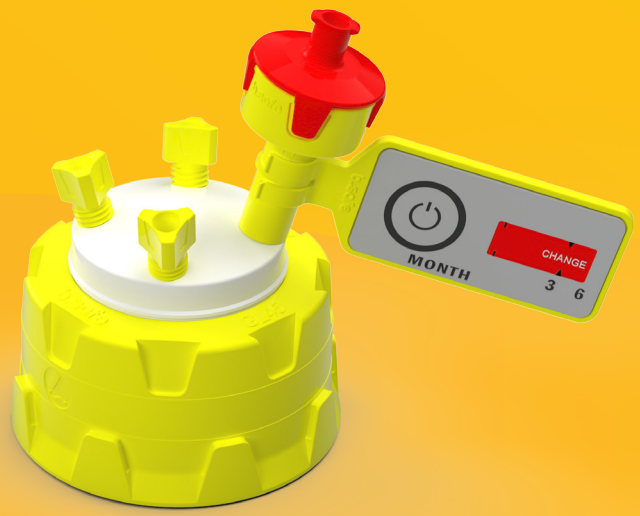
b.safe

Data sheet
b.safe Cap



BY BOLA

A product brand of Bohlender

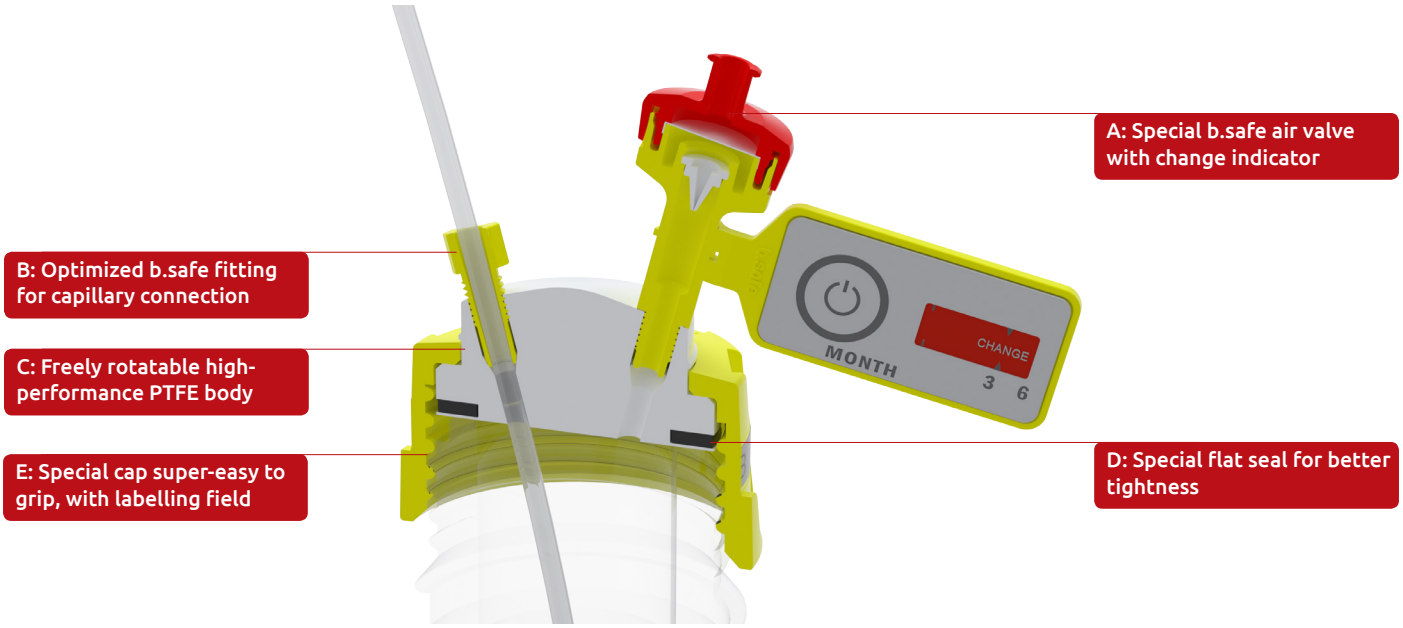
b.safe Cap

The new b.safe Caps are very robust and form a perfect unit for solvent extraction, together with Fittings and an Air Valve. They can be sterilized and autoclaved up to 200 °C and offer optimal chemical resistance. b.safe Caps can be easily cleaned in the dishwasher.

