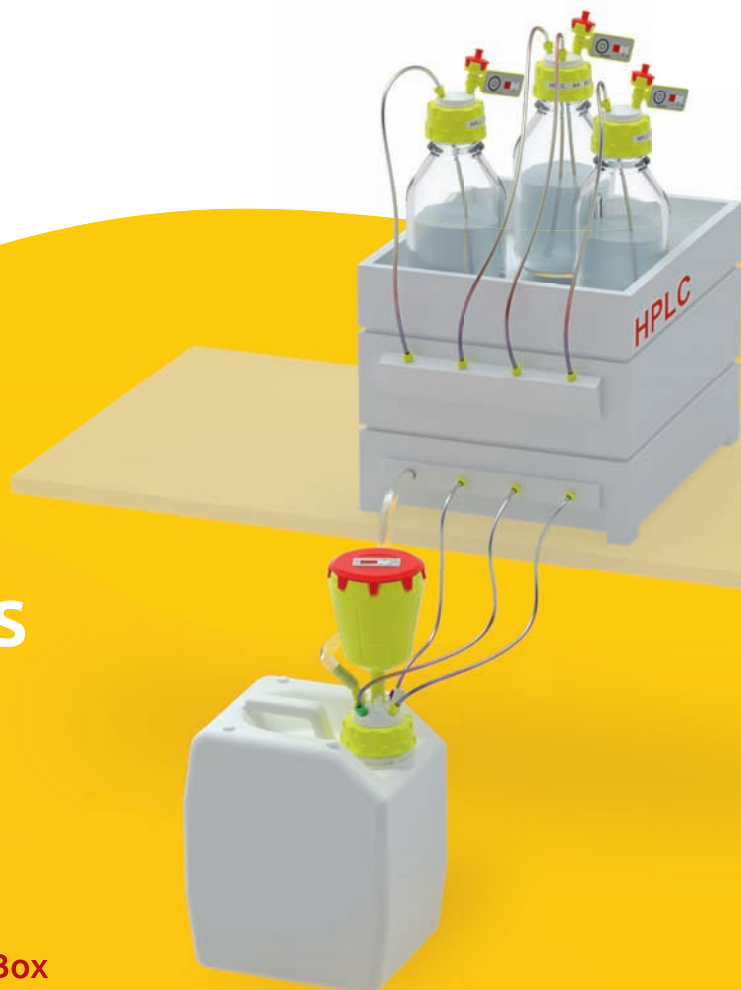


# b.safe

## Sophisticated Safety Solutions for HPLC.



### **b.safe HPLC All-in-One Box**

All b.safe products you need as initial equipment for your HPLC system.

from page 6

**NEW**



### **b.safe Desktop Collector**

A compact manifold for one or more HPLC systems.

from page 8

**NEW**



### **b.safe Electronic Level Control**

Reliable prevention of overflowing waste canisters.

from page 10

**NEW**

## b.safe Air Valves

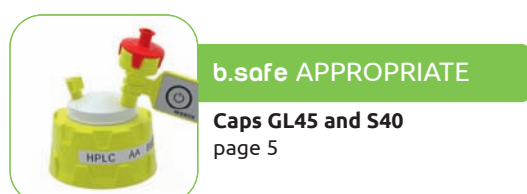
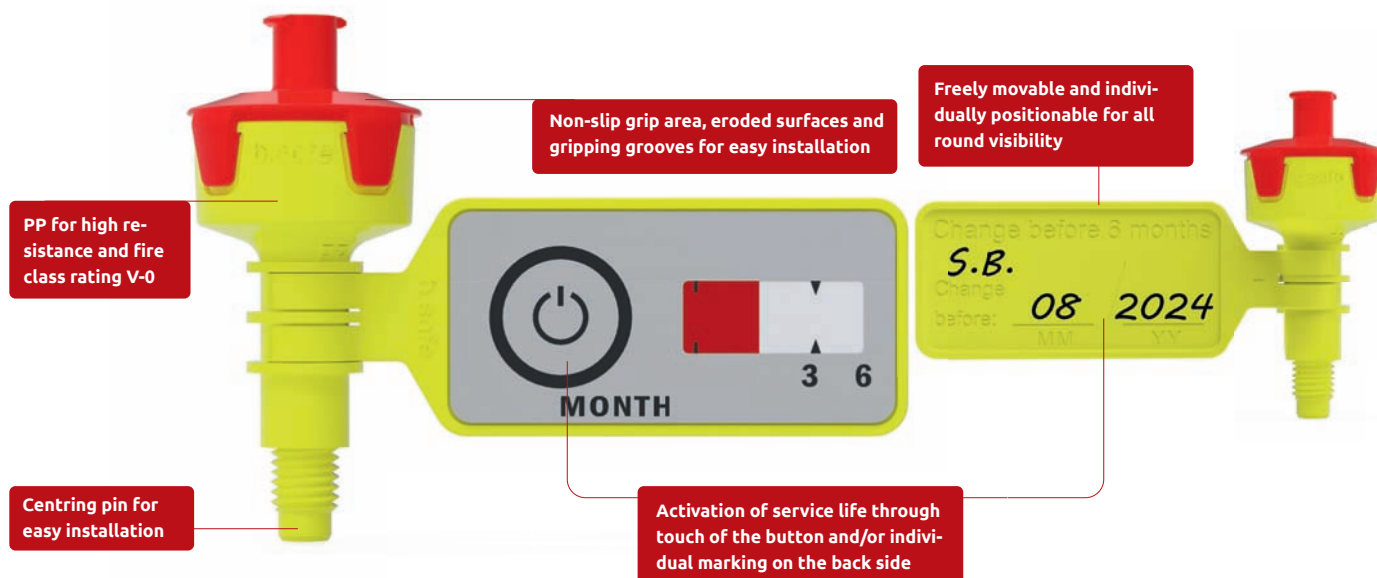
Material: **PP** | Temperature resistance: **0 °C to +110 °C** |  
Chemical resistance: **++ very good**

Valve body made of PP with connection (thread UNF 1/4" 28G) suitable for b.safe Caps. Lid with aeration opening and Luerlock connector, integrated non-return valve with upstream porous PTFE membrane (1 µm), including plug-in service life indicator.

