



Sample vials



Materials

According to the high requirements of chemical analyses, especially with regard to reproducibility combined with high detection sensitivity, the container material for the respective samples is of great importance. In general, for this purpose vials made from glass are used. The hydrolytic resistance of the glass can be taken as a measure for its chemical inertness. Determination of the hydrolytic resistance and the resulting classification of a glass grade are governed by the German industrial standard DIN 12111. Glass grades are classified in hydrolytic classes. We supply vials from the following classes:

1st hydrolytic class

Glass grades made from borosilicate, such as Duran[®], Pyrex[®], Fiolax[®] and others belong to this group. Glass of this class, which is often called neutral glass, has a very good chemical resistance towards acid and neutral solutions. The relatively low alkali content permits good values for the resistance towards alkaline solutions, too. If nothing else is stated, the vials of our programme are made from glass of the 1st hydrolytic class (manufactured according to DAB-10).

3rd hydrolytic class, AR glass

Glass of this class, also called soft glass or lime soda glass, has a medium hydrolytic resistance. For long-time storage of aqueous and especially alkaline-aqueous samples (for example to use them repeatedly) it is not recommended. Nevertheless, it can be used for many analytical applications.

Physical properties of glass grades

Parameter	1st hydrolytic class	3rd hydrolytic class
density	2.64	2.5
thermal coefficient of linear expansion(K ⁻¹)	60 · 10 ⁻⁷	85 · 10 ⁻⁷
quenching stability (Δ T in K) according to DIN 52321	60	42
internal pressure resistance (bar) according to DIN 52320	at least 6	at least 6

Sample vials from MACHEREY-NAGEL

We supply the following types of sample vials:

- vials with crimp top
- vials with tapered, conic inner shape
- vials with screw threads
- vials for snap-on caps

Crimp top vials

These are injection bottles which can be closed with crimp caps, PE caps or PU caps.

Vials with tapered, conic inner shape

These are micro reaction vials with tapered conic design. They are closed either with screw caps with centre hole or with crimp caps and the corresponding PTFE-coated rubber seals which can be pierced with a micro syringe.

Threaded vials

Threaded vials N 8-1 and N 13-4 G feature the same dimensions as the crimp top vials N 11-1 and N 13-4, respectively. However, they feature a threaded rim for screw caps.

Vials with snap-on caps

These are sample vials made from clear AR glass (3rd hydrolytic class), which may be closed with polyethylene snap-on caps.

Micro inserts for sample vials

With the aid of conic inserts the volume of our sample vials N 8-1 and N 11-1 can be reduced to 0.2 ml (strongly tapered) or 0.25 ml (standard), vials N 13-4 and N 13-4 G can be reduced to 0.3 ml for application with very small sample volumes. These vials can be closed as usual. As an alternative for small volumes you may use sample vials with conic inner shape (conic vials).

For vial closures please see pages 248 – 252.

Vials and accessories



Sample vials

Ordering information			Dimensions				Drawing (scale 1: 2)
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	rim height [mm]	OD x height [mm]	
Vials N 8 with crimp top							
70286	N 8-02, conic, clear	100	0.3	8	3	6 x 32	
70282	N 8-03, clear, round bottom	100	0.3	8	3	6 x 32	
70212	N 8-07, conic, clear	100	0.7	8	3	7 x 40	
70212.1	N 8-07, conic, amber	100	0.7	8	3	7 x 40	
70251	N 8-08, clear	100	0.8	8	3	8.2 x 30	
Vials N 8, threaded							
70213	N 8-1, clear	100	1.0	—	—	11.5 x 32.5	
70213.2	N 8-1, amber	100	1.0	—	—	11.5 x 32.5	
702893	N 8-1, amber, with label area	100	1.0	—	—	11.5 x 32.5	
702860	N 8-1 C, conic, clear	100	1.0	—	—	11.5 x 32.5	
Vials N 8 without crimp top							
70202.1	N 8-1.2 W, clear	100	1.2	—	—	8 x 40	
Micro inserts for vials N 8-1, N 9-1 and N 11-1							
702813	for N 11-1 HP and N 9-1, strongly tapered	100	0.2	—	—	5.5 x 30	
702818	for N 11-1 HP, N 9-1, snap ring vials N 11, with mounted PP spring	100	0.25	—	—	5.5 x 29	
702968.1	for N 8-1 and N 11-1 standard, clear	100	0.25	—	—	5 x 30	
702968	for N 8-1 and N 11-1 strongly tapered	100	0.2	—	—	5 x 30	
702974.1	springs for micro inserts 5 x 30 mm	100	—	—	—	—	
Vials N 9, threaded							
702282	N 9-1, clear	100	1.5	—	—	11.6 x 32	
702284	N 9-1, amber, with label area, wide opening	100	1.5	—	—	11.6 x 32	

