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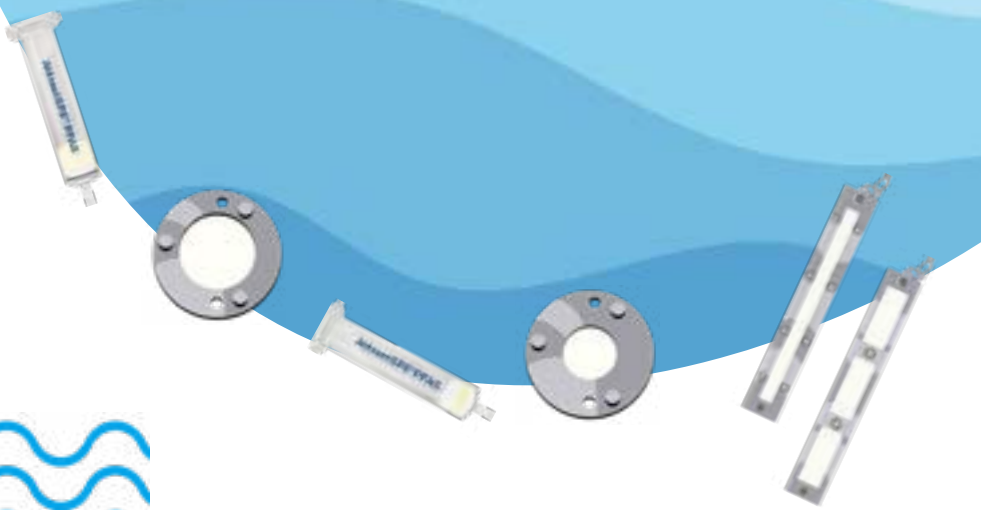
The art of making sample preparation easier

& ENVIRONMENTAL WATER ANALYSIS



Content

Sampling and sample preparation

AFFINISEP provides a multitude of chemical phases and formats to help you to face the increasingly challenges of sampling and sample preparation methods for single and multi analysis.

SPE Disks

Passive samplers
POCIS, SPATT, Based on disks, Silicone rubber

Solid Phase Extraction
With specific application

Membranes & filtration

SPE Manifolds and Accessories

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AttractSPE® Disks for environmental applications

AttractSPE® Disks are Solid Phase Extraction Disks for the extractions of a broad range of contaminants. AttractSPE® Disks are thin, dense and uniform SPE disks for retention of targeted analytes without any breakthrough. Our innovative SPE disks allow the best interactions with analytes and a maximal flow rate without any channeling.

Advantages

- High density of sorbent avoiding channeling
- No bubbling
- Broad diversity of chemistry including HLB and mixture of sorbents
- Designed for passive sampling based on SPE disks
- Grab water analysis – loading with high flow rate (Compliant with many EPA methods)
- Can handle dirty samples
- Compatible with manual manifolds and automates
- Disks format: 25 mm – 47mm or 90mm

IMPORTANT FACT

Affinisep is manufacturer of its own resins from A to Z (from monomers to polymers) and can tailor-made chemistries with different physico-chemical properties.

AttractSPE® Disks
Environment

Designation	Kit composition	Reference 47mm -20/pk	Reference 90mm -10/pk
AttractSPE® Disks HLB	HLB sorbent	SPE-Disks-HLB-47. T1.20	SPE-Disks-HLB-90. T1.10
AttractSPE® Disks C18	C18 sorbent	SPE-Disks-C18-47. T1.20	SPE-Disks-C18-90. T1.10
AttractSPE® Disks SDB	PS-DVB sorbent	SPE-Disks-DVB-47. T1.20	SPE-Disks-DVB-90. T1.10
AttractSPE® Disks RPS	Modified RPS sorbent	SPE-Disks-RPS-47. T1.20	SPE-Disks-RPS-90. T1.10
AttractSPE® Disks Anion Exchange SR	SAX sorbent	SPE-Disks-AN-47. T1.20	SPE-Disks-AN-90. T1.10
AttractSPE® Disks Cation Exchange SR	SCX sorbent	SPE-Disks-CAT-47. T1.20	SPE-Disks-CAT-90. T1.10
AttractSPE® Disks WAX	WAX sorbent	SPE-Disks-WAX-47. T1.20	SPE-Disks-WAX-90. T1.10
AttractSPE® Disks WCX	WCX sorbent	SPE-Disks-WCX-47. T1.20	SPE-Disks-WCX-90. T1.10
AttractSPE® Disks Chelating	For multivalent metals	SPE-Disks-MET-47. T1.20	SPE-Disks-MET-90. T1.10
AttractSPE® Disks Non-target Screening	Mix HLB-WCX-WAX	SPE-Disks-screening1-47. T1.20	SPE-Disks-screening1-90.T1.10
AttractSPE® Disks Non-target Screening	Mix HLB-SCX-SAX	SPE-Disks-screening2-47. T1.20	SPE-Disks-screening2-90.T1.10