	Packing unit	Service life	Cat. No.	*recomm. price Euro
	2 pcs.	6 months	M 505-01	38,33
	10 pcs.	6 months	M 505-02	169,23
	50 pcs.	6 months	M 505-05	731,20
<b>NEW</b>	100 pcs.	6 months	M 505-10	1.079,19

### Application:

For removal of eluents. The b.safe Air Valve is especially adapted to the flow rate in HPLC. The integrated non-return valve avoids evaporation of solvents and lets ambient air flow into the bottle in case of vacuum. The upstream porous PTFE membrane restrains pollutant particles and other contaminations from outside. The 6 months service life of the filter can be easily monitored through either activating the display on the cap and exchanging the valve in case of completely red colouring or documentation of the exchange date by hand and clip in the display at the valve.



# The new **BOLA** Catalogue is out now!

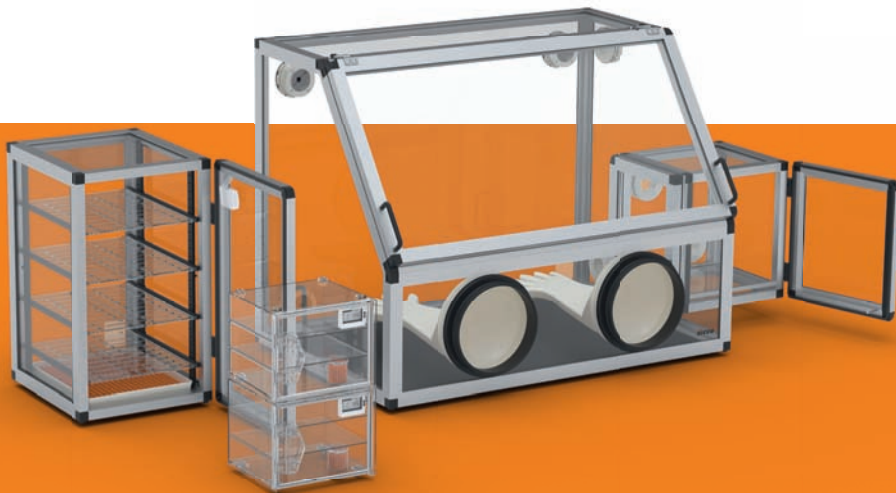
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# b.safe Caps - Operating Principle

Solvents are sucked out of the bottle through the capillaries.

The valve restrains solvent vapours and opens in case of vacuum

With their optimized design, b.safe Fittings can easily be connected to b.safe Caps

No twisting of capillaries through 360° rotation of PTFE insert

PTFE-insert with integrated flat sealing for improved tightness

The b.safe Air Valve lets flow into the bottle as much ambient air as necessary for pressure compensation. Solvent vapours are restrained and the evaporation loss of solvents is reduced.

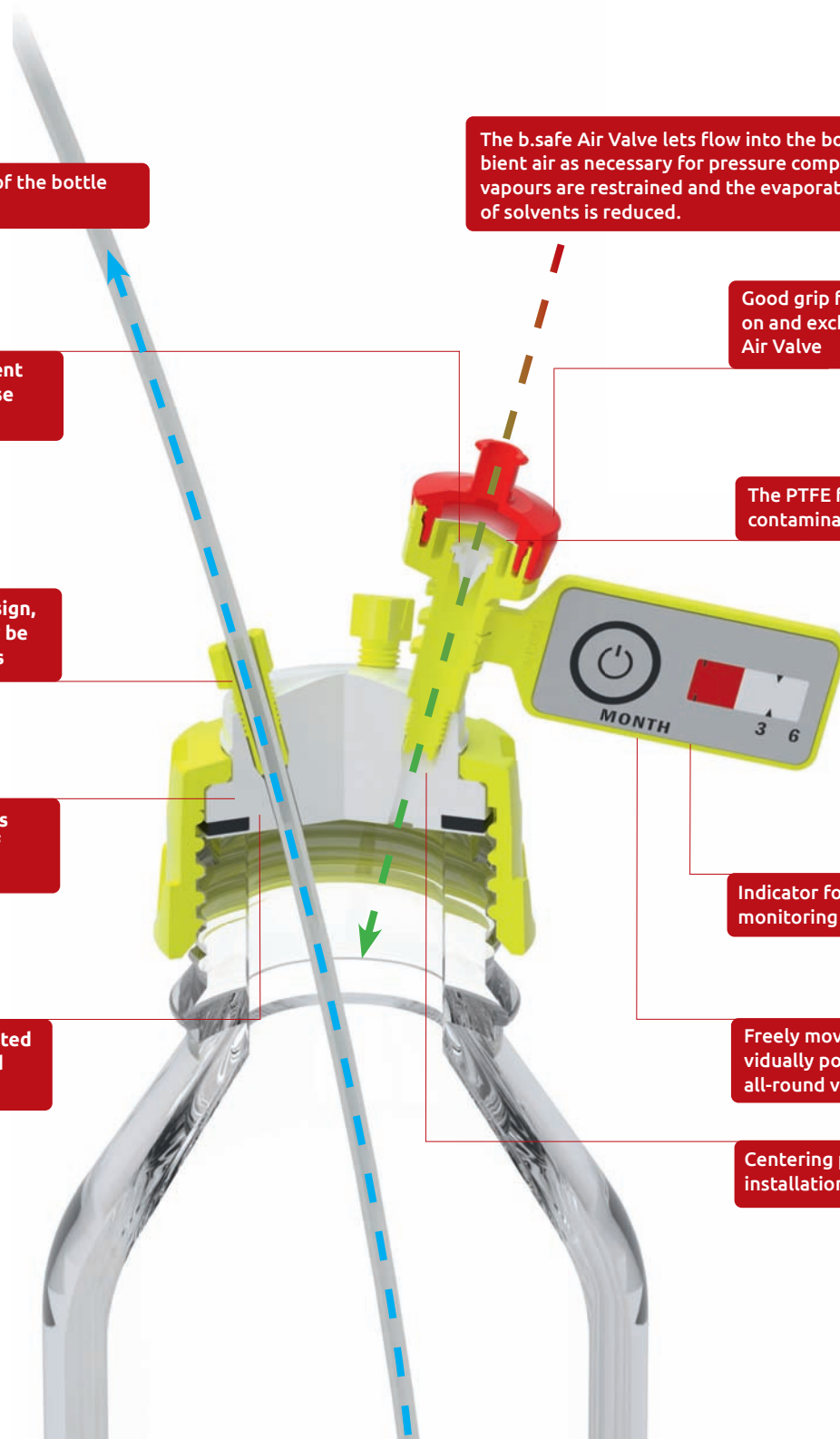
Good grip for easy installation and exchange of the Air Valve

