++/++
Butyl Acetate	-/-	o/o	o/o	++/++	+/o	++/++
Butyl Chloride	-/-	-/-	-/-	++/++	o/-	++/++
Butyric Acid	-/-	o/-	-/-	++/++	-/-	++/++
Calcium Hydroxide	++/++	++/++	++/++	++/++	++/++	S/S
Calcium Hypochlorite	++/++	++/++	++/++	++/++	++/+	++/++
Carbazole	++/++	++/++	++/++	++/++	++/++	++/++
Carbon Disulphide	-/-	-/-	-/-	++/++	-/-	++/++
Carbon Tetrachloride	o/-	+/o	+/o	++/++	-/-	++/++
Cellosolve Acetate	++/+	++/++	++/+	++/++	++/+	++/++
Chlorine Water	+/-	+/o	o/-	++/++	+/o	++/++
Chlorine, 10% (Moist)	+/-	+/o	o/-	++/++	+/-	++/++
Chlorine, 10% in air	+/-	++/o	+/-	++/++	+/-	++/++

Chemical	LDPE	HDPE	PP	PTFE	TPX®	Glass
	Chemical resistance of materials, used at min. **Temp. / max. Temp.**					
Chlorine, wet gas	+/-	+/o	o/-	++/++	+/-	++/++
Chloroacetic Acid	++/++	++/++	++/+	++/++	++/+	++/++
Chlorobenzene	-/-	-/-	-/-	++/++	o/-	++/++
Chloroform	o/-	o/-	-/-	++/++	-/-	++/++
Chromic Acid, 10%	++/++	++/++	++/++	++/++	++/++	++/++
Chromic Acid, 20%	++/++	++/++	+/+	++/++	++/++	++/++
Chromic Acid, 50%	++/++	++/++	+/o	++/++	+/o	++/++
Chromic:Surfuric Acid Mixture, 96%	-/-	-/-	-/-	++/++	-/-	++/++
Citric Acid, 10%	++/++	++/++	++/++	++/++	++/++	++/++
Cresol	-/-	o/-	+/o	++/++	-/-	++/++
Cyclohexane	o/-	o/-	o/-	++/++	-/-	++/++
Cyclohexanone	-/-	o/-	o/-	++/++	+/o	++/++
Cyclopentane	-/-	o/-	o/-	++/++	o/-	++/++
Decahydronaphtalene	+/o	++/+	+/o	++/++	o/-	++/++
Diacetone	-/-	-/-	+/o	++/++	o/o	++/++
Diacetone Alcohol	o/-	++/++	++/o	++/++	++/++	++/++
Dibutylphthalate	n. t.	n. t.	-/-	++/++	+/+	++/++
Diethyl Benzene	-/-	o/-	-/-	++/++	-/-	++/++
Diethyl Ether	-/-	o/-	-/-	++/++	-/-	++/++
Diethyl Ketone	-/-	-/-	+/+	++/++	+/o	++/++
Diethyl Malonate	++/++	++/++	++/++	++/++	++/+	++/++
Diethylamine	-/-	o/-	+/-	++/++	o/o	++/++
Diethylene Dioxide	+/o	+/+	+/o	++/++	o/-	++/++
Diethylene Glycol	++/++	++/++	++/++	++/++	++/++	++/++
Dimethyl Acetamide	o/-	++/++	++/++	++/++	o/+	++/++
Dimethyl Formamide	++/++	++/++	++/++	++/++	++/++	++/++
Dimethylsulphoxide (DMSO)	++/++	++/++	++/++	++/++	++/++	++/++
Dipropylene Glycol	++/++	++/++	++/++	++/++	++/++	++/++
Ethanol, 40%	++/+	++/++	++/+	++/++	++/+	++/++
Ethyl acetate	++/++	++/++	++/+	++/++	o/-	++/++
Ethyl Alcohol (Absolute)	++/+	++/++	++/+	++/++	++/+	++/++
Ethyl Alcohol, 40%	++/+	++/++	++/++	++/++	++/+	++/++
Ethyl Alcohol, 96%	++/+	++/+	++/++	++/++	++/+	++/++
Ethyl Benzene	-/-	-/-	-/-	++/++	-/-	++/++
Ethyl Benzoate	o/o	+/+	+/o	++/++	+/o	++/++
Ethyl Butyrate	+/-	+/o	+/-	++/++	o/-	++/++
Ethyl Chloride	o/-	o/o	o/-	++/++	o/-	++/++
Ethyl Chloride, Liquid	o/-	o/o	o/-	++/++	o/-	++/++
Ethyl Cyanoacetate	++/++	++/++	++/++	++/++	++/++	++/++
Ethyl Lactate	++/++	++/++	++/++	++/++	++/++	++/++
Ethylene Chloride	+/-	+/o	o/-	++/++	-/-	++/++
Ethylene Glycol	++/++	++/++	++/++	++/++	++/++	++/++
Ethylene Oxide Gas	o/o	+/o	o/o	++/++	o/-	++/++
Ethylene Oxide, 100%	o/o	+/o	o/o	++/++	o/-	++/++
Fatty Acids	++/+	++/++	++/+	++/++	++/+	++/++
Fluorine	o/-	+/-	o/-	++/+	o/-	++/++
Formaldehyde, 10%	++/++	++/++	++/++	++/++	++/+	++/++
Formaldehyde, 40%	++/+	++/++	++/+	++/++	++/+	++/++
Formalin, 10%	++/++	++/++	++/++	++/++	++/+	++/++
Formalin, 40%	++/+	++/++	++/+	++/++	++/+	++/++
Formic Acid	++/+	++/++	++/+	++/++	++/o	++/++

++ No damage after 30 days of constant exposure
+ Little or no damage after 30 days of constant exposure
o Some effect after 7 days of constant exposure
- Immediate damage may occur. Not recommended for continous use
S Surface
n.t. not tested