25mm disks are also available – 40/pk
Do not hesitate to contact us

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AttractSPE® Prefilter
Glassfiber

AttractSPE®Prefilter Glassfiber are required on top of AttractSPE® Disks to prevent clogging when loading water rich of suspended particles

Description	Reference
25mm, 1µm, 50/pk	PF-GF-50.T1.25.1
25mm, 3µm, 50/pk	PF-GF-50.T1.25.3
47mm, 1µm, 50/pk	PF-GF-50.T1.47.1
47mm, 3µm, 50/pk	PF-GF-50.T1.47.3

Description	Reference
25mm, 1µm, 50/pk	PF-GF-50.T1.25.1
25mm, 3µm, 50/pk	PF-GF-50.T1.25.3
47mm, 1µm, 50/pk	PF-GF-50.T1.47.1
47mm, 3µm, 50/pk	PF-GF-50.T1.47.3

Passive samplers for water monitoring

Passive Sampling
Solutions

Passive sampling enables the monitoring of contaminants in water (surface water, groundwater, coastal water...) for a short (at least 7 days) to long period (with an average field deployment of one month) for which no power, maintenance and supervision is required. Analysis of passive samplers are carried out in laboratory. Qualitative and relative quantification results are easily obtained. Absolute quantification is also possible.

POCIS

Polar and semi-polar compounds such as pesticides, drug residues, PFAS, EDC...

Disks based passive samplers

Micropollutants and metals

Silicone rubber strips

Hydrophobic compounds such as PAHs, PCBs, PBDEs, hydrophobic pesticides

SPATT

Biotoxin tracking

Advantages

- Can generate a time-weighted average (TWA) concentration of the contaminants in water
- Deployable in harsh conditions
- No a priori preparation or supervision
- Very simple use

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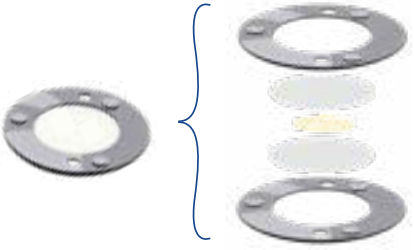
Composition of a POCIS

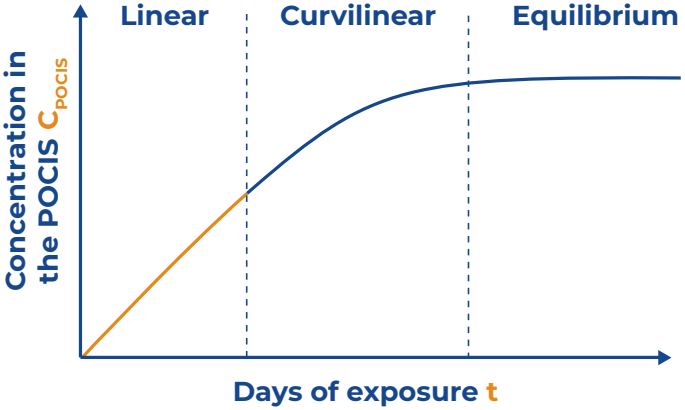


Uper ring
Uper membrane
Sorbent
Lower membrane
Lower ring

How that works?

The sorbent collects the contaminant(s) in water.
The organic compounds are then extracted from the sorbent in the POCIS, following a SPE procedure and analyzed using classical analytical methods by HPLC and LC-MS, ...