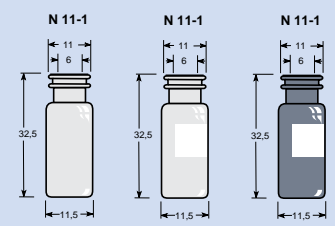
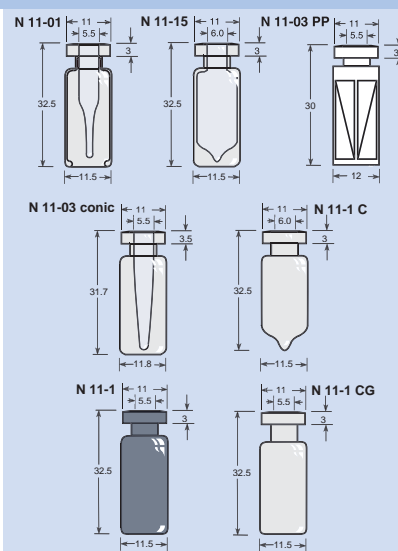


Vials and accessories

Sample vials



Ordering information			Dimensions			Drawing (scale 1: 2)
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	rim height [mm]	OD x height [mm]
Vials N 11 with crimp top						
702891	N 11-01, integrated micro insert and label area	1	0.1	11	3	11.5 x 32.5
702888	N 11-15, integrated micro insert 15 µl / 1 ml, wide opening	100	0.015 / 1	11	3	11.5 x 32.5
702809	N 11-03 PP with integrated micro insert, polypropylene	100	0.3	11	3	12 x 30
702250	N 11-03 conic, clear	1	0.15	11	3.5	11.8 x 31.7
702141	N 11-1 C, conic, clear	100	1	11	3	11,5 x 32,5
70201	N 11-1, clear	100	1	11	3	11.5 x 32.5
70214	N 11-1, amber	100	1	11	3	11.5 x 32.5
70201 CG	N 11-1 CG, clear	100	1	11	3	11.5 x 32.5
70214 CG	N 11-1 CG, amber	100	1	11	3	11.5 x 32.5
70201 HP	N 11-1 HP, clear, wide opening	100	1	11	3	11.5 x 32.5
702885	N 11-1 HP, clear, with label area, wide opening	100	1	11	3	11,5 x 32,5
702892	N 11-1 HP, amber, with label area, wide opening	100	1	11	3	11.5 x 32.5
Vials N 11 with snap ring design						
702714	N 11-1, clear, wide opening	100	1	11	–	11.5 x 32.5
702713	N 11-1, clear, wide opening, with label area	100	1	11	–	11.5 x 32.5
702712	N 11-1, amber, wide opening, with label area	100	1	11	–	11.5 x 32.5
702715	micro inserts for snap ring vials 15 mm tip, strongly tapered	100	0.2	–	–	5.5 x 30
702716	micro inserts for snap ring vials, 12 mm tip	100	0.25	–	–	5.5 x 30



For vial closures please see pages 248 – 252.

Vials and accessories



Sample vials

Ordering information			Dimensions				Drawing (scale 1: 2)
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	height [mm]	OD x height [mm]	
Vials N 12 with conic inner shape, threaded, with screw caps (phenolic resin) and sealing disks							
702210	N 12-03 conic, clear	1	0.25	—	—	13 x 33	
702220	N 12-1 conic, clear	1	0.75	—	—	13 x 46	
Vials N 18 with conic inner shape, threaded, with screw caps (phenolic resin) and sealing disks							
702230	N 18-3, clear	1	3	—	—	20 x 47	
702240	N 18-5, clear	1	4.5	—	—	20 x 59	