The PTFE filter prevents contamination

Indicator for reliable monitoring of service life

Freely movable and individually positionable for all-round visibility

Centering pin for easy installation.





## b.safe Caps

Material: **PTFE, PPS** | Temperature resistance: **-20 °C to +200 °C** |

Chemical resistance: **+++ universal**

Screw cap made of PPS for GL45 thread, free movable insert made of PTFE. With PFA fittings for capillaries with O. D. 3,2 mm ( thread UNF 1/4" 28G), blind fittings made of PFA to close unused connections and an Air Valve with service life indicator. Version and scope of delivery as per below chart.

### b.safe Caps GL45 / Laboratory glass bottles GL45

	Number of capillary connectors	Number of Fittings	Number of Blind Fittings	Cat. No.	*recomm. price Euro
<b>A</b>	1	1 x Ø 3,2 mm (yellow)	0	M 145-01	65,41
<b>B</b>	2	2 x Ø 3,2 mm (yellow)	1 (milky white)	M 145-02	73,80
<b>C</b>	3	3 x Ø 3,2 mm (yellow)	2 (milky white)	M 145-03	76,61
<b>D</b>	4	4 x Ø 3,2 mm (yellow)	3 (milky white)	M 145-04	107,01
<b>E</b>	6	6 x Ø 3,2 mm (yellow)	5 (milky white)	M 145-05	107,66

### b.safe Caps S40 / Laboratory glass bottles S40 (e.g. from Merck)

	Number of capillary connectors	Number of Fittings mm	Number of Blind Fittings	Cat. No.	*recomm. price Euro
<b>A</b>	1	1 x Ø 3,2 (yellow)	0	M 140-01	73,90
<b>B</b>	2	2 x Ø 3,2 (yellow)	1 (milky white)	M 140-02	83,12
<b>C</b>	3	3 x Ø 3,2 (yellow)	2 (milky white)	M 140-03	90,82