Classical cumulation kinetic of contaminants in the POCIS



POCIS families

- **AttractSPE® POCIS HLB** for pharmaceutical drug residues and pesticides
- **AttractSPE® POCIS Pesticides** for pesticides
- **AFFINIMIP® POCIS GLYPHOSATE** for glyphosate, glufosinate and AMPA
- **AttractSPE® POCIS EDC+** for the retention of endocrine disrupters such as natural/synthetic estrogens, bisphenols...
- **AttractSPE® POCIS PFAS** for PFAS

These kits also include empty fritted cartridges to make easiest the extraction step of the contaminants.
Round POCIS for surface monitoring or rectangular for groundwater and pipes.

POCIS with PRC
Performance reference compound (PRC) is a compound not present in the environment (e.g., a deuterated molecule), which is spiked in the sorbent phase of the POCIS before its exposure as internal standards.

Several kits are available **with or without reference compounds (PRC)** to correct for in situ exposure parameters known to affect uptake rates.

AFFINIMIP® POCIS GLYPHOSATE for glyphosate and AMPA

Reference	Composition
POCIS.GLY.90.55.kit.10	Kit of 10 POCIS + empty fritted cartridges
POCIS.GLY.90.55.kit.50	Kit of 50 POCIS + empty fritted cartridges

AttractSPE® POCIS PFAS for PFAS

Reference	Composition
POCIS.PFAS.90.55.A.10	Kit of 10 POCIS + empty fritted cartridges
POCIS.PFAS.90.55.A.50	Kit of 50 POCIS + empty fritted cartridges

AttractSPE® POCIS EDC+ for the retention of endocrine disrupters such as natural/synthetic estrogens, bisphenols...

Reference	Composition
POCIS.EDC+.90.55.kit.10	Kit of 10 POCIS + empty fritted cartridges

AttractSPE® POCIS HLB for pharmaceutical drug residues and pesticides

Reference	Composition
POCIS.HLB.90.55.kit.10	Kit of 10 POCIS + empty fritted cartridges
POCIS.HLB.90.55.kit.50	Kit of 50 POCIS + empty fritted cartridges
POCIS.HLB.90.55.kit.10.DIA	Kit of 10 POCIS with a sorbent containing DIA-d5 as PRC + 3 cartridges containing the sorbents with DIA-d5 + empty fritted cartridges
POCIS.HLB.90.55.kit.50.DIA	Kit of 50 POCIS with a sorbent containing DIA-d5 as PRC + 3 cartridges containing the sorbents with DIA-d5 + empty fritted cartridges

AttractSPE® POCIS Pesticides for pesticides

Reference	Composition
POCIS.PEST.90.55.kit.10	Kit of 10 POCIS + empty fritted cartridges
POCIS.PEST.90.55.kit.50	Kit of 50 POCIS + empty fritted cartridges
POCIS.PEST.90.55.kit.10.DIA	Kit of 10 POCIS with a sorbent containing DIA-d5 as PRC + 3 cartridges containing the sorbents with DIA-d5 + empty fritted cartridges
POCIS.PEST.90.55.kit.50.DIA	Kit of 50 POCIS with a sorbent containing DIA-d5 as PRC + 3 cartridges containing the sorbents with DIA-d5 + empty fritted cartridges

POCIS FOR GROUNDWATER

AFFINISEP provides POCIS with specific shapes for groundwater and pipes.
Do not hesitate to contact for the POCIS of interest. **Mass sorbent equivalent to 2 rounds POCIS**.

1 unit = 3 pocis of 10cmx4cm

1 unit = 30cm x 5cm

Designation	Definition	Reference
AttractSPE® POCIS HLB for groundwater	POCIS containing Attract HLB for the retention of pharmaceutical drug residues & pesticides - 30cm x 5cm – 1 unit	POCIS.HLB.30.5.A.1
	POCIS containing Attract HLB for the retention of pharmaceutical drug residues & pesticides - 1 unit = 3 pocis of 10cmx4cm	POCIS.HLB.10.4.A.3
AFFINIMIP® SPE POCIS GLYPHOSATE for groundwater	POCIS containing AFFINIMIP® Glyphosate - 30cm x 5cm – 1 unit	POCIS.GLY.30.5.A.1
	POCIS containing AFFINIMIP® Glyphosate - 1 unit = 3 pocis of 10cmx4cm	POCIS.GLY.10.4.A.3
AttractSPE® POCIS PFAS for groundwater	POCIS containing AttractSPE® PFAS - 30cm x 5cm – 1 unit	POCIS.PFAS.30.5.A.1
	POCIS containing AttractSPE® PFAS - 1 unit = 3 pocis of 10cmx4cm	POCIS.PFAS.10.4.A.3