Vials and accessories

Sample vials

Ordering information			Dimensions				Drawing (scale 1: 2)
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	rim height [mm]	OD x height [mm]	
Vials N 13, threaded							
702962	N 13-4 G, clear	100	4	—	—	14.75 x 45	
702973	N 13-4 G, amber	100	4	—	—	14.75 x 45	
702972	micro inserts for vials N13-4 G	100	0.3	—	—	6 x 40	
702974	springs for micro inserts 702972	100	—	—	—	—	
Vials N 13 with crimp top							
70255	N 13-1 TK, clear	100	1	13	4	11 x 40	
70203	N 13-2, clear	100	2	13	3.6	13.75 x 35	
70253	N 13-4, clear	100	4	13	3.6	14.75 x 45	
70258	N 13-4 TK, clear	100	2	13	4	11 x 43	
Vials N 20 with crimp top							
70204.36	N 20-5 DIN, clear	100	5	20	3.6	20.5 x 38	
70215.36	N 20-5 DIN, amber	100	5	20	3.6	20.5 x 38	
70219	N 20-5/4, clear	100	5	20	4	20.5 x 38	
702917	N 20-6 PE, clear, conic rim rounded bottom edges	100	6	20	4	22 x 38.5	

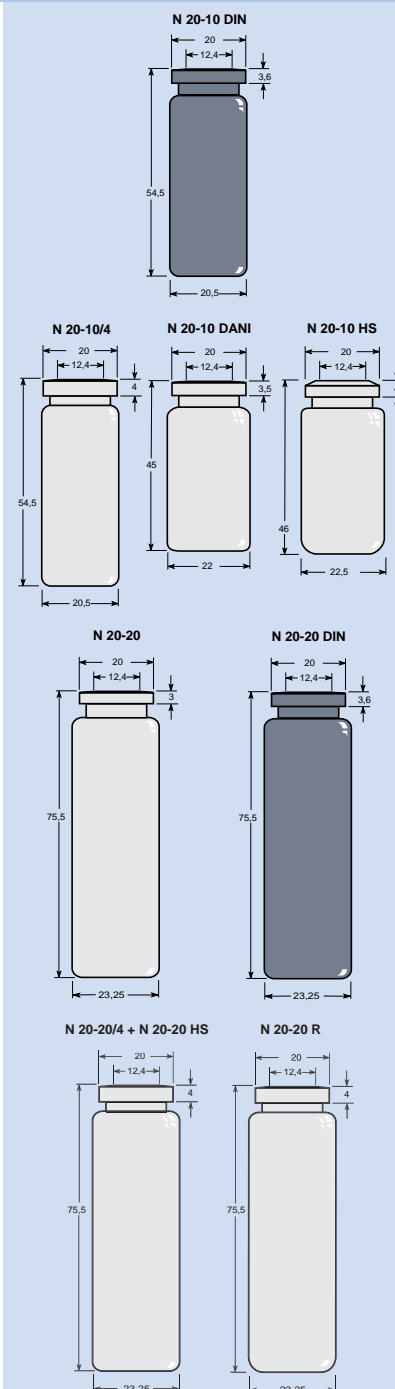
For vial closures please see pages 248 – 252.

Vials and accessories



Sample vials

Ordering information		Dimensions				Drawing (scale 1: 2)
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	rim height [mm]	OD x height [mm]
70205.36	N 20-10 DIN, clear	100	10	20	3,6	20.5 x 54.5
70216.36	N 20-10 DIN, amber	100	10	20	3,6	20.5 x 54.5
70220	N 20-10/4, clear	100	10	20	4	20.5 x 54.5
702918	N 20-10 DANI, clear	100	10	20	3.5	22 x 45
702924	N 20-10 HS, conic rim, rounded bottom edges wall 1.3 mm thick	100	10	20	4	22.5 x 46
70206	N 20-20, clear	100	20	20	3	23.25 x 75.5
70206.36	N 20-20 DIN, clear	100	20	20	3.6	23.25 x 75.5
70217.36	N 20-20 DIN, amber	100	20	20	3.6	23.25 x 75.5
70226	N 20-20/4, clear	100	20	20	4	23.25 x 75.5
70207	N 20-20 HS, clear wall 0.95 mm thick	100	20	20	4	23.25 x 75.5
70218	N 20-20 R, clear, DIN rim, rounded bottom edges wall 1.0 mm thick	100	20	20	4	23.25 x 75.5





Vials and accessories

Sample vials

Ordering information		Dimensions				Drawing (scale 1: 2)	
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	rim height [mm]	OD x height [mm]	
70254	N 20-20 PE, clear, conic rim, rounded bottom edges wall 1.2 mm thick	100	20	20	4	23 x 75.5	
702261	N 20-20 DANI, clear conic rim, rounded bottom edges	100	20	20	4	22 x 75.5	
70210.36	N 20-25 DIN, clear	100	25	20	3.6	30 x 65	
70208.36	N 20-50 DIN, clear	100	50	20	3.6	31 x 101	
70209.1	N 20-100 DIN, clear (3rd hydrolytic class)	88	100	20	3.6	52 x 95	



