

Draft starting method PFAS method according ISO – 21675



Sample : 250-500 ml water Solvent 1: MeOH Solvent 2: H₂O Solvent 3: 0,1% ammonia/methanol Solvent 4: 25mM Acetate buffer pH 4 *1 In case of up to 500 ml water a cartridge packed with 150-250 mg is sufficient, For 1 litre samples a cartridge with 1000 mg should be used



SPE-03 method

Step 1:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Elute W2	Solvent 3		5	4

Means SPE cartridge is washed with 4 ml of solvent 3 (= 0,1% ammonia/methanol) at a flowrate of 5 ml/min. Effluent is via waste tray 2 collected in a jerrycan for organic liquid: Remark1: In case of an aqueous solvent it can be collected via W1 into a different jerrycan Remark2: Inlet 2 is used when two solvent should be mixed via the mixing chamber

Step 2:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Elute W2	Solvent 1		5	4

Means SPE cartridge is washed with 4 ml of solvent 1 (= MeOH) at a flowrate of 5 ml/min. Effluent is via waste tray 2 collected in a jerrycan for organic liquid:

Step 3:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Elute W1	Solvent 2		5	4

Means SPE cartridge is washed with 4 ml of solvent 2 (= H_2O) at a flowrate of 5 ml/min. Effluent is via waste tray 1 collected in a jerrycan for aqueous liquid:

Step 4:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Add sample W1	Sample		5	515

Means: 500 ml of the sample is loaded onto the SPE cartridge is washed with at a flowrate of 5 ml/min. The indicated volume of 515 ml assures that the complete sample is applied to the SPE cartridge. Make sure that the bottle is filled with 500 ± 5 ml of sample

Effluent is via waste tray 1 collected in a jerrycan for aqueous liquid:



Step 5:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Rinse	Solvent 1		75	5

Means: The bottle/vial which contained the sample extract is rinsed with 5 ml solvent 1 (= methano) at a flowrate of 75 ml/min.

This high flowrate creates a spray cleaning the inner surface of the sample bottle Rinsate is temporarily stored in the sample bottle to be used at step 10

Step 6:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Elute W1	Solvent 2		5	4

Means: SPE cartridge is washed with 4 ml of solvent 2 (= H_2O) at a flowrate of 5 ml/min. Effluent is via waste tray 1 collected in a jerrycan for aqueous liquid:

Step 7:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Elute W2	Solvent 4		5	4

Means: SPE cartridge is washed with 4 ml of solvent 4 (= acetate buffer) at a flowrate of 5 ml/min. Effluent is via waste tray 2 collected in a jerrycan for organic liquid:

Step 8:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Air purge W2	air		5	5

Means: SPE cartridge is dried using 5 ml air at a flowrate of 5 ml/min. Effluent is via waste tray 2 collected in a jerrycan for organic liquid:



Step 9:				
Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
N2 cartridge ^{*2}		time based		5min

Means: SPE cartridge is dried during 5 minutes using nitrogen. Effluent is via waste tray 1 collected in a jerrycan for organic liquid:

*2 When only four sample are processed please put 4 dummy (previously used) cartridge in the remaining 4 position. This needs to be done to assure evenly distribution of N_2 , otherwise cartridge will not been sufficiently dried resulting in trace of water in the final extract

Step 10:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Collect 1	Sample		2	5

Means SPE cartridge is eluted with 5 ml of the rinsate (from step 5) at a flowrate of 2 ml/min. Effluent is collected in a 15 ml tube.

Step 11:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Collect 1	Solvent 1		2	4

Means SPE cartridge is eluted with 4 ml of solvent 1 (= Methanol)at a flowrate of 2 ml/min. Effluent is collected in a 15 ml tube.

Step 12:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Collect 1	Solvent 3		2	4

Means SPE cartridge is eluted with 4 ml of solvent 3 (= 0,1% ammonia/methanol)at a flowrate of 2 ml/min. Effluent is collected in a 15 ml tube.

Step 13:

Action	Inlet 1	Inlet 2 (ratio)	Flow (ml/min)	Volume (ml)
Air purge 1	air		5	5

Means: SPE cartridge is dried using 5 ml air at a flowrate of 5 ml/min. Effluent is collected in a 15 ml tube.

Collected fractions can be concentred to the desired final volume and if needed solvent can be exchanged