Through their freely movable PTFE insert, they can be easily screwed even with inserted capillaries.

The ergonomic design and eroded surfaces offer stable grip for glove hands. Inclined threads guarantee intuitive insertion, more space on the PTFE insert and a better overview. Tubes can be inserted safely and without bending into the bottle.

A Viton flat sealing provides tight sealing at the closure through compensation of possible production tolerances. A special sealing lip made of PTFE isolates it from the vapour space. This solution is thermally and chemically highly resilient and offers a low installation height.



A: b.safe Air valve with change indicator

This item is included with all b.safe caps. Due to its large scale, you will find a separate product data sheet for the b.safe air valve with change display here:
https://www.bsafe.de/en/literature/product-data-sheets

B: b.safe Yellow fitting for capillary connection

This item is included with all b.safe Caps.

PFA

Properties	Value	Test standard
Colour	nature	-
Melting point	> 300 °C	ASTM D3418
Melt flow rate	24,0 to 37,0 g/10min	ASTM 3307
Specific weight	2,12 to 2,17	ASTM D792
Tensile strength	> 20,7 MPa	ASTM D638
Expansion	> 275 %	ASTM D638
Conformities	FDA RoHs REACH BSE/TSE	VO 10/2011/EU 2011/65/EU RoHS EC 1907/2006 1774/2002/EG

Color yellow

Properties	Value	Test standard
Colour	yellow	-
Melting point	255-280 °C	D3418
Melt flow rate	6 g/10min	D3159
Highest operating temperature	155 °C	UL746
Hardness	67 Shore D	D2240
Tensile strength	40 MPa	D638
Flame Rating	V-0	UL94
Arc resistance	122 sec	D495
Limitation of the oxygen index	30-32%	D2863
Conformities	RoHs REACH BSE/TSE	2011/65/EU RoHS EC 1907/2006 1774/2002/EG

C: b.safe High-performance PTFE body

Basic body for caps with the following sizes: GL45, S40, GPI38/400, GPI38/430, NS29/32

Properties	Value	Test standard
Colour	white	-
Material	PTFE	-
Water content	0,02 %	-
Bulk density	500-800 g/l	ASTM D4894
Particle size	600-800 µm	-
Melting point	327±5 °C	ASTM D4894
Fluidity	12-16 s/100g	-
Usage temperature	to 260 °C	-
Sterilization	121 ° C	-
Conformities	FDA RoHs Class VI	CFR 77.1380 2011/65/EU RoHS USP 35 (88)

Basic body for caps with the following sizes: GLS80, B83

Properties	Value	Test standard
Colour	white	-
Material	PTFE	-
Bulk density	850 h/l	ASTM D4894
Specific weight	2,17	ASTM D4894
Tensile strength	32 / 4640 MPa / PSI	ASTM D4894
Expansion	310 %	ASTM D4894
Hardness	57 Shore D	-
Particle size Ø	800 µm	-
Recommended form pressure	30-40 MPa	-
Usage temperature	bis 260 °C	-
Sterilization	121 ° C	-
Conformities	FDA RoHs Class VI	CFR 77.1380 2011/65/EU RoHS USP 35 (88)

Basic body for caps with the following sizes:
GL28

Properties	Value	Test standard
Colour	white	-
Material	PTFE	-
Density	2130 - 2180 g/cm³	ISO 13000-2
Tensile strength	> 20 MPa	ISO 13000-2
max. elongation at break	> 200 %	ISO 13000-2
Hardness	> 54 Shore D	ISO 13000-2
Constant deformation	6 - 7,5 %	ASTM D621
Volume resistance	10^{18} Ohm	ASTM D257
Operating temperature	-200 / 260 °C	-
Sterilization	121 ° C	-
Conformities	FDA RoHs Class VI	CFR 77.1380 2011/65/EU RoHS USP 35 (88)

D: b.safe Special flat seal

This item is included with all b.safe Caps.