LABSOLUTE®
A BRAND OF TH.GEYER

Chemical	LDPE	HDPE	PP	PTFE	TPX®	Glass
	Chemical resistance of materials, used at min. **Temp. / max. Temp.**					
Formic Acid, 3%	++/+	++/++	++/+	++/++	++/+	++/++
Formic Acid, 50%	++/+	++/++	++/+	++/++	++/+	++/++
Formic Acid, 85%	++/++	++/++	++/+	++/++	++/o	++/++
Formic Acid, 100%	++/+	++/++	++/+	++/++	++/o	++/++
Freon TF	++/+	++/+	++/+	++/++	o/-	++/++
Glutaraldehyde	++/+	++/++	++/++	++/++	o/o	++/++
Glycerine (Glycerol)	++/++	++/++	++/++	++/++	++/++	++/++
Hexane	-/-	+/o	+/o	++/++	o/-	++/++
Hydrazine	-/-	-/-	-/-	++/++	-/-	++/++
Hydrobromic Acid, 4%	++/+	++/++	++/+	++/++	++/+	++/++
Hydrobromic Acid, 48%	++/++	++/++	++/++	++/++	++/++	++/++
Hydrobromic Acid, 69%	n. t.	n. t.	++/+	++/++	++/++	++/++
Hydrochloric Acid, 5%	++/++	++/++	++/++	++/++	++/+	++/++
Hydrochloric Acid, 20%	++/++	++/++	++/++	++/++	++/+	++/++
Hydrochloric Acid, 35%	++/++	++/++	++/+	++/++	++/+	++/++
Hydrogen Peroxide, 3%	++/++	++/++	++/++	++/++	++/++	++/++
Hydrogen Peroxide, 30%	++/+	++/++	++/+	++/++	++/+	++/++
Hydrogen Peroxide, 90%	++/+	++/++	++/+	++/++	++/+	++/++
Isobutanol	++/++	++/++	++/++	++/++	++/+	++/++
Isopropanol, 100%	++/++	++/++	++/++	++/++	++/++	++/++
Isopropyl Acetate	+/o	++/+	+/o	++/++	+/o	++/++
Isopropyl Benzene	o/-	+/o	o/-	++/++	-/-	++/++
Isopropyl Ether	-/-	-/-	-/-	++/++	++/++	++/++
Lactic Acid, 3%	++/+	++/++	++/+	++/++	++/+	++/++
Lactic Acid, 85%	++/+	++/++	++/+	++/++	++/+	++/++
Lodine Crystals	-/-	-/-	o/-	++/++	+/-	++/++
Mercury	++/++	++/++	++/++	++/++	++/++	++/++
Methanol, 100%	++/++	++/++	++/++	++/++	++/++	++/++
Methoxyethyl Oleate	++/+	++/++	++/+	++/++	++/+	++/++
Methyl Acetate	o/-	o/o	+/o	++/++	++/++	++/++
Methyl Ethyl Ketone	-/-	-/-	++/+	++/++	-/-	++/++
Methyl Isobutyl Ketone	-/-	-/-	+/o	++/++	o/o	++/++
Methyl Propyl Ketone	+/o	++/+	+/o	++/++	o/o	++/++
Methylene Chloride	o/-	o/-	o/-	++/++	o/-	++/++
Methyl-t-Butyl Ether	-/-	o/-	o/-	++/++	++/++	++/++
n-Amyl Acetate	+/o	++/+	+/o	++/++	+/o	++/++
n-Butanol	++/++	++/++	++/++	++/++	++/+	++/++
n-Butyl Acetate	+/o	++/+	+/o	++/++	+/o	++/++
n-Decane	o/-	o/-	o/-	++/++	o/-	++/++
n-Heptane	o/-	+/o	o/o	++/++	o/o	++/++
Nitric Acid, 10%	++/++	++/++	++/++	++/++	++/++	++/++
Nitric Acid, 20%	++/+	+/o	o/o	++/++	+/o	++/++
Nitric Acid, 50%	+/-	+/-	o/-	++/++	o/-	++/++
Nitric Acid, 70%	o/-	+/-	-/-	++/++	o/-	++/++
Nitrobenzene	-/-	o/-	-/-	++/++	-/-	++/++
Nitromethane	-/-	o/-	o/-	++/++	++/o	++/++
n-Octane	++/++	++/++	++/++	++/++	++/++	++/++
o-Dichlorobenzene	o/-	o/o	o/-	++/++	o/-	++/++
Oil, Mineral	+/-	++/++	++/++	++/++	++/+	++/++
Oxalic Acid, 10%	++/++	++/++	++/++	++/++	++/++	++/++
Ozone	++/+	++/++	++/+	++/++	++/++	++/++
p-Chloroacetophenone	++/++	++/++	++/++	++/++	++/++	++/++
p-Dichlorobenzene	o/-	+/o	+/o	++/++	+/o	++/++
Perchloric Acid	+/-	+/-	+/-	+/o	+/-	++/++
Perchloric Acid, 70%	+/-	+/-	+/-	+/o	+/-	++/++
Perchloroethylene	-/-	-/-	-/-	++/++	-/-	++/++
Phenol, 50%	-/-	-/-	-/-	++/++	-/-	++/++

Chemical	LDPE	HDPE	PP	PTFE	TPX®	Glass
	Chemical resistance of materials, used at min. **Temp. / max. Temp.**					
Phenol, 100%	-/-	-/-	-/-	++/++	-/-	++/++
Phenol, Crystals	+/-	+/o	+/-	++/++	o/+	++/++
Phenol, Liquid	-/-	-/-	-/-	++/++	-/-	++/++
Phosphoric Acid, 5%	++/++	++/++	++/++	++/++	++/++	++/++
Phosphoric Acid, 85%	++/++	++/++	++/+	++/++	++/+	++/++
Picric Acid	-/-	-/-	-/-	++/++	++/++	++/++
Potassium Hydroxide, 1%	++/++	++/++	++/++	++/++	++/++	S/S
Potassium Hydroxide, 30%	++/++	++/++	++/++	++/++	++/++	S/S
Potassium Permanganate	++/++	++/++	++/++	++/++	++/++	++/++
Propane Gas	-/-	o/-	-/-	++/++	-/-	++/++
Proprionic Acid	o/-	++/o	++/+	++/++	++/o	++/++
Propylene Glycol	++/++	++/++	++/++	++/++	++/++	++/++
Propylene Oxide	++/+	++/++	++/+	++/++	++/+	++/++
Pyridine	-/-	-/-	-/-	++/++	-/-	++/++
Resorcinol, 5%	++/++	++/++	++/++	++/++	++/++	++/++
Resorcinol, Sat.	++/++	++/++	++/++	++/++	++/++	++/++
Salicylaldehyde	++/+	++/++	++/+	++/++	++/+	++/++
Salicylic Acid, Sat.	++/++	++/++	++/++	++/++	++/++	++/++
Salt Solutions, Metallic	++/++	++/++	++/++	++/++	++/++	S/S
Silicone Oil	++/+	++/++	++/++	++/++	++/++	++/++
Silver Nitrate	++/+	++/++	++/+	++/++	++/++	++/++
Sodium Dichromate	++/++	++/++	++/++	++/++	++/++	++/++
Sodium Hydroxide, 1%	++/++	+/o	++/++	++/++	++/++	S/S
Sodium Hydroxide, 10%	++/++	+/o	++/++	++/++	++/++	S/S
Sodium Hydroxide, 50%	+/+	+/o	++/++	++/++	++/++	S/S
Sodium Hypochlorite, 15%	++/++	++/++	+/o	++/++	++/++	++/++
Stearic Acid	++/++	++/++	++/++	++/++	++/++	++/++
Sulfur dioxide	-/-	o/-	-/-	++/++	-/-	++/++
Sulfur Dioxide, wet or dry	++/++	++/++	++/++	++/++	++/++	++/++
Sulfur Salts	o/-	+/o	o/-	++/++	o/-	++/++
Sulfuric Acid, 6%	++/++	++/++	++/++	++/++	++/++	++/++
Sulfuric Acid, 20%	++/++	++/++	++/+	++/++	++/+	++/++
Sulfuric Acid, 30%	++/++	++/++	+/+	++/++	++/+	++/++
Sulfuric Acid, 60%	++/+	++/++	++/+	++/++	++/+	++/++
Sulfuric Acid, 96%	+/+	+/+	o/-	++/++	+/+	++/++
Sulfuric Acid, 98%	+/+	+/+	o/-	++/++	+/+	++/++
Tartaric Acid	++/++	++/++	++/++	++/++	++/++	++/++
Tetrahydrofuran	o/-	+/o	+/o	++/++	o/o	++/++
Thionyl Chloride	-/-	-/-	-/-	++/++	-/-	++/++
Tincture of Iodine	++/+	++/+	+/+	++/++	-/-	++/++
Toluene	o/-	o/-	o/-	++/++	o/o	++/++
Tributyl Citrate	+/o	++/+	+/o	++/++	+/o	++/++
Trichloroacetic Acid (TCA)	o/-	o/o	o/-	++/++	++/++	++/++
Trichloroethane	-/-	o/-	-/-	++/+	-/-	++/++
Trichloroethylene	-/-	o/-	-/-	++/++	-/-	++/++
Triethylene Glycol	++/++	++/++	++/++	++/++	++/++	++/++
Tripropylene Glycol	++/++	++/++	++/++	++/++	++/++	++/++
Tris Buffer, Solution	++/+	++/+	++/+	++/++	++/+	++/++
Urea	++/++	++/++	++/++	++/++	++/++	++/++
Xylene	+/-	+/o	o/-	++/++	-/-	++/++