Sample vials

Ordering information			Dimensions				Drawing (scale 1: 2)
Cat. No.	designation	pack of [vials]	net volume [ml]	rim dia. [mm]	rim height [mm]	OD x height [mm]	
Vials for snap-on caps (AR glass)							
70271	N 18-5, clear	100	7.5	—	—	20 x 40	
70272	N 18-10, clear	100	10	—	—	22 x 45	
70273	N 22-25, clear	100	25	—	—	26 x 65	

Why we support introduction of the DIN crimp top:

As you may know, crimp top vials are available with 3 different rim heights: 3 mm, DIN crimp top with 3.6 mm and 4 mm. When using only one crimper, tedious adjustments for the different heights are necessary. A standardized "DIN crimp top" would avoid this problem. The rim height acc. to DIN 58366 should be 3.6 ± 0.2 mm. We supply vials with DIN crimp top for volumes above 5 ml.

Autosampler compatibility

A large number of our vials can also be used in automatic samplers. The table on the following pages shows, which types are suited for a given instrument. The list of autosamplers is by no means complete. At the same time we cannot consider technical changes recently introduced by the manufacturers of these instruments.





Vials and accessories

Autosampler compatibility

For ordering information of vials please see pages 236 – 243.	Vial size [mm]	6 x 32	7 x 40	8.2 x 30
	Designation	N 8-03	N 8-07	N 8-08
	Cat. No.			
	Crimp top vials	70282	70212 70212.1	70251
	Threaded vials			
	Vials with snap-on caps			
Autosampler type				
ACS / Altex / Antek / A.I. 42 / AIM / Alcott 738				
Beckman 501, 502, 507		x		
Beckman 504			x	
Bruker LC 51				
Carlo Erba AS-V 42, 60, 105		x		
Carlo Erba A 200 / CTC AS 200 S			x	
Carlo Erba 60 tray AS-V 60				x
Carlo Erba AS-V 42, 105, 550, 8000				
Carlo Erba Headspace HS 250, 500, 800				
Carlo Erba Headspace CTC 500				
Carnegie				
Chromapack 901				x
Dani, Dynatech PS 411 (42-tray)				
Dynatech (60-tray), LC 2000				x
Dani HSS 39.50, 86.50				
Du Pont			x	
Finnigan A200S			x	x
Fisons AS 800				
Fisons HS 500				
Fisons HS 850				
Gilson 231 / 232 / 401		x	x	x
231 / 232 / 401 / 402, Aspec				
Gynkotek Gina 50				
Gynkotek Gina 160				
Hewlett-Packard 1100, 1048, 1090		x		
Hewlett-Packard 1050, 1080, 1082, 1084, 1090, 1100, 7670A, 7671A, 7672, 7673A, 7673B				
Hewlett-Packard Headspace, 19395 A				
Hitachi / Merck AS-2000, AS4000		x		x



Vials and accessories

Autosampler compatibility

For ordering information of vials please see pages 236 – 243.	Vial size [mm]	6 x 32	7 x 40	8.2 x 30
	Designation	N 8-03	N 8-07	N 8-08
	Cat. No.			
	Crimp top vials	70282	70212 70212.1	70251
	Threaded vials			
	Vials with snap-on caps			
<i>Autosampler type</i>				
Hitachi / Merck AS-2000, AS4000, S6551				
ICI LC 1600				
ICI LC 6000			x	x
Infochroma / Jasco / Kipp AS-851, AS-950, LC 8000				
Kontron 360, 460				
Kontron MSI 660				
LDC 713-60				x
LDC Marathon, 4100				
Mikrometrics				x
Packard (Chrompack)				
Perkin-Elmer ISS-100, 200, 4900, Autosystem GC		x		
Perkin Elmer AS 100/300/2000B/ 200/LC-600, LC 30, (60-tray)/Sigma 300/2000				x
Perkin-Elmer AI-1, ISS-100, 200, LC 600 (42-tray), 420, 420B, 600, AS 100, 300, 2000B, 8300, 4710, 4900				
Perkin-Elmer Autosystem GC				
Perkin Elmer Headspace HS 6, 40, ISS 100/200, Autosystem GC, Integral 4000				
Perkin Elmer Headspace F 40/45, HS 100				
Pharmacia LKB 2157-010, 020			x	
Philips/Pye LC-XP				
Pye S 4, S 8, 4700			x	
Sedere				
Shimadzu AOC 9/14/1400, SIL-6 A/6 B/9 A, LC 10A		x		
Shimadzu SIL-2 AS/SIL-6 B, LC-10A, AOC-14/1400				
Siemens				
Spark Promise/Marathon / Spectra Physics / Talbot / Thermal Separation / Tosca I / Tosoh / Toso Haas / Tracor 770 / United Technologies / Varian Vista 8000 / Varex				
Waters Alliance, 2690				
Waters WISP (96-tray)				
Waters WISP (48-tray)				