**b.safe APPROPRIATE**

Air Valves  
page 2



\* Recommended prices valid until 31.12.2024

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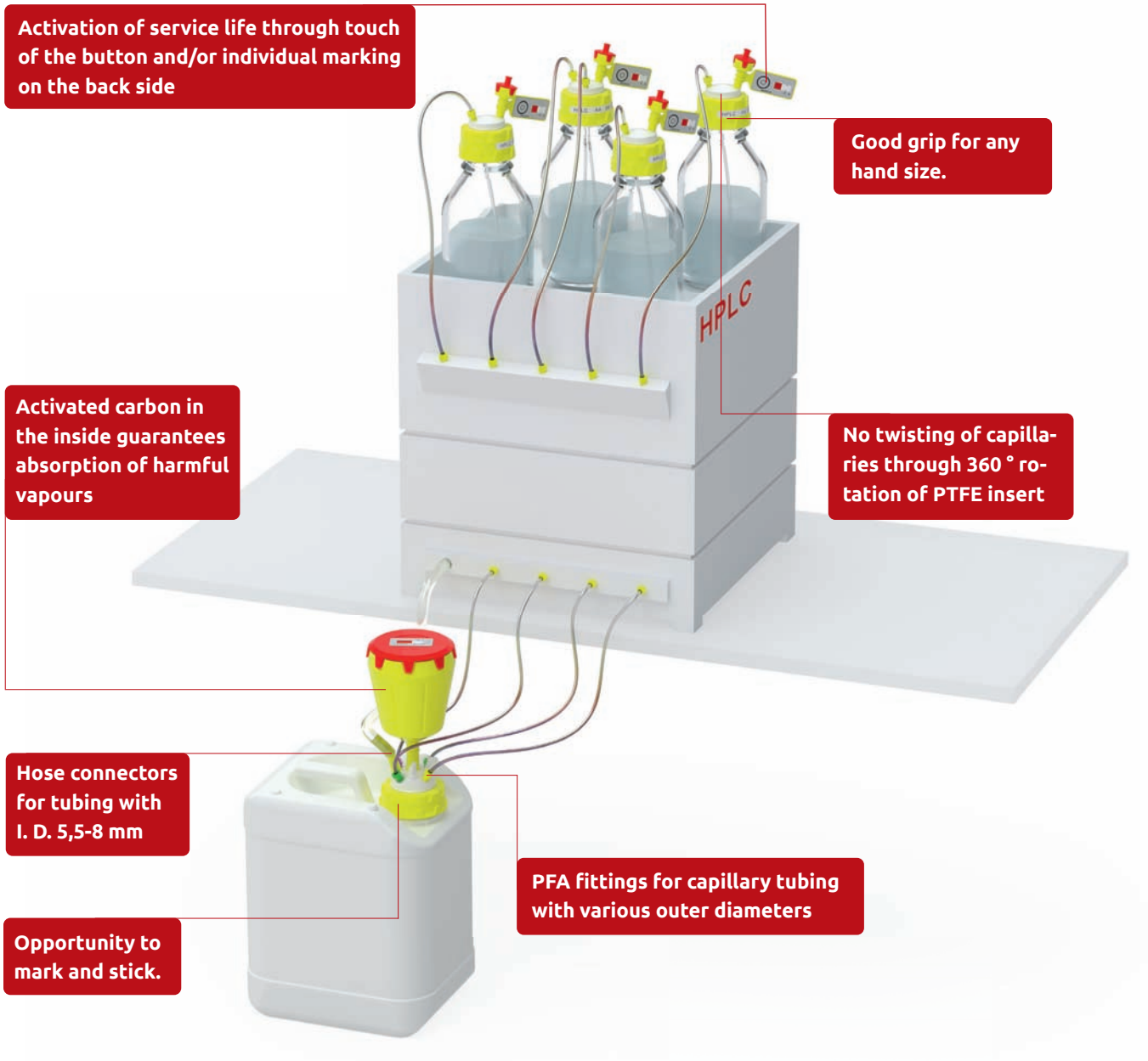
Visit us at **ANALYTICA 2024 ( Booth B1.216 )** from **09-12 april in Munich** and experience us and our products up close.



# b.safe HPLC All-In-One Box

As HPLC already challenges lab experts, we help to simplify their work as much as possible. Our b.safe HPLC All-In-One Box includes all b.safe products that you need as basic equipment for one HPLC system.

A time-consuming search for suitable individual components is not necessary, and you can also postpone ordering the consumables (for the time being): Our set contains enough air valves and an exhaust air filter for a service life of 12 months.



**NEW****b.safe HPLC All-In-One Box**

Material: **PTFE, PP** | Temperature resistance: **-20 °C to +200 °C** |  
 Chemical resistance: **+++ universal**

Complete set for equipping one HPLC system. Containing b.safe Caps GL45 for four laboratory flasks for solvent extraction as well as a b.safe Waste Cape with Exhaust Filter and a Canister for safe collection of solvent waste. The scope of delivery of the b.safe Caps includes PFA fittings for capillary O. D. 3,2 mm, Blind Fitting in PFA to close unused connections and Air Valves with service life indicator. For the collection of waste, the set includes a PE-canister S55 with 5-litre capacity, a suitable Waste Cap S55 and one Exhaust Filter L. The scope of delivery of the Waste Cap includes PFA Fittings for capillaries with OD 1,6/2,2/3,2 mm, Blind Fittings to close unused connections, tubing connectors for tubing I. D. 5,5-8 mm. Version and scope of delivery as per below chart. Consumables (Air Valves, Exhaust Filter) for a 12 months service life included.

Scope of delivery	Individual items for reordering:	Cat. No.
<b>A</b> 3x b.safe Cap GL45 with 1x capillary connection, incl. 1x Fitting for Tubing O. D. 3,2 mm, 1 Air Valve with service life indicator.	M 145-01	R 9900-10
<b>B</b> 1x b.safe Cap GL45 with 2x capillary connection, incl. 2x Fitting for Tubing O. D. 3,2 mm, 1 Air Valve with service life indicator.	M 145-02	
<b>C</b> 4x b.safe Air Valve with service life indicator 6 months	M 505-01 (Packing unit 2 pcs.)	
<b>D</b> 1x b.safe Waste Cap S55 with 4x capillary connection, 4x hose connector, 1x connector for exhaust filter, incl. 4x Fitting for Tubing O. D. 1,6 mm (green) / 2,2 mm (purple) / 3,2 mm (yellow), 4x Blind Fitting for capillary connection, 4x Blind Fitting hose connection, 4x hose connector for tubing I. D. 5,5-8 mm	M 355-40	
<b>E</b> 1x b.safe Hose Connector for tubing I. D. 9-10,5 mm	M 503-16	
<b>F</b> 1x b.safe Exhaust Filter L, service life 12 months	M 506-03 (Packing unit 2 pcs.)	
<b>G</b> 1x b.safe Canister S55, PE, capacity 5 litres	R 225-05	
		<b>*recomm. price Euro</b>
		449,00