Passive Sampling
Disks Based Passive Samplers - Product list

Each Disk Based Passive Samplers (DBPS) kit below contains SPE disks (47mm) + ready-to-use diffusion membranes (90mm) + stainless steel housing of 90mm with a single-sided opening of 40mm - Compliant with 3-PS holders.

Designation	Description	Reference
AttractSPE® Disks based Passive Sampler HLB	DBPS with AttractSPE® Disks HLB and PES membranes, 10/pk	DBPS.HLB.90.40.kit.10
AttractSPE® Disks based Passive Sampler SDB	DBPS with AttractSPE® Disks SDB + PES membranes, 10/pk	DBPS.DVB.90.40.kit.10
AttractSPE® Disks based Passive Sampler C18 for organotins	DBPS with AttractSPE® Disks C18 for organotin compounds + cellulose acetate membranes, 10/pk	DBPS.C18.CA.90.40.kit.10
AttractSPE® Disks based Passive Sampler C18	DBPS with AttractSPE® Disks C18 + PES membranes, 10/pk	DBPS.C18.90.40.kit.10
AttractSPE® Disks based Passive Sampler Cation Exchange - SR	DBPS with AttractSPE® Disks SCX + PES membranes, 10/pk	DBPS.CAT.90.40.kit.10
AttractSPE® Disks based Passive Sampler Anion Exchange - SR	DBPS with AttractSPE® Disks SAX + PES membranes, 10/pk	DBPS.AN.90.40.kit.10
AttractSPE® Disks based Passive Sampler WCX	DBPS with AttractSPE® Disks WCX + PES membranes, 10/pk	DBPS.WCX.90.40.kit.10
AttractSPE® Disks based Passive Sampler WAX	DBPS with AttractSPE® Disks WAX + PES membranes, 10/pk	DBPS.WAX.90.40.kit.10
AttractSPE® Disks based Passive Sampler NTS (Non-target screening 1)	DBPS with AttractSPE® Disks (HLB / WCX / WAX) + PES membranes, 10/pk	DBPS.NTS1.90.40.kit.10

In order to re-use stainless steel housings, refill kits containing *AttractSPE® Disks – 47mm and diffusion membranes – 90mm* are available. AttractSPE® Disks used for DBPS and refill kits can be supplied separately (see page of AttractSPE® Disks Environment). These AttractSPE® Disks are compliant with any passive sampler using disks.

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Passive Sampling
Refill kits for DBPS - Product list

In order to re-use stainless steel housings, refill kits containing *AttractSPE® Disks and ready to use diffusion membranes* are available. They are not supplied with metal housings.

Designation	Description	Reference
AttractSPE® Disks based Passive Sampler HLB - Refill kit	Refill kit with AttractSPE® Disks HLB + PES membranes, 20/pk.	DBPS.Refill. HLB.90.40.kit.20
AttractSPE® Disks based Passive Sampler SDB - Refill kit	Refill kit with AttractSPE® Disks SDB + PES membranes, 20/pk.	DBPS.Refill. DVB.90.40.kit.20
AttractSPE® Disks based Passive Sampler C18 for organotins - Refill kit	Refill kit with AttractSPE® Disks C18 for organotins + Cellulose Acetate membranes, 20/pk.	DBPS.Refill. C18. CA.90.40.kit.20
AttractSPE® Disks based Passive Sampler C18 - Refill kit	Refill kit with AttractSPE® Disks C18 + PES membranes, 20/pk.	DBPS.Refill. C18.90.40.kit.20
AttractSPE® Disks based Passive Sampler Cation Exchange – SR - Refill kit	Refill kit with AttractSPE® Disks SCX + PES membranes, 20/pk.	DBPS.Refill. SCX.90.40.kit.20
AttractSPE® Disks based Passive Sampler Anion Exchange – SR - Refill kit	Refill kit with AttractSPE® Disks SAX + PES membranes, 20/pk.	DBPS.Refill. SAX.90.40.kit.20
AttractSPE® Disks based Passive Sampler WCX - Refill kit	Refill kit with AttractSPE® Disks WCX + PES membranes, 20/pk.	DBPS.Refill. WCX.90.40.kit.20
AttractSPE® Disks based Passive Sampler WAX - Refill kit	Refill kit with AttractSPE® Disks WAX + PES membranes, 20/pk.	DBPS.Refill. WAX.90.40.kit.20
AttractSPE® Disks based Passive Sampler NTS (Non-target screening 1) - Refill kit	Refill kit with AttractSPE® Disks (HLB / WCX / WAX) + PES membranes, 20/pk.	DBPS.Refill. NTS1.90.40. kit.20

