

Table 1: Full acid digestion of the PSA samples

sample volume 2 or 5 mL			
addition of 10 mL HNO ₃ , 5 mL HF, 5 mL H ₂ O ₂			
digestion according to the following procedure			
step	duration [h]	temperature [°C]	comment
0		20	
1	1	100	heat
2	12	100	hold
3	end		let cool to room temperature
close beakers tightly			
0		20	
1	1	100	heat
2	5	100	hold
3	1	120	heat
4	2	120	hold
5	1	140	heat
6	2	140	hold
7	1	160	heat
8	2	160	hold
9	1	180	heat
10	2	180	hold
11	1	210	heat
12	5	210	hold
13	1.5	170	cool
14	1	160	cool
15	1.5	140	cool
16	1	140	hold
17	1	120	cool
18	1	100	cool
19	end		let cool to room temperature
add 10 mL ultra pure water to reduce Al and CaF			
0		20	
1	1	100	heat
2	4	100	hold
3	end		let cool to room temperature

Table 1 (continued)

subboiling to 5 - 10 mL to reduce the acid			
step	duration [h]	temperature [°C]	comment
0		20	lower heating plate
1	2	160	heat
2	1.5	160	hold
3	end		let cool to room temperature
0		20	upper heating plate
1	1.33	110	heat
2	4	110	hold
3	end		let cool to room temperature
transfer sample to 25 mL vial, filling up to 25 mL with 2 % HNO_3			

Table 2: Cleaning procedure for the samples vials used for the PSA sample analysis

1 week	industrial cleaning agent (3 % Mucosol, 97 % ultra pure water) rinsing with ultra pure water
1 week	HCl-bath (25 % HCl, 75 % ultra pure water) rinsing with ultra pure water
1 week	HNO_3 -bath (25 % HNO_3 , 75 % ultra pure water) rinsing with ultra pure water
1 week	HNO_3 -bath (10 % HNO_3 , 90 % ultra pure water) rinsing with ultra pure water
	drying under clean bench class 100 sealing twice into PE-bags for storage

Used reagents:

- ultra pure water: production by coupling a reverse osmosis system with a Purelab ultra system (Elga, High Wycombe, U.K.)
- industrial cleaning agent: MUCASOL, Fa. Merck
- HCl: HCl suprapur, Fa. Merck
- HNO_3 : HNO_3 p.a. 65 %, Fa. Merck