**Application:**

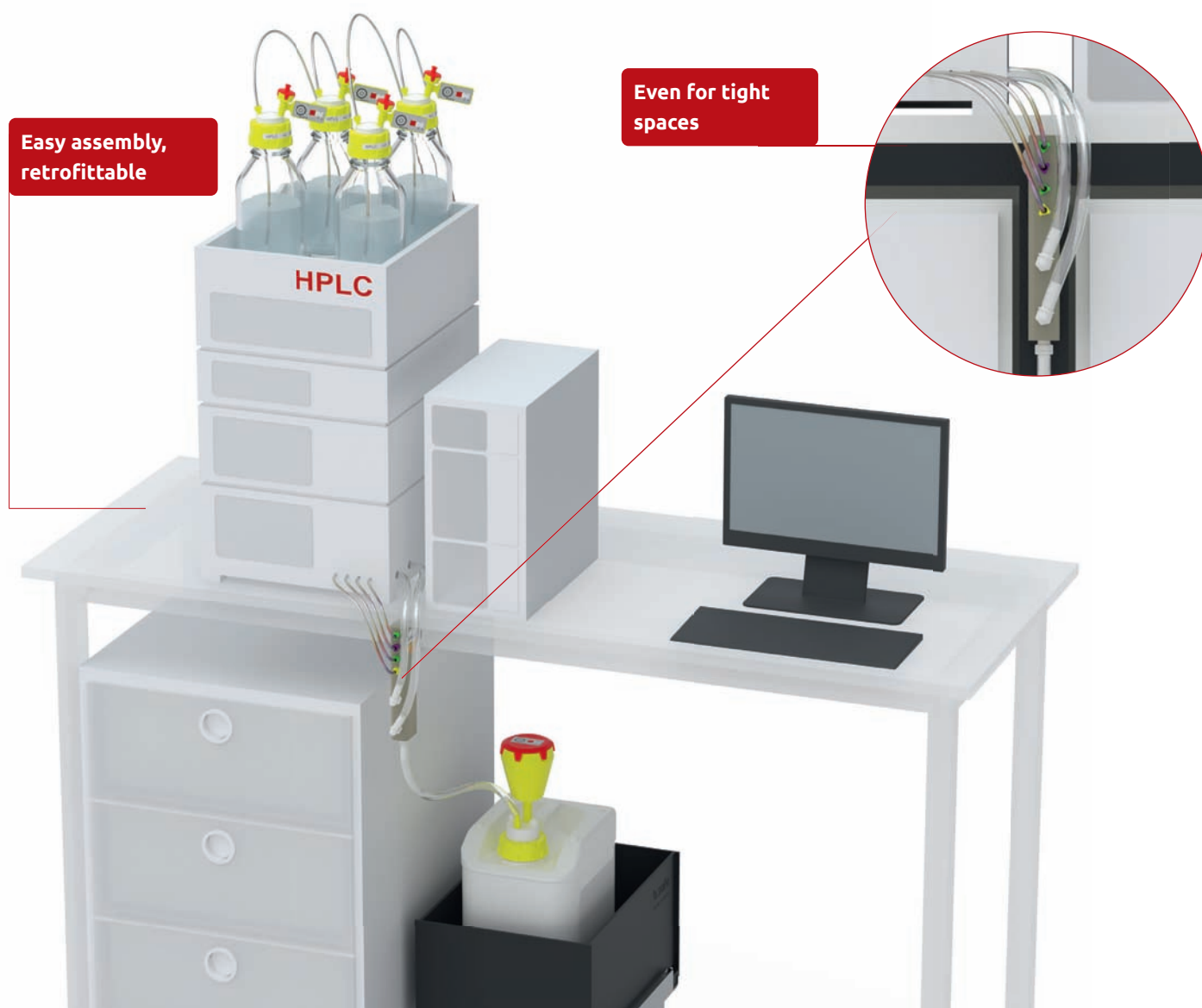
Perfect set for the initial equipment of your HPLC system. Using b.safe Caps, eluents are directly extracted from laboratory flasks. The Air Valve prevents evaporation of solvents and only allows as much air to flow into the bottle as is necessary to equalize the pressure. Waste tubing are connected directly to the canister with the b.safe Waste Cap. The Exhaust Filter with activated carbon filling reliably restrains solvent vapours from the air escaping during filling.



## b.safe Desktop Collector

With the b.safe Desktop Collector you can transfer solvent waste safely and quickly from the HPLC system directly to the disposal route. The b.safe Desktop Collector is a compact manifold for one or more HPLC installations. It is attached to the edge of the table with an adhesive pad or to a special HPLC table with a magnet.

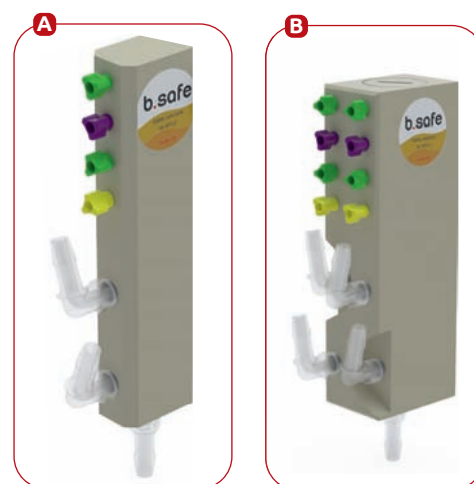
Thus, the waste lines of the devices are brought together at table height. The various connection options such as fittings, blind fittings or olives not only ensure leak-free connection of capillaries and hoses, but also provide the greatest possible flexibility. The number and variants depend entirely on the individual laboratory conditions.





**NEW****b.safe Desktop Collector**Material: **PP** | Temperature resistance: **-0 °C to +110 °C** |Chemical resistance: **++ very good**

Base plate made of PP, for collecting solvent waste from up to 8 capillaries and 4 hoses and forwarding it via a central hose connection. With PFA-Fittings for capillaries with O.D. 1,6/2,2/3,2 mm (thread UNF 1/4"), tubing connectors for tubing I.D. 6-8 mm (thread NPT 1/8") as well as Blind Fittings for closing unused connections. Easy attachment to the worktable either by magnet or silicone-free adhesive pad. Design and scope of delivery according to table.