Silicone rubber strips (SR)

Silicone rubber is a very powerful tool for the monitoring of non-polar contaminants such as PAHs, PCBs or pesticides (log Kow > 3).
Thanks to a very high exchange area, low limit of quantification of these contaminants can be reached. Our silicone rubbers are all washed to remove oligos.

Silicone rubber strips with PRCs:
To determine the average concentration in water, silicone rubbers need to contain several reference compounds (PRC) which will be released in water during the exposure. Our silicone rubbers with PRC contain the following PRCs:
PCB 10 / PCB 14 / PCB 29 / PCB 55 / PCB 78 / PCB 104 / PCB 112 / PCB 145 / PCB 204 / Benzo[b]fluoranthene D12

Designation	Description	Reference
AttractSPE® Silicone Rubber SR	Silicone rubber M823 strips – 10/pk – No PRC	SR.0.100.3.A1.10
	Silicone rubber M823 strips with PRCs – 10/pk	SR.PRC.100.3.A1.10

SPATT Biotoxins

AttractSPE® SPATT Biotoxins is a **Solid Phase Adsorption Toxin Tracking passive sampler (SPATT)** that simulates the biotoxin contamination of filter-feeding bivalves. It adsorbs **microalgal and cyanobacteria toxins** dissolved in **seawater or freshwater** such as: Pectenotoxin, Yessotoxin, Okadaic acid, Dinophysistoxin and Azaspiracids.

Designation	Description	Reference
AttractSPE® SPATT BIOTOXINS	SPATT containing HP-20 sorbent in a 80mm diameter ring and Nylon mesh membrane + empty fritted cartridges. 10/pk	SPATT. BIOTOX.90. 55.300.A.10

AFFINISEP provides a complete set of accessories for the use of passive sampler.

Designation	Description	Reference
CANISTER - 3 POCIS	1 Canister for 3 POCIS – Empty (holder not supplied)	CAN-3P.A.1
CANISTER AND HOLDER FOR 3 POCIS	1 Canister and 1 holder for 3 POCIS/DBPS	CH-3P.A.1
CANISTER - 24cm	1 Canister 24cm – Empty - Requires two holders for 3 passive samplers each (not included)	CAN24.A.1
CANISTER - 29cm	1 Canister 29cm – Empty - Requires 2 holders for 3 passive samplers each + 1 spider holder for silicone rubber/SPMD (not included)	CAN29.A.1
HOLDER - 3 POCIS	1 Holder for 3 POCIS	HOLD-3P.A.1
HOLDER - SPIDER	1 Holder – Spider for silicone rubber or SPMD	HOLD-SPI.A.1

HOLDER

3 POCIS SPIDER

CANISTER

3 POCIS 24 cm 29 cm

SPE cartridges for ready-to-use applications

Molecularly Imprinted Polymers - Based SPE

Selective Solid Phase Extraction
Molecularly Imprinted Polymers for the Selective Extraction of Trace Analytes from Complex Matrices.