Properties	Value	Test standard
Colour	black	-
Material	FKM	-
Temperature range	-10 - +230 °C	-
Hardness	70-80 SHA	Din ISO 7619-1
Density	1,85-2,05 g/cm³	-
Tensile strength	9 MPa	DIN 53504
Elongation at break	165-235 %	DIN 53504
short-term peak temperature	275 °C	-
Flame Rating	V0	UL94
Acid resistance	very good	-
Alkali resistance	conditionally	
Conformities	FDA RoHs Class VI	CFR 77.1380 2011/65/EU RoHS USP 35 (88)

E: b.safe Special cap with labelling field

Screw cap for caps with the following sizes: GL45, S40

Properties	Value	Test standard
Material	PPS reinforced with 40% glass fiber	-
Density	1650 kg/m^3	ISO 1183
Bending stress	285 MPa	ISO 178
Rockwell hardness	100 M-Scale	ISO 2039-2
Melting temperature	280 °C	ISO 11357-1
Flammability	V-0	UL94
DTUL ar 1,8 MPa	270 °C	ISO 75-1
DTUL at 8,0 MPa	215 °C	ISO 75-1
Conformities	FDA RoHs Class VI	CFR 77.1380 2011/65/EU RoHS USP 35 (88)

Properties	Value	Test standard
Colour	yellow	-
Carrier material	PPS	-
Temperature resistance	300 °C	-
Lightfastness	6	Blue scale

Screw cap for caps with the following sizes:
GL28, GPI 38/400, GPI 38/430

Properties	Value	Test standard
Colour	white	
Material	PPS GF	-
Density	1,42 g/cm^3	-
Operating temperature min. / Max.	-20 / + 220 °C	-
Melting temperature	280 °C	ISO 11357-1
Thermal conductivity	0,3 W/m*K	-
Yield stress	78 MPa	ISO 527-1
Tensile strenght	78 MPa	ISO 527-1
Discruptive strength	24 kV/mm	IEC 60243-1
Surface resistance	10^{13} Ohm	-
Flame Rating	44 %	ISO 4589-1

Screw cap for caps with the following sizes:
B83

Properties	Value	Test standard
Colour	white	
Material	PP	-
Density	0,91 - 1,14 g/cm^3	DIN 53479
Odor	geruchlos	-
Melting temperature	165 °C	DIN 53765
Start of thermal decomposition	240 °C	DIN 53765-D-10
Ignition temperature	330 °C	ASTM-D 1929
Conformities	FDA Class VI REACH BST/TSE	177.1520 Plastic EX/1907/2006 999/2001

for caps with taps, the following positions are used for the stopcock:

Properties	Value	Test standard
Material	FEP	-
Density	2,14 g/cm³	ISO 1183 D 792
Shore hardness (D)	325 %	ISO 868 / D 2240
Tensile strength	30 MPa	ISO 12086 / D 638
Melting temperature	260 °C	D 4591/ D 3418
Max. Usage temperature	205 °C	-
Flame Rating	V-0	UL94
Chemical resistance	excellent	D 543
Surface resistance	10^{13} Ohm	-
Conformities	FDA RoHs REACH BSE/TSE	VO 10/2011/EU 2011/65/EU RoHS EC 1907/2006 1774/2002/EG

Properties	Value	Test standard
Material	1.4305	DIN EN 10088
Hardness HB30	< 230 HB	-
Yield strength	> 190 N/mm²	-
Tensile strength	500-750 N/mm²	-
Modulus of elasticity	200 kN/mm²	-
Density	7,90 kg/dm³	-
Electrical resistance	0,73 Ohm	-
Hot forming	900 - 1200 °C	-
Solution heat treatment	1000 - 1100 °C	-

Sophisticated Safety Solutions for HPLC.

Better b.safe

Stand 02/0221

www.bsafe.de
+49 (0) 93 46-92 86-0
Bohlender GmbH · Waltersberg 8 · 97947 Grünsfeld · Germany