++ No damage after 30 days of constant exposure
+ Little or no damage after 30 days of constant exposure
o Some effect after 7 days of constant exposure
- Immediate damage may occur. Not recommended for continous use
S Surface
n.t. not tested

THE GLOBAL HARMONIZED SYSTEM (GHS)
SYMBOLS, HAZARD AND PRECAUTIONARY STATEMENTS

GHS Symbols

GHS01 GHS02 GHS03 GHS04 GHS05

GHS06 GHS07 GHS08 GHS09

Hazard statements (H-Phrases)

	Hazard statements for physical hazards
H200	Unstable explosives.
H201	Explosive; mass explosion hazard.
H202	Explosive, severe projection hazard.
H203	Explosive; fire, blast or projection hazard.
H204	Fire or projection hazard.
H205	May mass explode in fire.
H220	Extremely flammable gas.
H221	Flammable gas.
H222	Extremely flammable aerosol.
H223	Flammable aerosol.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H229	Pressurised container: May burst if heated.
H230	May react explosively even in the absence of air.
H231	May react explosively even in the absence of air at elevated pressure and/or temperature.
H240	Heating may cause an explosion.
H241	Heating may cause a fire or explosion.
H242	Heating may cause a fire.
H250	Catches fire spontaneously if exposed to air.
H251	Self-heating: may catch fire.
H252	Self-heating in large quantities; may catch fire.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H261	In contact with water releases flammable gases.
H270	May cause or intensify fire; oxidiser.
H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.
H281	Contains refrigerated gas; may cause cryogenic burns or injury.
H290	May be corrosive to metals.

	Hazard statements for health hazards
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects *<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H341	Suspected of causing genetic defects *<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H350	May cause cancer *<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer *<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H360	May damage fertility or the unborn child *<state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H360D	May damage the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H360F	May damage fertility.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H360FD	May damage fertility. May damage the unborn child.
H361	Suspected of damaging fertility or the unborn child *<state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H362	May cause harm to breast-fed children.
H370	Causes damage to organs *<state specific effect if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H371	May cause damage to organs *<or state all organs affected, if known> <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H372	Causes damage to organs *<or state all organs affected, if known>* through prolonged or repeated exposure *<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.
H373	May cause damage to organs *<or state all organs affected, if known>* through prolonged or repeated exposure *<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>*.

H300+ H310	Fatal if swallowed or in contact with skin.
H300+ H330	Fatal if swallowed or if inhaled.
H300+ H310+ H330	Fatal if swallowed, in contact with skin or if inhaled.
H301+ H311	Toxic if swallowed or in contact with skin.
H301+ H331	Toxic if swallowed or if inhaled.
H301+ H311+ H331	Toxic if swallowed, in contact witk skin or if inhaled.
H302+ H312	Harmful if swallowed or in contact with skin.
H302+ H312+ H332	Harmful if swallowed, in contact with skin or if inhaled.
H302+ H332	Harmful if swallowed or if inhaled.
H310+ H330	Fatal in contact with skin or if inhaled.
H311+ H331	Toxic in contact with skin or if inhaled.
H312+ H332	Harmful in contact with skin or if inhaled.

	Hazard statements for environmental hazards
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
H420	Harms public health and the environment by destroying ozone in the upper atmosphere.

EUH Phrases

EUH001	Explosive when dry.
EUH014	Reacts violently with water.
EUH018	In use may form flammable/explosive vapour-air mixture.
EUH019	May form explosive peroxides.
EUH029	Contact with water liberates toxic gas.
EUH031	Contact with acids liberates toxic gas.
EUH032	Contact with acids liberates very toxic gas.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH070	Toxic by eye contact.
EUH071	Corrosive to the respiratory tract.
EUH201	Contains lead. Should not be used on surfaces liable to be chewed or sucked by children.
EUH201A	Warning! Contains lead.
EUH202	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
EUH203	Contains chromium (VI). May produce an allergic reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.
EUH205	Contains epoxy constituents. May produce an allergic reaction.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).
EUH207	Warning! Contains cadmium. Dangerous fumes are formed during use. See information supplied by the manufacturer. Comply with the safety instructions.
EUH208	Contains <*name of sensitising substance*>. May produce an allergic reaction.
EUH209	Can become highly flammable in use.
EUH209A	Can become flammable in use.
EUH210	Safety data sheet available on request.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Source: Regulation (EG) No. 1272/2008 and changes to commission regulation (EU) No. 605/2014 of the 5 June 2014 and the correction of regulation (EG) No. 1272/2008 official journal (94,58.lg.) of the 10 April 2015.

THE GLOBAL HARMONIZED SYSTEM (GHS)
SYMBOLS, HAZARD AND PRECAUTIONARY STATEMENTS

GHS Symbols

GHS01 GHS02 GHS03 GHS04 GHS05

GHS06 GHS07 GHS08 GHS09

Precautionary statements (P-Phrases)

	General
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.

	Precautionary statements — Prevention
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P220	Keep away from clothing and other combustible materials.
P222	Do not allow contact with air.
P223	Do not allow contact with water.
P230	Keep wetted with ...
P231	Handle and store contents under inert gas/...
P232	Protect from moisture.
P233	Keep container tightly closed.
P234	Keep only in original packaging.
P235	Keep cool.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P244	Keep valves and fittings free from oil and grease.
P250	Do not subject to grinding/shock/friction/...
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P263	Avoid contact during pregnancy and while nursing.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/ eye protection/face protection.
P282	Wear cold insulating gloves and either face shield or eye protection.
P283	Wear fire resistant or flame retardant clothing.
P284	[In case of inadequate ventilation] wear respiratory protection.
P231+ P232	Handle and store contents under inert gas/... Protect from moisture.

