



# Declaration on quality control and quality assessment

## Disposable groundwater filtration filters 0.45 micron 300 cm<sup>2</sup>

### Producer declares that:

Disposable groundwater filtration filters 0.45 micron 300 cm<sup>2</sup> are fit for use for filtration of (ground)water for all parameters listed on the backside of this certificate. For some parameters a very limited interference can not be excluded at extremely low research levels when no pre-rinsing is done.

Analysis of leaching characteristics of the filters is done:

Yearly and after each change in production procedure or material composition of membranes and housing.

The filters are tested in the USA by Braun Intertec, 11001 Hampshire Avenue S. Minneapolis, MN 55438, Lab Analysis number 365651.

### Way of testing:

To determine the leaching characteristics of the filters, a number of 300 cm<sup>2</sup> filters (of a specified batch) are used for the filtration of a small quantity of ultra-pure water. The quantities are 500 ml for a 300 cm<sup>2</sup> filter. NO pre-flushing or pre-rinsing is done prior to this test. Due to the small water quantity and the absence of pre-rinsing the test is considered very critical.

### About the table:

The table not only shows the analysis results. To put the found values in a perspective the table also shows the Dutch environmental groundwater target values for shallow and deep groundwater with background values. Further, also the intervention values -all as known Circular Soil Remediation (only in Dutch) per june 2009- are shown. Also the Dutch drinking water maximum values are shown.

World Health Organization concentrations for drinking water generally are higher than the Dutch values.

To judge ordinary groundwater samples please refer to local and current applicable tables and values. Some parameters have no limits set but have been added to the list on request of researchers. No limit in the table does not mean that the parameter is innocent !

The table shows the results of the analysis of the filtered water expressed in mg/l or µg/l. Based on these values and compared with the stringent Dutch background values an interference risk is given too.

Terms used:

- Absent (no risk)
- Possible (some risk at lowest concentrations)
- Probable (interference probable at certain concentrations)
- No limit (no known limit set so no judgment possible)

Although the filters have shown to be excellent, you may further reduce the risk of contamination of a sample by pre-rinsing with the water to be analysed. Simply discard the first water of the sample that needs to be filtered and only collect the second part of the sample in the bottle.

### Recommendations:

- This random test does not fully guarantee the quality of every individual filter. Small variations may occur.
- This test does not guarantee the quality of the filters for parameters that are not tested. You must consider performing a similar test yourself if you are going to use the filters with parameters that are not mentioned in the list of parameters.
- Keep filters packed until use. Do not touch in- and output connectors of the filters.
- Read the manual before using the filters.
- The test does not pass judgment on sorption characteristics.
- Prevent overheating of a sample prior to filtration (in a pump). Never expose a sample to air before filtration. A peristaltic pump directly at the well set at a low flow rate is ideal.

## All it takes for environmental research



Parameter			Target values undeeep / deep / background concentrations for Dutch ground water	Ground water intervention value	Drinking water max. value	Lowest reporting limits	Results found filters 300 cm <sup>2</sup> (AA.67.01.736) Batch no.: 3204400	Risk of interference filters 300 cm <sup>2</sup>
Aluminium	Al	µg/l			200	1.1	1.5	absent
Antimone	Sb	µg/l	- / 0.15 / 0.09	20	5	0.011	0.047	possible
Arsene	As	µg/l	10 / 7.2 / 7	60	10	0.041	ND	absent
Barium	Ba	µg/l	50 / 200 / 200	625		0.088	ND	absent
Beryllium	Be	µg/l	- / 0.05 / 0.05	15		-	NA	-
Boron	B	µg/l			500	2.8	ND	absent
Cadmium	Cd	µg/l	0.4 / 0.06 / 0.06	6	5	0.017	ND	absent
Calcium	Ca	µg/l				12	ND	no limit
Chromium	Cr	µg/l	1.0 / 2.5 / 2.4	30	50	0.15	ND	absent
Cobalt	Co	µg/l	20 / 0.7 / 0.6	100		0.014	0.017	absent
Copper	Cu	µg/l	15 / 1.3 / 1.3	75	200	0.087	ND	absent
Iron	Fe	µg/l			200	2.7	ND	absent
Lead	Pb	µg/l	15 / 1.7 / 1.6	75	10	0.047	ND	absent
Magnesium	Mg	mg/l				1.1	1.1	no limit
Manganese	Mn	mg/l			50	0.2	ND	no limit
Mercury	Hg	µg/l	0.05 / 0.01 / -	0.3	1	0.008	ND	absent
Molybdenum	Mo	µg/l	5 / 3.6 / 0.7			0.015	0.028	absent
Nickel	Ni	µg/l	15 / 2.1 / 2.1	75	20	0.18	ND	absent
Ortho-phosphate	o-PO <sub>4</sub>	mg/l				0.0009	ND	no limit
Potassium	K	µg/l				2.2	7.4	no limit
Selene	Se	µg/l	- / 0.07 / 0.02	160	10	0.17	ND	possible
Silver	Ag	µg/l	- / - / -	40		0.004	ND	absent
Sodium	Na	µg/l				1.3	15	no limit
Strontium	Sr	µg/l				0.5	ND	no limit
Sulphate	SO <sub>4</sub>	mg/l			150	0.042	ND	absent
Tellurium	Te	µg/l	- / - / -	70		0.12	ND	absent
Thallium	Th	µg/l	- / - / <2	7		0.058	ND	absent
Tin	Sn	µg/l	- / 2.2 / <2	50		0.13	ND	absent
TOC		mg/l				-	NA	-
Vanadium	V	µg/l	- / 1.2 / 1.2	70		0.061	0.06	absent
Zinc	Zn	µg/l	65 / 24 / 24	800	300	0.52	ND	absent

NA = Not analysed

ND = Not detectable

