

Certificate of Quality

Sartorius Pipette Tips Typical Values of Trace Metals

This table presents typical values of trace metals extracted from Sartorius Optifit, SafetySpace and Low Retention pipette tips by concentrated nitric acid. Each tip type was tested using tips from at least three batches of Sartorius Pipette Tips. The values are the average values of individually analyzed samples.

The pipette tips are tested by rinsing the pipette tip 10 times with its nominal volume of conc. nitric acid. The results were analyzed with ICP-MS (Inductively coupled Plasma/Mass spectrometry). The concentrations with < are below the detection limit of the analysis.

Tip volume	Concentrations in ppb (µg/l)								
	Al	Cr	Mn	Ni	Cu	Zn	Cd	Hg	Pb
0,1-10 µl	<0,256	<0,673	<0,033	<0,970	<0,106	<0,065	<0,013	<0,129	<0,002
0,1-10 µl, Ext	<0,256	<0,673	<0,033	<0,970	<0,106	<0,065	<0,013	<0,129	<0,002
0,5- 200 µl	<0,256	<0,673	<0,033	<0,970	<0,106	3,345	<0,013	<0,129	0,006
5-350 µl	<0,256	<0,673	<0,033	<0,970	<0,106	4,678	<0,013	<0,129	0,010
10-1000 µl	0,409	<0,673	<0,033	<0,970	0,294	1,387	<0,013	<0,129	0,014
50-1200 µl, Ext.	<0,256	<0,673	<0,033	<0,970	<0,106	1,179	<0,013	<0,129	0,007
50-1200 µl	0,377	<0,673	0,048	<0,970	0,529	2,139	0,020	<0,129	0,036
100-5000 µl	<0,256	<0,673	<0,033	<0,970	<0,106	1,145	<0,013	<0,129	<0,002
1-10 ml	0,364	<0,673	<0,033	<0,970	0,209	22,276	<0,013	<0,129	0,021
Limit of detection	0,256	0,673	0,033	0,970	0,106	0,065	0,013	0,129	0,002

These results are based on one-time analysis and are for guidance to the probable levels of trace metals in Sartorius tips. Analysis was performed by GTK Finland.

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