	Number of capillary connectors	Number of Fittings	Number of Fittings mm	Number of capillary connectors	Dimensions L x W x D, mm	Attachment by	Cat. No.	*recomm. price Euro
<b>A</b>	4	2x angle 90° 1x straight	4 x Ø 1,6 (green) 4 x Ø 2,2 (purple) 4 x Ø 3,2 (yellow)	4x UNF 1/4" (milky white) 2x NPT 1/8" (white)	145 x 22 x 32	<b>C</b> magnet	R 1122-02	100,51
<b>A</b>	4	2x angle 90° 1x straight	4 x Ø 1,6 (green) 4 x Ø 2,2 (purple) 4 x Ø 3,2 (yellow)	4x UNF 1/4" (milky white) 2x NPT 1/8" (white)	145 x 22 x 32	<b>D</b> adhesive pad	R 1123-02	83,51
<b>B</b>	8	4x angle 90° 1x straight	8 x Ø 1,6 (green) 8 x Ø 2,2 (purple) 8 x Ø 3,2 (yellow)	8x UNF 1/4" (milkywhite) 4x NPT 1/8" (white)	150 x 36 x 52	<b>C</b> magnet	R 1122-04	225,14
<b>B</b>	8	4x angle 90° 1x straight	8 x Ø 1,6 (green) 8 x Ø 2,2 (purple) 8 x Ø 3,2 (yellow)	8x UNF 1/4" (milky white) 4x NPT 1/8" (white)	150 x 36 x 52	<b>D</b> adhesive pad	R 1123-04	146,25

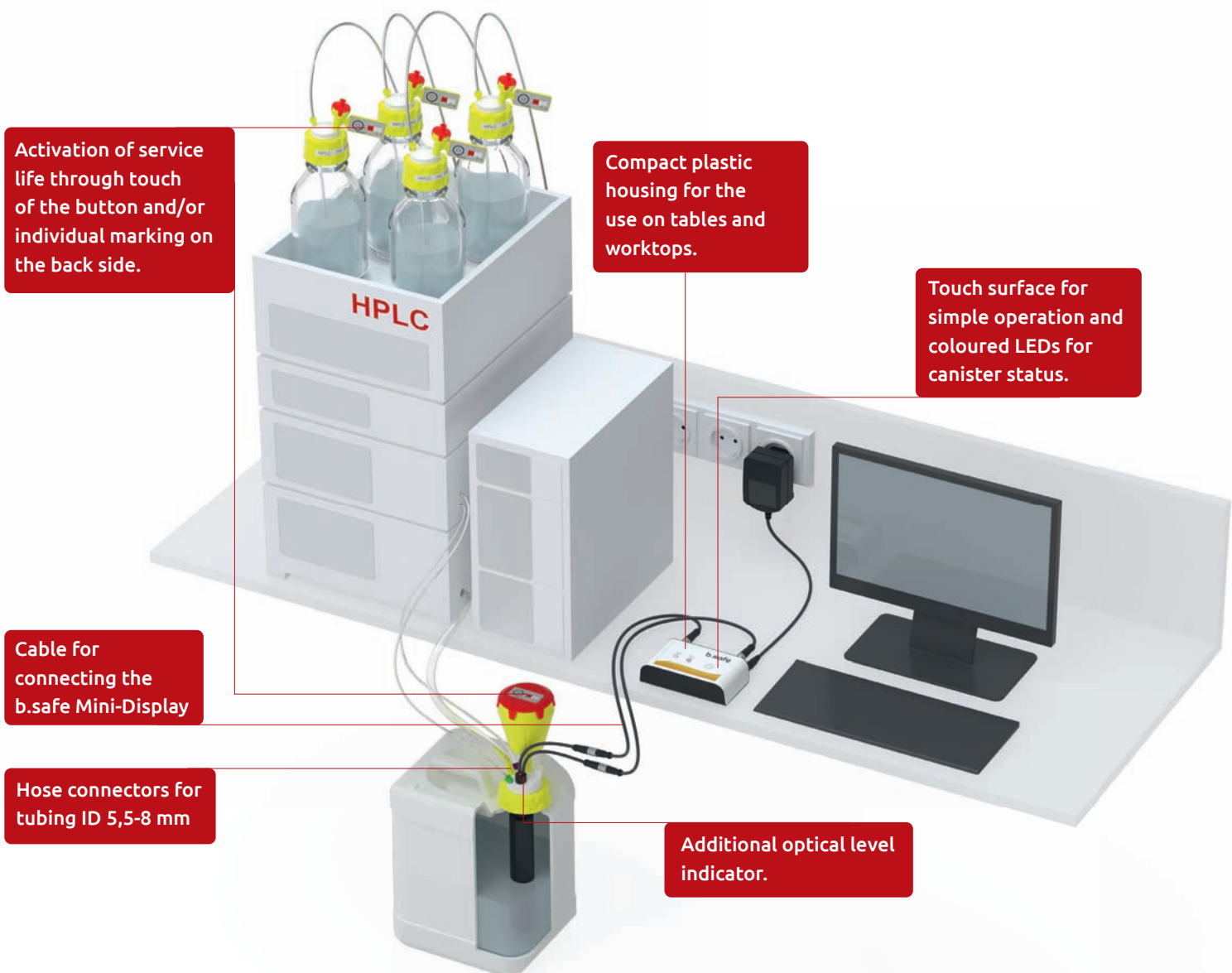
**Application:**

Central waste collection from several HPLC systems. Capillaries and hoses are connected without kinks using the b.safe Fittings and b.safe Hose connectors included in the scope of delivery. The liquid solvent waste flows off directly and residue-free via the vertical hole inside the Desktop Collector.