Vials and accessories

Vial closures



For closing vials we supply

- **crimp caps** for crimp top vials, with or without sealing disks, with centre hole, tear-off middle seal as well as tear-off caps

- **screw caps** for threaded vials, with or without sealing disks
 - **PE caps**
 - **snap-on caps** and **rubber stoppers**
- Additionally we offer a versatile range of
- **sealing disks** for crimp caps and screw caps
allowable variation for the thickness of sealing disks is ± 0.25 mm

Temperature stability of sealing disks:

shaped butyl rubber disks, center coated with PTFE	120 °C (–40 °C)
butyl rubber	190 °C (–30 °C)
silicone rubber	200 °C (–60 °C)
PTFE	250 °C

Temperature stability of screw caps:

polypropylene	120 – 130 °C
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Except where explicitly mentioned, caps with sealing disks are supplied assembled, i.e. ready-to-use.

Ordering information						Drawing (actual size)		
Cat. No.	designation	hole diameter [mm]	sealing disk	thickness [mm]	pack of [caps]			
Aluminium crimp caps with sealing disks								
Caps with centre hole								
70252	N 8 TB/oA aluminium coloured	3	butyl rubber red / PTFE	1.3	100			
70252.1	N 8 TB/oA-4 aluminium coloured	4	butyl rubber red / PTFE	0.9	100			
70289	N 8 TS/oA aluminium coloured	4	silicone rubber white / PTFE red	1.3	100			
70283	N 8 T/oA aluminium coloured	4	PTFE white	0.25	100			
70231	N 11 TB/oA aluminium coloured	5.6	butyl rubber red / PTFE	1.3	100			
70231.1	N 11 TB/oA green	5.6	butyl rubber red / PTFE	0.9	100		e.g. N 11 TB/oA	
70231.2	N 11 TB/oA red	5.6	butyl rubber red / PTFE	0.9	100		N 11 TB/oA blue	
70231.3	N 11 TB/oA blue	5.6	butyl rubber red / PTFE	0.9	100			
70256	N 11 TB/oA-0,9 aluminium coloured	5.6	butyl rubber red / PTFE	0.9	100			
70288	N 11 TS/oA aluminium coloured	5.6	silicone rubber white / PTFE red	1.3	100		e.g. N 11 T/oA	
702995	N 11 TST/oA aluminium coloured	5.6	PTFE red / silicone rubber white / PTFE red	1.3	100			
70239	N 11 TBT/oA aluminium coloured	5.6	PTFE light grey / butyl rubber grey / PTFE light grey	1.3	100			
70284	N 11 T/oA aluminium coloured	5.6	PTFE white	0.25	100			
70257	N 13 TB/oA aluminium coloured	6	shaped butyl rubber disk dark grey / center coated with PTFE light grey	2	100			

Vials and accessories



Vial closures

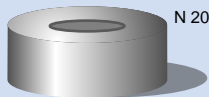
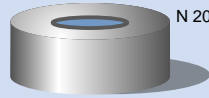
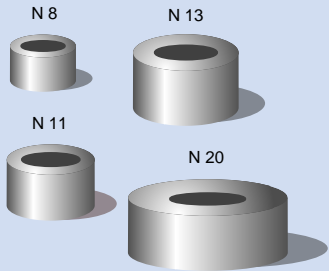
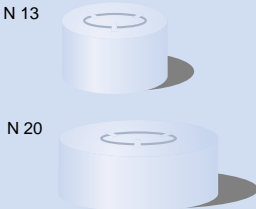
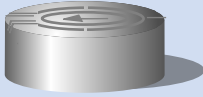