	Precautionary statements — Response
P301	IF SWALLOWED:
P302	IF ON SKIN:
P303	IF ON SKIN (or hair):
P304	IF INHALED:
P305	IF IN EYES:
P306	IF ON CLOTHING:
P308	IF exposed or concerned:
P310	Immediately call a POISON CENTER/doctor/...
P311	Call a POISON CENTER/doctor/...
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P313	Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P315	Get immediate medical advice/attention.
P320	Specific treatment is urgent (see ... on this label).
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P331	Do NOT induce vomiting.
P332	If skin irritation occurs:
P333	If skin irritation or rash occurs:
P334	Immerse in cool water [or wrap in wet bandages].
P335	Brush off loose particles from skin.
P336	Thaw frosted parts with lukewarm water. Do no rub affected area.
P337	If eye irritation persists:
P338	Remove contact lenses, if present and easy to do. Continue rinsing.
P340	Remove person to fresh air and keep comfortable for breathing.
P342	If experiencing respiratory symptoms:
P351	Rinse cautiously with water for several minutes.
P352	Wash with plenty of water/...
P353	Rinse skin with water [or shower].
P360	Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P361	Take off immediately all contaminated clothing.
P362	Take off contaminated clothing.
P363	Wash contaminated clothing before reuse.
P364	And wash it before reuse.
P370	In case of fire:
P371	In case of major fire and large quantities:
P372	Explosion risk.
P373	DO NOT fight fire when fire reaches explosives.
P375	Fight fire remotely due to the risk of explosion.
P376	Stop leak if safe to do so.

P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P378	Use… to extinguish.
P380	Evacuate area.
P381	In case of leakage, eliminate all ignition sources.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P301+ P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/…
P301+ P312	IF SWALLOWED: Immediately call a POISON CENTER/doctor/… if you feel unwell.
P301+ P330+ P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+ P334	IF ON SKIN: Immerse in cool water or wrap in wet bandages.
P302+ P352	IF ON SKIN: Wash with plenty of water/…
P302+ P335+ P334	IF ON SKIN:. Immerse in cool water [or wrap in wet bandages].
P303+ P361+ P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+ P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+ P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P306+ P360	IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P308+ P311	IF exposed or concerned: Call a POISON CENTER/doctor/…
P308+ P313	IF exposed or concerned: Get medical advice/attention.
P332+ P313	If skin irritation occurs: Get medical advice/attention.
P333+ P313	If skin irritation or rash occurs: Get medical advice/attention.
P336+ P315	Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.
P337+ P313	If eye irritation persists: Get medical advice/attention.
P342+ P311	If experiencing respiratory symptoms: Call a POISON CENTER/ doctor/…
P361+ P364	Take off immediately all contaminated clothing and wash it before reuse.
P362	Take off contaminated clothing.
P362+ P364	Take off contaminated clothing and wash it before reuse.
P370+ P376	In case of fire: Stop leak if safe to do so.
P370+ P378	In case of fire: Use … to extinguish.
P370+ P380+ P375	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
P370+ P372+ P380+ P373	In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.
P370+ P380+ P375 [+ P378]	In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. [Use … to extinguish].
P371+ P380+ P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

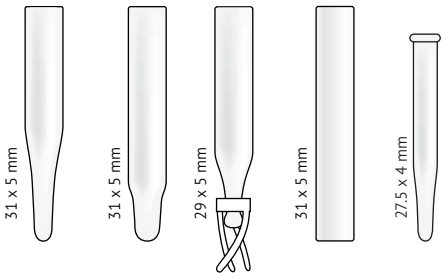
	Precautionary statements — Storage
P401	Store in accordance with…
P402	Store in a dry place.
P403	Store in a well-ventilated place.
P404	Store in a closed container.
P405	Store locked up.
P406	Store in a corrosion resistant/… container with a resistant inner liner.
P407	Maintain air gap between stacks or pallets.
P410	Protect from sunlight.
P411	Store at temperatures not exceeding … °C/ … °F.
P412	Do not expose to temperatures exceeding 50 °C/122 °F.
P413	Store bulk masses greater than … kg/… lbs at temperatures not exceeding … °C/… °F.
P420	Store separately.
P402+ P404	Store in a dry place. Store in a closed container.
P403+ P233	Store in a well-ventilated place. Keep container tightly closed.
P403+ P235	Store in a well-ventilated place. Keep cool.
P410+ P403	Protect from sunlight. Store in a well-ventilated place.
P410+ P412	Protect from sunlight. Do no expose to temperatures exceeding 50 °C/122 °F.

	Precautionary statements — Disposal
P501	Dispose of contents/container to (in accordance with local/ regional/national/international regulations.)
P502	Refer to manufacturer or supplier for information on recovery or recycling.

1:1 OVERVIEW

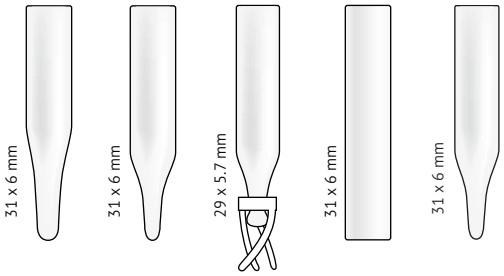
DRAWINGS OF ALL STANDARD SAMPLE VIALS

MICRO-INSERTS FOR SCREW NECK ND8



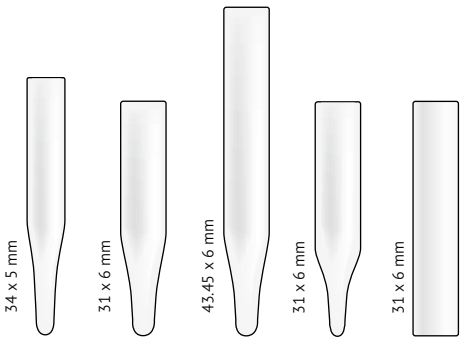
7.613 389 | 7.616 846 | 7.614 073 | 7.616 845 | 7.632 176