APPLICATIONS

ANTIBIOTICS AND DRUG RESIDUES
- Chloramphenicol
- Aminoglycosides
- Amphetamines
- Sulfonamides

PESTICIDES
- Glyphosate, AMPA & Glufosinate
- Aminopyralid, Clopyralid, Picloram
- Atrazine & derivatives

OTHER CONTAMINANTS
- Hydroxylated PAHs
- PAHs
- PCBs
- Cyanuric acid

ENDOCRINE DISRUPTORS
- Natural & synthetic Estrogens
- Bisphenols & analogs
- Parabens
- Phenolics

AFFINIMIP® SPE
Solutions for challenging analysis

Glyphosate, AMPA, glufosinate in waters: geothermal, mineral, river sea or underground

NO DERIVATIZATION required to extract the analytes

AFFINIMIP® SPE Glyphosate

- 50/pk - 3mL [FS113-03.IP]
- 50/pk - 6mL [FS113-03B]
- 50/pk - 6mL – enhanced [FS113-15-03B]
- 50/pk - 12mL [FS113-03C]
- 100/pk - 6mL flangeless [FS113-04BTL]

Picloram, aminopyralid, clopyralid in water, compost, cereal, soil…

AFFINIMIP® SPE Picolinic Herbicides

- 50/pk - 3mL [FS115-03]
- 50/pk - 6mL [FS115-03B]
- 100/pk - 3mL flangeless [FS115-04TL]
- 100/pk - 6mL flangeless [FS115-04BTL]

Board family of natural and synthetic estrogens

AFFINIMIP® SPE Estrogens

- 50/pk - 1mL [FS104-03A]
- 50/pk - 3mL [FS104-03]
- 50/pk - 6mL [FS104-03B]
- 50/pk - 10mL LRC [FS104-03LRC]
- 50/pk - 12mL [FS104-03C]
- 1/pk - 96 well plate [FS104-1.96W]
- 50/pk - Reversible cart. - 0.7mL [FS104-03Rev1]
- 50/pk - Reversible cart. - 2 mL [FS104-03Rev2]

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Bisphenols such as bisphenol A and closely 18 related structures

AFFINIMIP® SPE Bisphenols

- 50/pk - 3mL (PP) [FS106-03]
- 50/pk - 6mL (PP) [FS106-03B]
- 50/pk - 6mL (Glass) [FS106-03G]
- 50/pk - 10mL LRC (PP) [FS106-03LRC]
- 50/pk - 12mL (PP) [FS106-03C]
- 1/pk - 96 well plate [FS106-1.96W]
- 50/pk - 3 mL (ASPEC automate) [FS104-03-GIL]

Parabens, carnosic acid, hydroxylated PAHs , tocopherols, nitrophenols, chlorophenols, …

AFFINIMIP® SPE Phenolics

- 50/pk - 3mL [FS103-03]
- 50/pk - 6mL [FS103-03B]
- 50/pk - 10mL LRC [FS103-03LRC]
- 50/pk -12mL [FS103-03C]
- 1/pk - 96 well plate [FS103-1.96W]
- 50/pk - Reversible cart. - 0.7mL [FS103-03Rev1]
- 50/pk - Reversible cart. - 2 mL [FS103-03Rev2]

SPE Solutions
for Polycyclic Aromatic Hydrocarbons (PAHs)

AFFINIMIP® SPE PAHs

- For the cleanup fo PAHs in FATTY foodstuff and liquid such as oil
- Molecularly imprinted polymer for PAHs.

SilactSPE CN/SiOH

- For the cleanup of PAHs in SOIL
- A two-layer sorbents with cyano modified silica and silica sorbents

AttractSPE® HLB

- For the cleanup of PAHs in WATER
- HLB with SPE columns or disks

Product	Vol – sorbent amount	50 cartridges/box
SilactSPE CN/SiOH	3mL - 500mg/1g	CNSiOH-50.S.3.500.1g
	6mL - 500mg/1g	CNSiOH-50.S.6.500.1g
	6mL glass - 500mg/1g	CNSiOH-50.G.6.500.1g
AFFINIMIP® SPE PAHs	3mL	FS119-03-NG
	6mL	FS119-03B-NG
	6mL - enhanced	FS119-03B.IP
	12mL	FS119-03C-NG
AttractSPE® HLB	6mL - 200mg	HLB-50.S.6.200

For PAHs in water, have a look to AttractSPE® Disks for the analysis of large volume of water with fast flow rate.