# b.safe Electronic Level Control

„Long absent, soon forgotten“ is not the motto for b.safe Electronic Level Control. The b.safe Waste Caps LC with sensor for electronic level control are connected with a signal cable to a b.safe Mini-Display. As soon as the fill level has reached the nominal volume of the connected canister, an acoustic alarm is triggered so that the full canister can be exchanged against an empty one. This reliably prevents the waste canister from overflowing.





## b.safe SYSTEM

**Mini-Display Wall**  
for installation in front panels of laboratory furniture.

[b.safe.de/en/system](http://b.safe.de/en/system)

## b.safe Mini-Display Table

Alarm box in plastic case. Front side with touch buttons and LED indicators to monitor the operation and the fill level of the connected sensors. Optical and acoustic main alarm starting when containers are full and stopping as soon as an empty container is confirmed. Available as 1 channel and 2 channel version, suitable for b.safe Waste Caps LC / System Waste Caps LC with main alarm, DLC version for b.safe Waste Caps DLC / System Waste Caps DLC with pre and main alarm. Including power supply (input: AC 100-240 V/50-60 Hz, 0,5 A, output: 24 V DC, 0,5 A) with plugs for EU, Australia, USA, Japan and UK.

	Version	No. of containers to be monitored	Outer dimensions of case, length x width x height, mm	Cat. No.	*recomm. price Euro
<b>A</b>	1-channel	1	110 x 65 x 30	R 659-01	165,41
<b>B</b>	2-channel	2	110 x 65 x 30	R 659-02	188,15



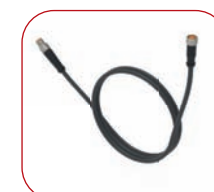
### Application:

Display unit to monitor connected fill-level sensors in b.safe Waste Caps and b.safe System Waste Caps. Tight plastic case to place it in the work area. Easy operation via touch surface.

## b.safe Signalcable

To connect e.g. Waste Caps with electronic fill level control or sensors to a b.safe Mini-Display to monitor the fill level.

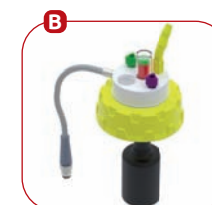
Cable length m	Connection 1	Connection 2	Cat. No.	*recomm. price Euro
2	<b>A</b> socket	<b>B</b> plug	R 645-02	17,80
3	<b>A</b> socket	<b>B</b> plug	R 645-03	35,97
5	<b>A</b> socket	<b>B</b> plug	R 645-05	42,39
10	<b>A</b> socket	<b>B</b> plug	R 645-10	44,76



## b.safe Waste Caps with Electronic Level Indicator

Material: **PTFE, PP** | Temperature resistance: **0 °C to +80 °C** |  
Chemical resistance: **++ very good**

Screw cap made of PP for S55 canister thread, free movable insert made of PTFE with permanently fixed cable (length 400 mm) to connect an electronic Level Indicator (b.safe Display) as well as sight glass and visual pin for additional optic control of the filling level. With PFA Fittings for capillaries with O. D. 1,6 / 2,2 / 3,2 mm (UNF 1/4" thread), Blind Fittings to close unused connections, 1 hose connector for tube I. D. 5,5 - 8 mm (NPT 1/8" thread) and 1 connector to screw in a b.safe Exhaust Filter (GL14 thread, not included in the scope of delivery). Version and scope of delivery as per below chart.



### b.safe Waste Caps with canister thread S55

	Number of capillary connectors	Number of Fittings mm	Number of Blind Fittings	Hose Connectors	Cat. No.	*recomm. price Euro
<b>A</b>	3	3 x Ø 1,6 (green) 3 x Ø 2,2 (purple) 3 x Ø 3,2 (yellow)	2 (milky white)	0	M 205-40	360,18
<b>B</b>	2	2 x Ø 1,6 (green) 2 x Ø 2,2 (purple) 2 x Ø 3,2 (yellow)	1 (milky white)	1 x Ø 5,5 - 8 mm	M 205-41	375,44

### b.safe Waste Caps with canister thread S60

	Number of capillary connectors	Number of Fittings mm	Number of Blind Fittings	Hose Connectors	Cat. No.	*recomm. price Euro
<b>A</b>	3	3 x Ø 1,6 (green) 3 x Ø 2,2 (purple) 3 x Ø 3,2 (yellow)	2 (milky white)	0	M 206-41	376,94
<b>B</b>	2	2 x Ø 1,6 (green) 2 x Ø 2,2 (purple) 2 x Ø 3,2 (yellow)	1 (milky white)	1 x Ø 5,5 - 8 mm	M 206-42	365,20

#### Application:

To avoid spill over of canisters through the connection of a Waste Cap to a b.safe Display for electronic level control. The filling levels of waste containers in laboratory cupboards and workbenches can be reliably monitored. The correct function (spill over protection) is only given if you use canisters with straight neck and without upstream thread adaptor. Additionally, you can use all benefits of b.safe Caps such as the connection of capillaries through b.safe Fittings and tubing with the appropriate hose connectors. Solvent vapours from the escaping air during filling are restrained from the Exhaust Filter with active carbon filling.



## b.safe Canisters **S55** **UN**

Canister with S55 thread (DIN51) for the collection of liquid waste. Version as per below chart.