MICRO-INSERTS FOR SHORT THREAD ND9, SCREW NECK ND10, CRIMP NECK ND11, SNAP RING ND11



7.615 290
7.616 933 | 7.620 929 | 7.614 088
7.615 561 | 6.803 175 | 7.654 481

MICRO-INSERTS FOR SHELL VIALS

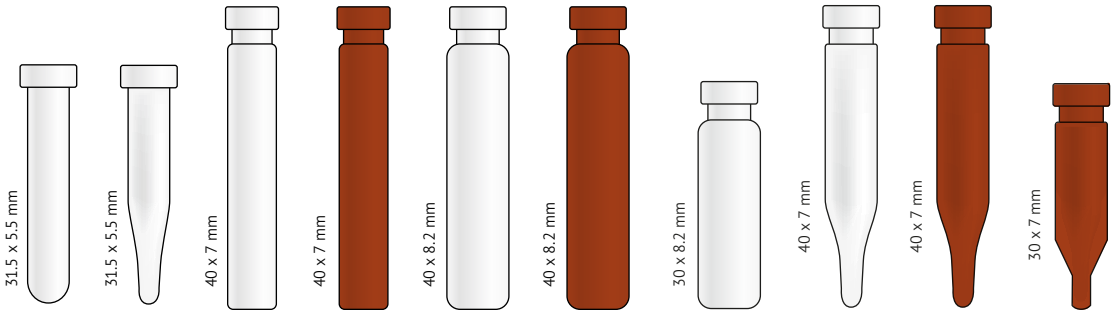


7.616 881 | 7.615 290 | 7.616 882 | 7.620 929 | 6.803 175

MICRO-INSERTS FOR SCREW NECK ND13

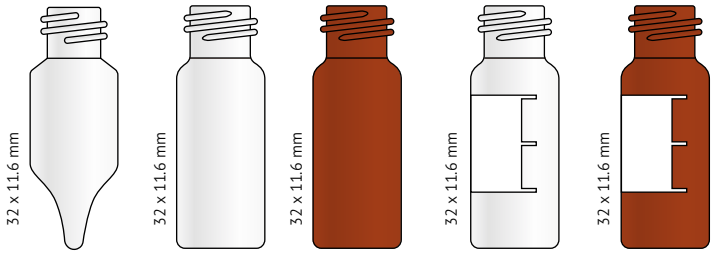
7.621 750

CRIMP NECK ND8



7.615 704 | 7.614 045 | 7.622 388 | 7.630 552 | 7.622 387 | 7.616 830 | 7.616 829 | 7.631 599 | 7.616 831 | 7.616 832

SCREW NECK ND8

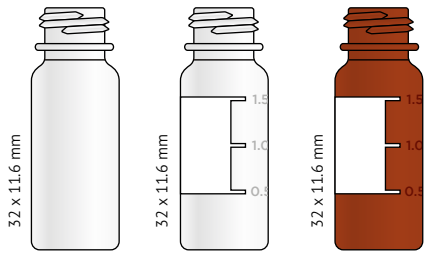


7.631 774 | 6.401 175 7.672 235 | 7.615 163 | 7.613 087 | 7.613 388

SHORT THREAD ND9

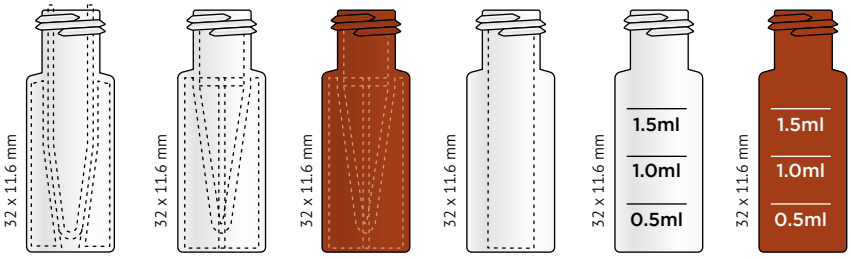
7.616 849 | 7.660 024 | 7.616 848 | 7.612 960 7.630 175 | 7.639 156 | 6.088 871 7.616 003 | 7.629 622 | 7.672 878 | 7.970 595

ND9 SURESTOP



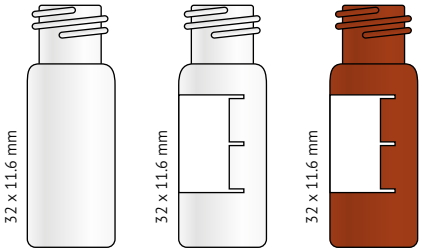
7.639 476 | 7.639 477 | 7.639 478

SHORT THREAD ND9 PLASTIC



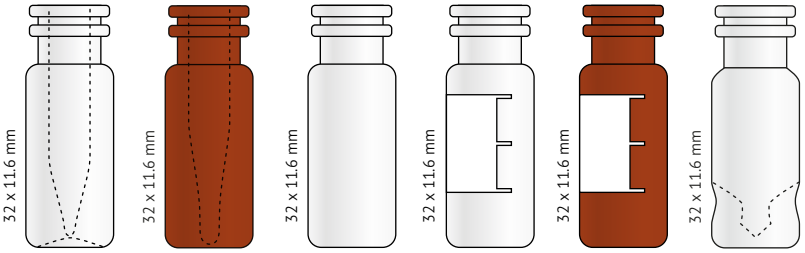
7.631 401 7.616 934 | 7.618 897 7.616 859 | 7.631 798 | 7.618 914 | 6.205 647 | 7.616 851

SCREW NECK ND10



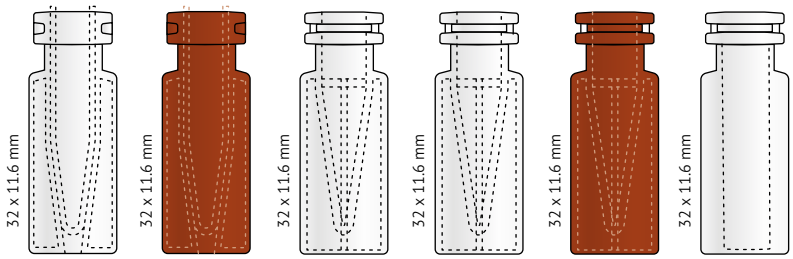
7.615 291 | 7.615 715 | 7.621 171

SNAP RING ND11



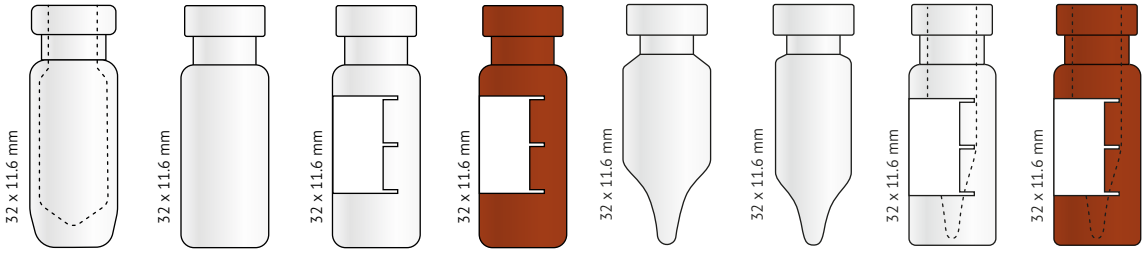
7.660 048 | 7.644 559 | 7.608 132 | 7.622 228 | 7.613 330 | 7.655 281

SNAP RING ND11 PLASTIC



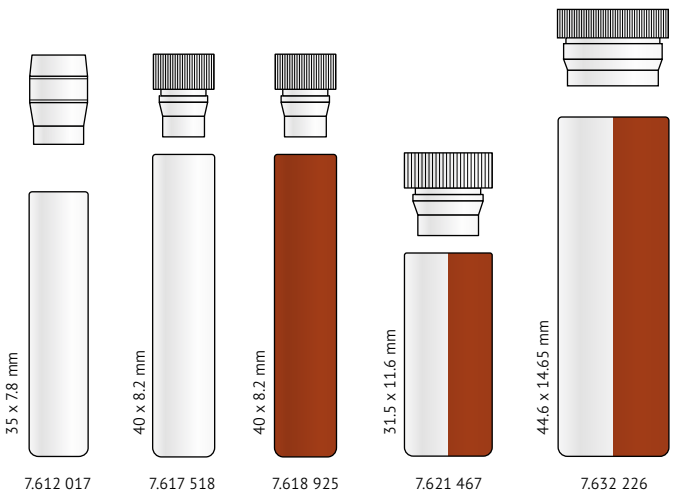
7.631 402
7.616 109 | 7.616 839
7.616 932 | 7.616 860 | 6.901 405 | 7.616 861 | 6.901 955