Cat. No.	designation	Ordering information				pack of [caps]	Drawing (actual size)
		hole diameter [mm]	sealing disk	thickness [mm]			
70234	N 20 TB/oA aluminium coloured	10	shaped butyl rubber disk dark grey / center coated with PTFE light grey	3	100		
70234.9	N 20 TB/oA-F aluminium coloured	10	shaped butyl rubber disk grey / PTFE dark grey	3	100		
70237	N 20 B/oA aluminium coloured	10	butyl rubber stopper grey, not assembled	–	100		
702815	N 20 TS/oA aluminium coloured	10	silicone rubber white / PTFE beige	3	100		
Caps with centre hole, special perforation for burst protection							
70234.8	N 20 TB/HS aluminium coloured	10	shaped butyl rubber disk grey / PTFE grey	3	100		
702927	N 20 TS/HS aluminium coloured	8	silicone rubber blue / PTFE colourless	3.15	100		
Caps with tear-off middle seal							
70232	N 13 TB gold coloured	–	shaped butyl rubber disk dark grey / center coated with PTFE light grey	2	100		
70233	N 20 TB gold coloured	–	shaped butyl rubber disk dark grey / center coated with PTFE light grey	3	100		
70236	N 20 B aluminium coloured	–	butyl rubber stopper grey, not assembled	–	100		
Tear-off caps							
70235	N 20 TB/mE aluminium coloured	–	shaped butyl rubber disk dark grey / center coated with PTFE light grey	3	100		
70238	N 20 B/mE aluminium coloured	–	butyl rubber stopper grey, not assembled	–	100		

For ordering information of crimp top vials please see pages 236 – 242.



Vials and accessories

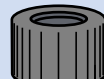
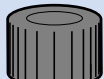
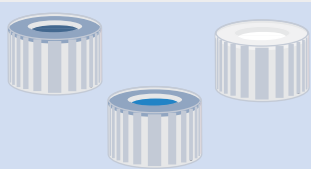
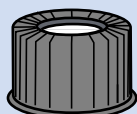
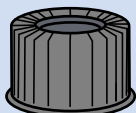
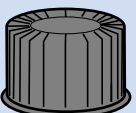
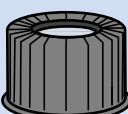
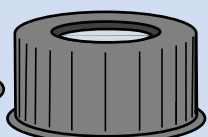

Vial closures

Cat. No.	designation	Ordering information				pack of [caps]	Drawing (actual size)
		hole diameter [mm]	sealing disk	thickness [mm]			
Steel crimp caps with centre hole, with sealing disks							
702928	N 20 TB/oA-M magnetic	5	shaped butyl rubber disk grey / PTFE light grey	3	100	 N 20 TB/oA-M	
702929	N 20 TS/oA-M magnetic	5	silicone rubber blue / PTFE colourless	3.15	100	 N 20 TS/oA-M	
702928.9	N 20 TB/oA-M magnetic	5	shaped butyl rubber disk dark grey / center coated with PTFE light grey	3	100		
Aluminium crimp caps without sealing disks							
Caps with centre hole							
702800	N 8 aluminium coloured	4	–	–	100		
702801	N 11 aluminium coloured	5.6	–	–	100		
702802	N 13 aluminium coloured	6	–	–	100		
702804	N 20 aluminium coloured	10	–	–	100		
Caps with tear-off middle seal							
702803	N 13 gold coloured	–	–	–	100		
702806	N 20 gold coloured	–	–	–	100		
Tear-off caps							
702805	N 20 aluminium coloured	–	–	–	100		
Screw caps							
Screw caps N 8 with sealing disks							
70243	N 8 with centre hole	5.5	butyl rubber red / PTFE colourless, not assembled	1.3	100		
70244	N 8 with centre hole	5.5	butyl rubber beige / PTFE grey, not assembled	1.3	100		
70245	N 8 with centre hole	5.5	silicone rubber white / PTFE red	1.3	100		

For ordering information of vials please see pages 236 – 242, sealing disks are listed on page 253.