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AttractSPE®
PFAS for perfluorinated compounds

AttractSPE® PFAS are SPE kits for PFAS analysis including EPA methods for diverse matrices. Suitable for numerous PFAS derivatives, PFCAs (carboxylic acids) and PFSAs (sulfonic acids) including PFOA, PFOS and PFHxS

AttractSPE® PFAS

- For EPA 533 & ISO 21675 (drinking water)

AttractSPE® PFAS WAX-GCB

- For EPA 1633 (non-drinking water)

AttractSPE® PFAS GCB-WAX

- For EPA 1633 (soil/tissue/ (bio)solid)

Designation	Description	Ref
AttractSPE® PFAS	50/pk - 3ml - 60mg – 30/40 µm	PFAS-50.S.3.60
	50/pk - 6mL - 100mg – 30/40µm	PFAS-50.S.6.100
	50/pk - 6mL - 150mg – 30/40µm	PFAS-50.S.6.150
	50/pk - 6mL - 200mg – 30/40µm	PFAS-50.S.6.200
	50/pk - 6mL - 500mg – 60/80µm	PFAS-50.S.6.500GP
	50/pk - 6mL - 200mg WAX (top layer) – 30/40µm + 50mg GCB	PFAS-WG-50.S.6.200.50
	50/pk - 6mL - 50mg GCB (top layer) + 200mg WAX – 30/40µm	PFAS-GW-50.S.6.50.200
	50/pk - 6mL - 500mg WAX (top layer) – 60/80µm + 50mg GCB	PFAS-WG-50.S.6.500.50GP

Designation	Description	Ref
SilactHPLC DELAY PFAS column	Delay column for analysis of PFAS - 50x2.1mm	DELAY-PFAS-50.2.1

Visit our website to know more about this product and its formats.

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AttractSPE® NON-TARGET SCREENING is a mixture of sorbents for Non-target screening and to detect the presence of not regulated harmful substances (including degradation by products and metabolites).

Cartridges format & description	AttractSPE® Non-Target Screening (50/pk)
6mL , 300mg Mixture of HLB-WCX-WAX	Screening1-50.S.6.300
6mL , 300mg Mixture of HLB-SCX-SAX	Screening2-50.S.6.300
6mL , 300mg Mixture of PSDVB-WCX-WAX	Screening3-50.S.6.300
6mL , 300mg Mixture of PSDVB-SCX-SAX	Screening4-50.S.6.300

AttractSPE® CHELATING is a chelating resin for the extraction of metal ions. **AttractSPE® CHELATING** is a polymer resin containing functional groups which particularly suits for the extraction of transition metal ions (Hg2+, Cu2+, Pb2+, Fe2+…) and Alkaline earth metals ions in water even in highly concentrated salt solution.

Cartridges format & Sorbent amount	AttractSPE® CHELATING (50/pk)
1mL , 30mg	MET-100.S.1.30 (100/pk)
3mL, 60mg	MET-50.S.3.60
6mL, 200mg	MET-50.S.6.200
6mL, 500mg	MET-50.S.6.500

SilactSPE Organotins

SilactSPE Organotins is for organotins analysis following ISO 17353 and ISO 23161 methods.
SilactSPE Organotins is a column for the analysis of these compounds in water, soil, sediment, sludge and waste (soil-like material).
This column can be used for the analysis of:

- **Organotins cations** (Monobutyltin $BuSn^{3+}$; Dibutyltin Bu_4Sn^{3+}; Tributyltin Bu_3Sn^{+}; Monooctyltin $OcSn^{3+}$; Dioctyltin Oc_2Sn^{2+}; Triphenyltin Ph_3Sn^{+}; Tricyclohexyltin Cy_3Sn^{+})
- **Peralkylated organotin** (Tetrabutyltin Bu_4Sn)
- **Methyltin compounds** (Monomethyltin $MeSn^{3+}$; Dimethyltin Me_2Sn^{2+}; Trimethyltin Me_3Sn^{+})