Volume liters	Dimensions Length x Width x Height mm	Material	Cat. No.	*recomm. price Euro
5	190 x 150 x 235	PE-HD	R 225-05	17,52
10	230 x 195 x 235	PE-HD	R 225-10	17,52

## b.safe Canisters **S60** **UN**

Canister with S60/61 thread (DIN60/61) for the collection of liquid waste. Version as per below chart.



Volume liters	Neck	Dimensions Length x Width x Height mm	Material	Cat. No.	*recomm. price Euro
5	straight	190 x 150 x 255	PE-HD	R 230-05	18,50
10	straight	220 x 190 x 340	PE-HD	R 230-10	15,31
20	straight	300 x 230 x 405	PE-HD	R 230-20	19,92

\* Recommended prices valid until 31.12.2024

Also made by Bohlender.

# b.safe SYSTEM

## Individual System Solutions for Safe Liquid Waste Disposal

Ask for your catalogue or get more information:  
[www.bsafede/en/system](http://www.bsafede/en/system) or +49 (0) 93 46-92 86-0

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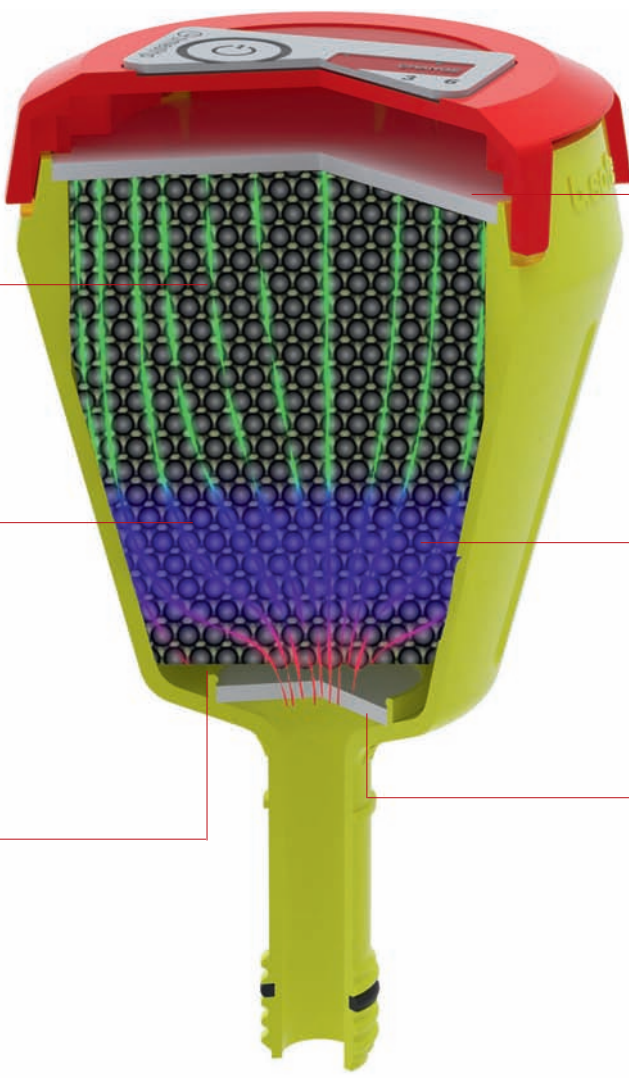
# b.safe Exhaust Filter - Operating Principle

The activated carbon filling in the b.safe Exhaust Filters adsorbs harmful vapours that escape from the collected solvent waste. Only filtered air is emitted through the ventilation openings to the ambience.

Supply Zone (green): proportion of the non-saturated activated carbon. The end of the Exhaust Filter's life cycle is reached as soon as this proportion is also saturated with solvents.

Active Zone (blue): also called adsorption zone. This part of the activated carbon is adsorbing the solvents in the air that is just flowing through the filter. It migrates upwards the more the saturated area grows.

Saturated Zone (red): proportion of the activated carbon that is already saturated with solvents. During the expiration of the service life, the saturated zone migrates upwards until the Exhaust Filter is completely saturated at the end of its service life.



Filter made of FDA conform PE to stabilize the activated carbon filling. Perfect air permeability of 300-1500 ml/min cm<sup>2</sup>

Activated carbon with a surface of 1100 m<sup>2</sup>/g for reliable adsorption of harmful solvents during the entire service life of the b.safe Exhaust Filter

Prefilter for optimized flow behaviour (air permeability of 300-1500 ml/min cm<sup>2</sup>)

## b.safe Exhaust Filters

Material: **PP** | Temperature resistance: **0 °C to +110 °C** |  
Chemical resistance: **++ very good**

Filter body made of PP with connector (thread GL14) for b.safe Waste Caps. Cap with aeration openings and service life indicator having a title block to monitor service life. Filling made of activated carbon for adsorption of solvents.



	Size	Service life	Packing unit	Cat. No.	*recomm. price Euro
<b>A</b>	Small	3 months	2 pcs.	M 506-01	84,96
<b>B</b>	Medium	6 months	2 pcs.	M 506-02	141,05
<b>C</b>	Large	12 months	2 pcs.	M 506-03	180,56

### Application:

Safe disposal of solvents without leakage of harmful solvent vapours. The activated carbon in the b.safe Exhaust Filter restrains solvent vapours from the escaping air during filling. The service life of the filter can be easily monitored through either activating the display on the cap and exchanging the filter in case of completely red colouring or documentation of the exchange date by hand. We recommend the following filter sizes: Size Small for up to 5 litres, size Medium for 5-10 litres, and size Large for more than 10 litres.



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Waltersberg 8  
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+49 (0) 93 46-92 86-0  
info@bohlender.de  
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