Vial closures

Ordering information						Drawing (actual size)	
Cat. No.	designation	hole diameter [mm]	sealing disk	thickness [mm]	pack of [caps]		
Screw caps N 8 without sealing disks							
70249	N 8 with centre hole	5.5	–	–	100	with centre hole	without centre hole
70250	N 8 without centre hole	–	–	–	100		
Screw caps N 9 with sealing disks							
702285	N 9 with centre hole, transparent	5.5	natural rubber / PTFE red-orange	1.0	100		
702286	N 9 with centre hole, transparent	5.5	PTFE red / silicone rubber white / PTFE red	1.0	100		
702287	N 9 with centre hole, transparent	5.5	silicone rubber white / PTFE red	1.0	100		
702288	N 9 with centre hole, transparent	5.5	silicone rubber white / PTFE blue, slotted	0.6	100		
Screw caps N 13 with sealing disks							
702926	N 13 with centre hole	8.5	silicone rubber white / PTFE red	1.3	100		
Screw caps N 13 without sealing disks							
702963	N 13 with centre hole	8.5	–		100	with centre hole	without centre hole
702966	N 13 without centre hole	–	use sealing disks N 12 PTFE		100		
Screw caps for vials with conic inner shape							
702270	N 12-SD for N 12-03 conic / N 12-1 conic	8.5	butyl rubber beige / PTFE grey, not assembled	1.3	48	N 12-SD	N 18-SD
702280	N 18-SD for N 18-3 conic / N 18-5 conic	8.5	butyl rubber beige / PTFE grey, not assembled	1.3	48		
Snap ring caps							
702711	N 11 with centre hole		natural rubber / PTFE red-orange		100		
702710	N 11 with centre hole		silicone rubber white / PTFE red		100		
702718	N 11 with centre hole		PTFE red / silicone rubber white / PTFE red		100		
702717	N 11 with centre hole		silicone rubber white / PTFE blue, slotted		100		

For ordering information of vials please see pages 236 – 242, sealing disks are listed on pages 253.



Vials and accessories

Vial closures

Cat. No.	designation	Ordering information			pack of [caps]	Drawing (actual size)
		hole diameter [mm]	sealing disk	thickness [mm]		
PE caps with centre hole						
for vials N 11 with 3 mm rim						
70241	N 11 TB/oA	4.5	butyl rubber beige / PTFE grey, not assembled	1.3	100	
70265	N 11	4.5	–	–	100	
for vials N 20 with 3 mm rim						
70242	N 20 TB/oA	4.3	butyl rubber beige / PTFE grey, not assembled	1.3	100	
70266	N 20	4.3	–	–	100	
for vials N 20 with 4 mm rim						
70240	N 20 TB/oA-4	4.3	butyl rubber beige / PTFE grey, not assembled	1.3	100	
70267	N 20-4	4.3	–	–	100	
Polyurethane caps						
702401	N 11, piercing area 0.6 mm thick				100	
Polyethylene snap-on caps						
70274	N 18 for vials N 18-5 and 18-10				100	 N 18 N 22
70275	N 22 for vials N 22-25				100	
Stoppers						
702931	Rubber stoppers N 20 dark grey				100	
702931.1	Rubber stoppers N 20 red				100	
702894	Chlorobutyl rubber stoppers N13 reddish brown				100	
702N20 GT	Rubber stoppers N 20, for freeze-drying				100	
702807	Plastic stopper N 8 - colourless for N 8-1.2 W				100	



Sealing disks – Containers for vials

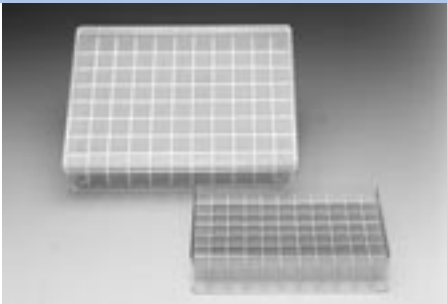




Ordering information			Product specification		
Cat. No.	designation	pack of [seals]	thickness [mm]	OD [mm]	drawing
70246	N 8 butyl rubber red / PTFE colourless	100	1.3	8	
70247	N 8 butyl rubber beige / PTFE grey	100	1.3	8	
70248	N 8 silicone rubber white / PTFE red	100	1.3	8	
702481	N 8 silicone rubber white / PTFE blue, slotted	100	0.6	8	
70261	N 8 PTFE white	100	0.25	8	
70270	N 9 butyl rubber red / PTFE colourless acc. to VDI 3482, sheet 3	100	1.3	9	
702903	N 11 butyl rubber red / PTFE colourless	100	1.3	11	
70268	N 11 butyl rubber beige / PTFE grey	100	1.3	11	
70263	N 11 silicone rubber white / PTFE red	100	1.3	11	
70264	N 11 PTFE red / silicone rubber white / PTFE red	100	1.3	11	
70262	N 11 PTFE white	100	0.25	11	
70260	N 12 PTFE white	100	0.25	12	
702967	N 12 butyl rubber red / PTFE colourless	100	1.3	12	
70276	N 20 B, butyl rubber red for crimp top vials N 20	100	3	20	
70277	N 20 B/PTFE, butyl rubber red / PTFE grey for crimp top vials N 20	100	3	20	
70278	N 20 S/PTFE, silicone rubber white / PTFE beige for crimp top vials N 20	100	3	20	
70279	N 20 S/ALU, silicone rubber white, aluminium coated, for crimp top vials N 20	100	3	20	
70269	N 20 butyl rubber beige / PTFE grey	100	1.3	20	
702904	N 20 butyl rubber red / PTFE colourless	100	1.3	20	
702D20 TB	N 20 TB, shaped butyl rubber disk dark grey, center coated with PTFE light grey	100	3	20	
702290	N 12 butyl rubber beige / PTFE grey for screw caps N 12-SD	48	1.3	12	
702300	N 18 butyl rubber beige / PTFE grey for screw caps N 18-SD	48	1.3	18	