CRIMP NECK ND11



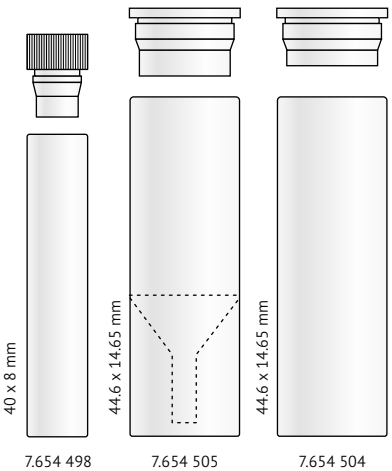
7.616 019 | 7.608 141
7.626 899 | 7.608 160 | 7.620 828 | 7.632 401 | 7.621 337 | 7.620 898 | 7.651 116

SHELL VIALS



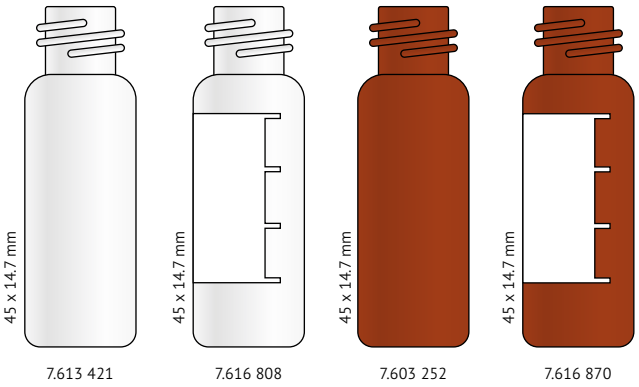
7.612 017 | 7.617 518
7.620 436 | 7.618 925
7.616 878 | 7.621 467
7.616 879 | 7.632 226
7.616 880

SHELL VIALS PLASTIC



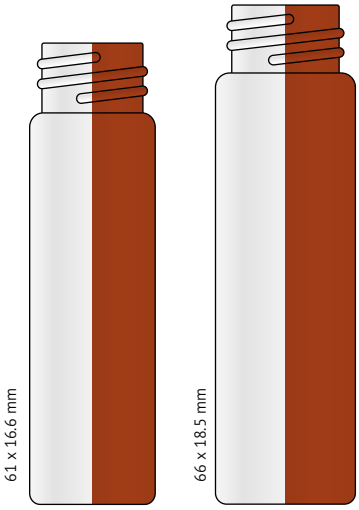
7.654 498 | 7.654 505 | 7.654 504

SCREW NECK ND13



7.613 421 | 7.616 808 | 7.603 252 | 7.616 870

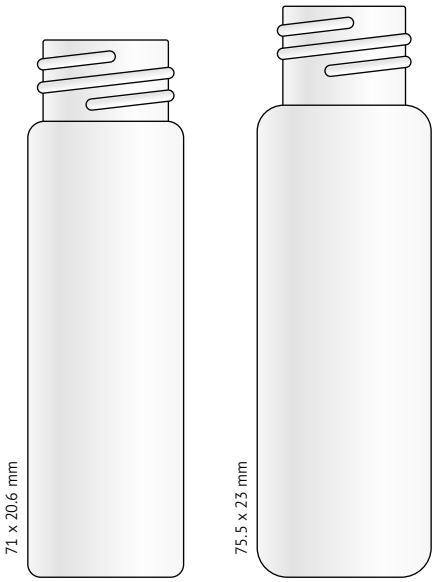
SCREW NECK ND15



7.616 898
7.618 935

7.616 655
7.618 936

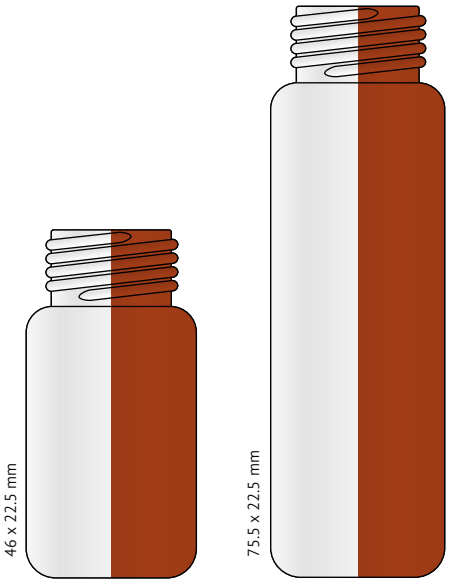
SCREW NECK ND18



7.616 899

7.616 139

PRECISION THREAD ND18



7.620 815
7.616 895

7.630 303
7.621 127

Our overview shows the vials in their original size. Please compare your vial with the figures to find easily the right product.

Of course, you can also ask your sales representative for an individual guidance in your lab, or you contact us:
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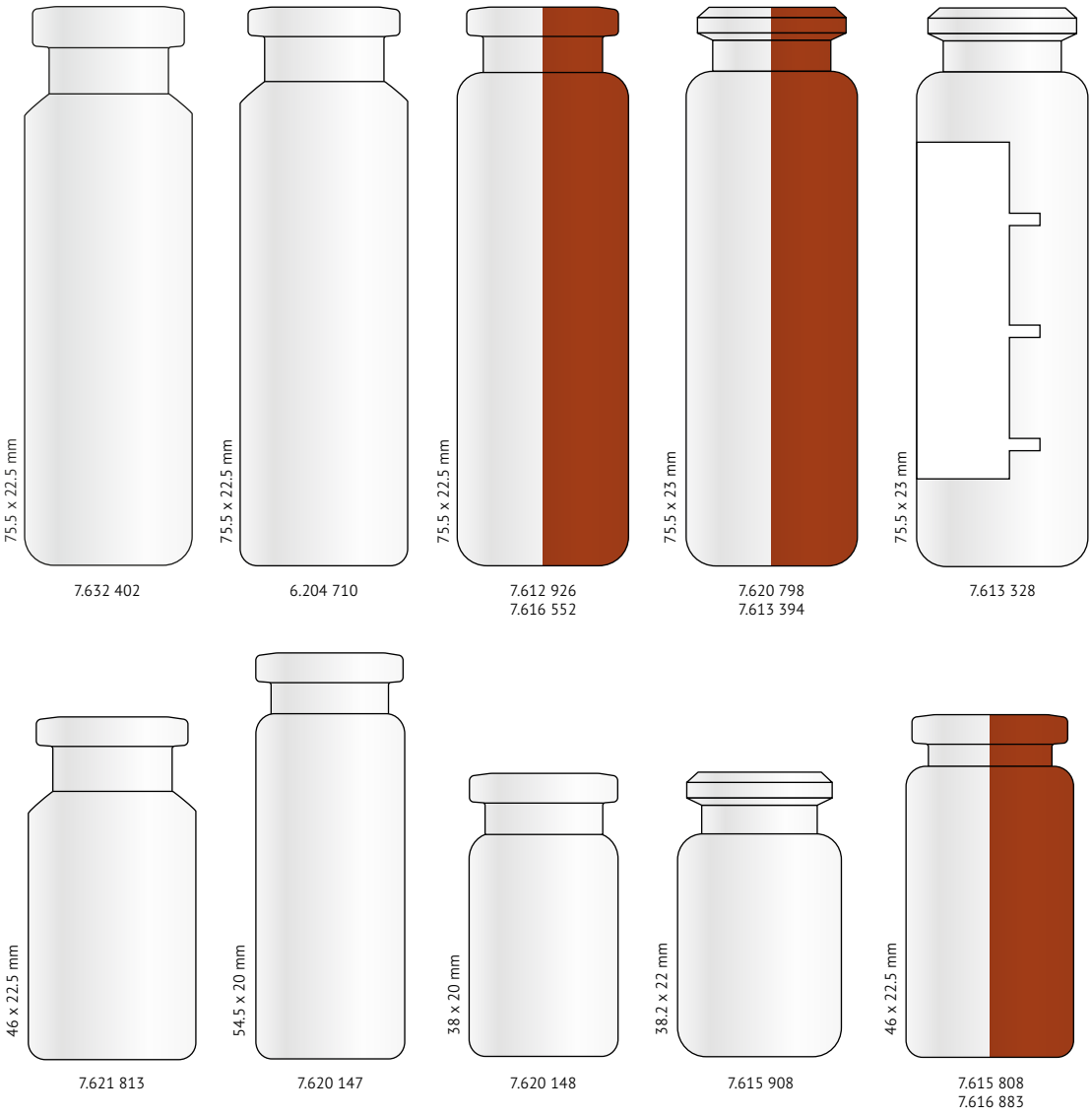
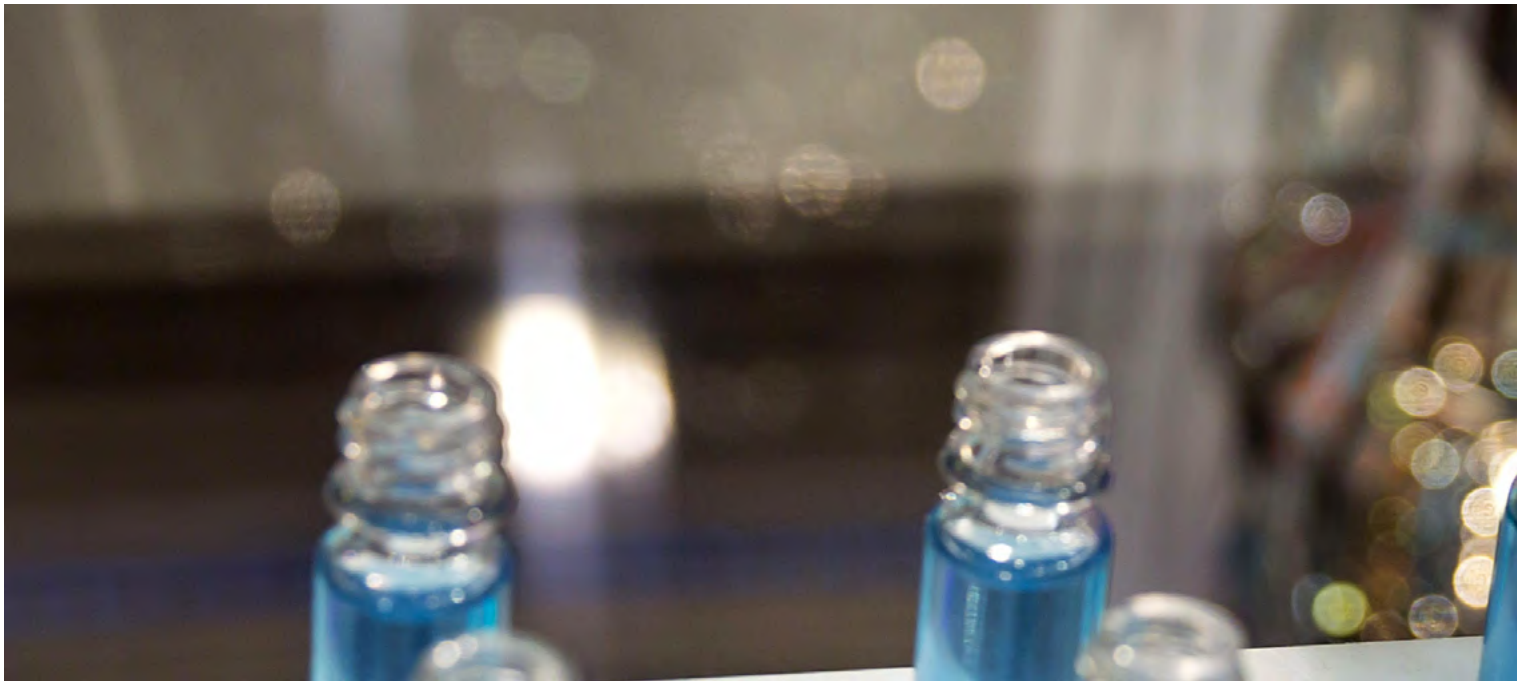
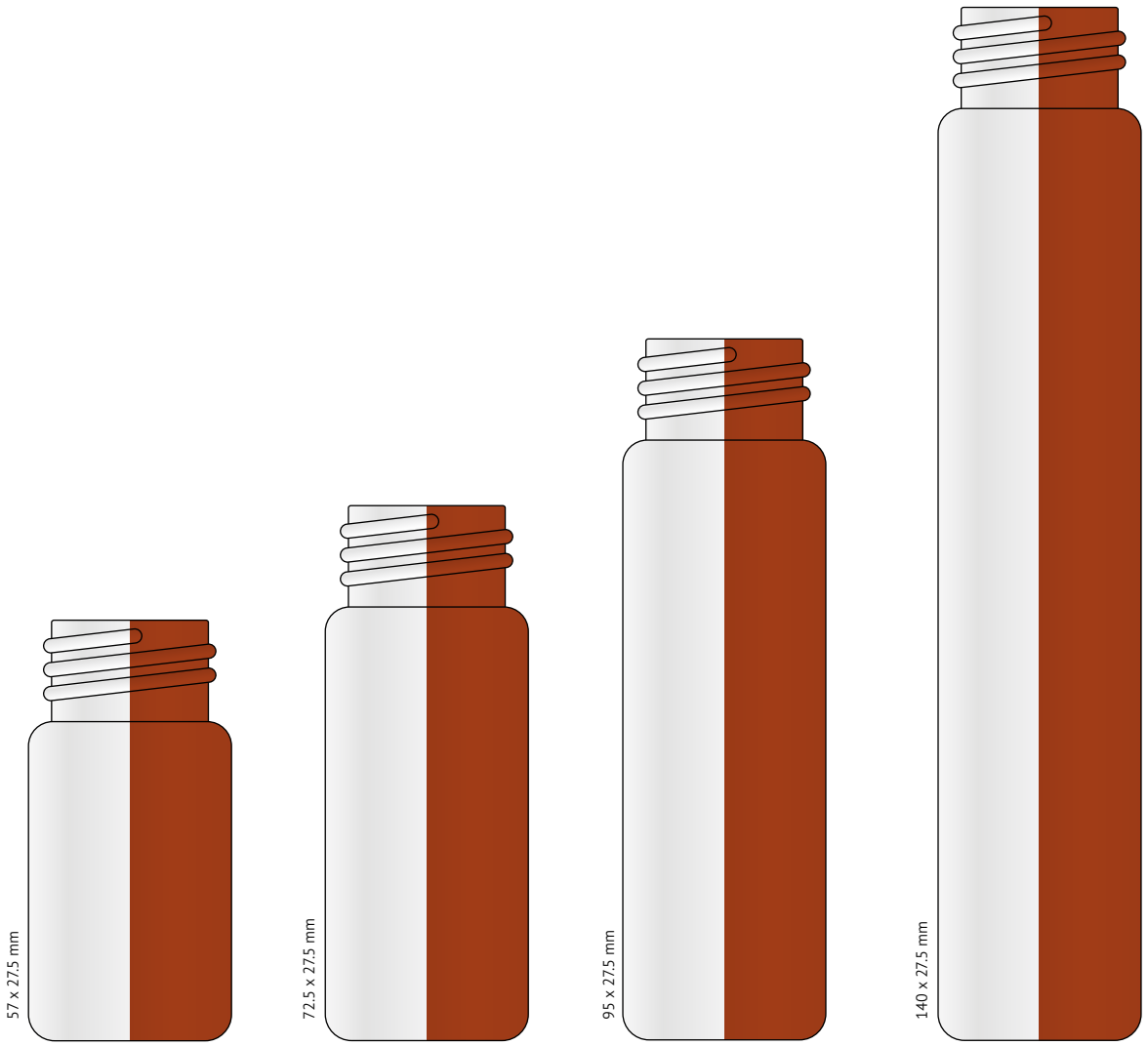
by e-mail to sales@thgeyer.com