Vials and accessories

Products for doping control

Ordering information		Product specification
Cat. No.	designation	pack of
Containers for vials		
702986	small, 77 positions	1
702987	large, 88 positions	1
		
Vials and crimp caps		
70209.1	vials N 20-100 with crimp top	88
70280	safety crimp caps N 20 TB/Ü, aluminium, without hole, sealing disks lined with PTFE	100
702V 005 UP	vials N 20-100 with safety crimp caps N 20 TB/Ü and sealing disks lined with PTFE, sealed with UP caps	88 each
		
Polystyrene boxes (empty or packed with vials)		
702V leer 02	for 2 vials N 20-100, empty	1 Box
702V 002	with 2 vials N 20-100 and 2 safety crimp caps N 20 TB/Ü with sealing disks lined with PTFE	1 Box
702V leer 01	for 12 vials N 20-100, empty	1 Box
702V 001	with 12 vials N 20-100 and 12 safety crimp caps N 20 TB/Ü with sealing disks lined with PTFE	1 Box
702V 001 UP	with 12 vials N 20-100 and 12 safety crimp caps N 20 TB/Ü with sealing disks lined with PTFE, sealed with UP caps	1 Box
		



Crimpers and opening pliers

Manual crimpers and opening pliers

For tightly closing crimp top vials manually, you need the appropriate crimpers, for opening the corresponding opening pliers are used. If you have e.g. sample vials with 20 mm rim diameter and the proper crimp caps (e.g. N 20 TB/oA), you can use crimpers N 20 and opening pliers N 20 OE. The crimpers listed below can be adjusted to the respective rim height with the aid of a hexagonal key.

For more convenient operation we supply

pneumatic crimpers and opening devices, either for manual or pedal operation

Pneumatic crimpers are available for manual or pedal control. The complete pneumatic crimpers consist of a pneumatic unit, for either manual or pedal operation, and a crimping head or opening head. Connection to pressurized air or gas (6 bar min.) is accomplished via DN-5 quick-connects for 4 x 6 mm tubing. The type of crimping or opening head depends on the diameter of the crimp caps. Crimping and opening heads are exchangeable, both pneumatic units and crimping / opening heads can be ordered separately.

Ordering information			Product specification
Cat. No.	designation	pack of	
Hand crimpers for crimp top vials			
735126	N 8 for crimp caps with 8 mm ID	1	
735111	N 11 for crimp caps with 11 mm ID	1	
735113	N 13 for crimp caps with 13 mm ID	1	
735120	N 20 for crimp caps with 20 mm ID	1	
Opening pliers for crimp top vials			
735408	N 8 OE for crimp caps with 8 mm ID	1	
735911	N 11 OE for crimp caps with 11 mm ID	1	
735913	N 13 OE for crimp caps with 13 mm ID	1	
735920	N 20 OE for crimp caps with 20 mm ID	1	
Pneumatic crimpers for crimp top vials			
735114	N 11 H, complete, for manual control	1	
735116	N 20 H, complete, for manual control	1	
735117	N 11 F, complete, for pedal control	1	
735119	N 20 F, complete, for pedal control	1	
Crimping heads without pneumatic unit			
735121	N 11	1	
735123	N 20	1	
Opening heads without pneumatic unit			
735308.1	N 8 OE	1	
735434.1	N 11 OE	1	
735139	N 20 OE	1	
Pneumatic units without crimping heads			
735124	for manual control	1	
735125	for pedal control	1	



Vials and accessories

Notes