CRIMP NECK AND HEADSPACE ND20

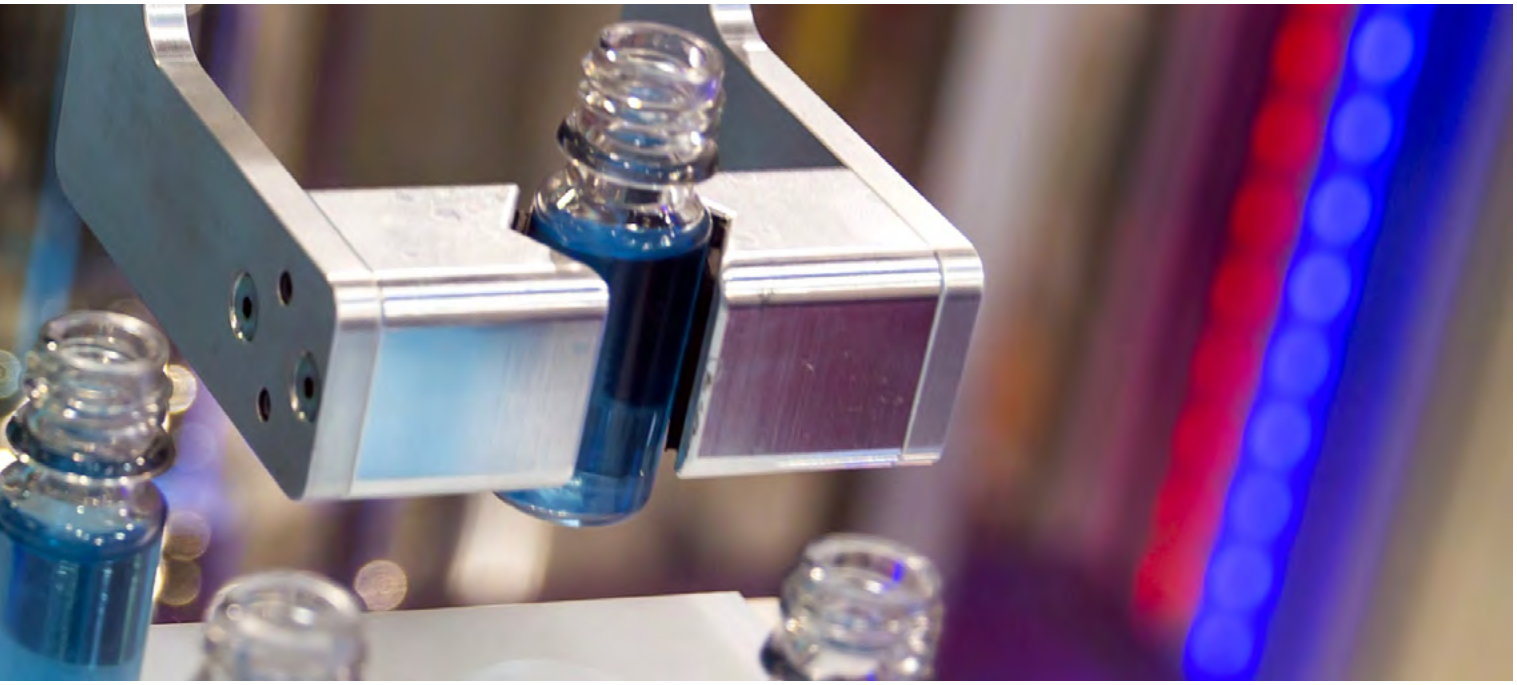




SCREW NECK ND24 (EPA)



7.609 926 7.631 988	7.615 411 7.632 370	7.612 150 7.632 371	7.616 901 7.616 902



NOTES

ABBREVIATIONS AND EXPLANATIONS

ADR	Classification according to ADR – European agreement on the international transport of hazardous goods by road
CAS no.	Chemical Abstract-Service index number
EC Index no.	EC index (67/548/EEC)
M	Molecular weight
UN	UN number
ABS	Acrylonitrile butadiene styrene
CPE	chlorinated polyethylene
HDPE	High-density polyethylene
LDPE	Low-density polyethylene
NR	Natural rubber
PBT	Polybutylene terephthalate
PC	Polycarbonate
PCR	Polymerase chain reaction
PE	Polyethylene
PMMA	Polymethyl methacrylate
PP	Polypropylene
PS	Polystyrene
PTFE	Polytetrafluoroethylene
PU	Polyurethane
PVC	Polyvinyl chloride
qPCR	Real-time quantitative PCR
TPE	Thermoplastic elastomers
PK	Packaging unit

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Germany
Tel.: 0800 4393784
Fax: 0800 8443937
sales@thgeyer.de

Scandinavia
Tel.: +45 4630 0030
sales@thgeyer.dk

Tel.: +46 8 6030200
sales@thgeyer.se

Poland
Tel: +48 2242764-64
Fax: +48 2242764-74
sales@thgeyer.pl

Other countries
Tel.: +49 7159 1637-823
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