Designation	Description	Ref
SilactSPE Organotins 3g Na2SO4 + 5g Silica (Preparation according to ISO recommendations)	25/pk - 25 mL	OSn-25.S.25.3g.5g
	50/pk - 25 mL	OSn-50.S.25.3g.5g

SPE cartridges for multiresidue analysis in water

Polymeric-based SPE

A broad range of chemistries & formats for your application:
HLB – DVB – SAX – SCX – WAX - WCX

Several particle sizes

A support suitable for each application

Higher capacity than modified silica

Stable on the whole pH range

Reproducible results
Performances not affected by drying

Extraction of a broad range of apolar and polar compounds

AttractSPE®
HLB & DVB

AttractSPE® HLB is an **uncharged hydrophilic and lipophilic sorbent** interacting through both hydrophilic and hydrophobic interactions. It is particularly well suited to the extraction of a wide range of analytes (polar, apolar, neutral, acid, basic, etc.)

Format, amount	#/box	AttractSPE® HLB -40µm	AttractSPE® HLB -80µm
6mL, 200mg	50	HLB-50.S.6.200	HLB-50.S.6.200GP
6mL, 500mg	50	HLB-50.S.6.500	HLB-50.S.6.500GP
10mL LRC, 60mg	50	HLB-50.LRC.10.60	
12mL, 500mg	25	HLB-25.S.12.500	
12mL, 1g	25	HLB-25.S.12.1000	
12mL, 2g	25		HLB-25.S.12.2000GP
20mL, 1g	25	HLB-25.S.20.1000	HLB-25.S.20.1000GP
20mL, 2g	25		HLB-25.S.20.2000GP
Reversible 0.7mL, 100mg	50	HLB-50.REV.1.F	
Reversible 2mL, 225mg	50	HLB-50.REV.2.N10	

Reversed phase SPE for extraction of hydrophobic analytes.

AttractSPE® DVB is a polystyrene-divinylbenzene copolymer. It is particularly suitable for the extraction of hydrophobic analytes.

Format, amount	#/box	AttractSPE® DVB -40µm	AttractSPE® DVB -80µm
6mL, 200mg	50	DVB-50.S.6.200	DVB-50.S.6.200GP
6mL, 500mg	50	DVB-50.S.6.500	DVB-50.S.6.500GP
10mL LRC, 60mg	50	DVB-50.LRC.10.60	
12mL, 500mg	25	DVB-25.S.12.500	
12mL, 1g	25	DVB-25.S.12.1000	
12mL, 2g	25		DVB-25.S.12.2000GP
20mL, 1g	25	DVB-25.S.20.1000	
20mL, 2g	25		DVB-25.S.20.2000GP
Reversible 0.7mL, 100mg	50	DVB-50.REV.1.F	
Reversible 2mL, 225mg	50	DVB-50.REV.2.N10	

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Mixed-mode SPE for extraction of strong acid analytes.
AttractSPE® WAX is a weak anion exchange sorbent. It is particularly suitable for the extraction of strong acids.

Format, amount	#/box	AttractSPE® WAX -40µm	AttractSPE® WAX -80µm
6mL, 200mg	50	WAX-50.S.6.200	WAX-50.S.6.200GP
6mL, 500mg	50	WAX-50.S.6.500	WAX-50.S.6.500GP
10mL LRC, 60mg	50	WAX-50.LRC.10.60	
12mL, 500mg	25	WAX-25.S.12.500	
12mL, 1g	25	WAX-25.S.12.1000	
12mL, 2g	25		WAX-25.S.12.2000GP
20mL, 1g	25	WAX-25.S.20.1000	
20mL, 2g	25		WAX-25.S.20.2000GP
Reversible 0.7mL, 100mg	50	WAX-50.REV.1.F	
Reversible 2mL, 225mg	50	WAX-50.REV.2.N10	

Mixed-mode SPE for extraction of strong basic analytes.
AttractSPE® WCX is a weak cation exchange sorbent. It is particularly suitable for the extraction of strong bases and quaternary amines.

Format, amount	#/box	AttractSPE® WCX -40µm	AttractSPE® WCX -80µm
6mL, 200mg	50	WCX-50.S.6.200	WCX-50.S.6.200GP
6mL, 500mg	50	WCX-50.S.6.500	WCX-50.S.6.500GP
10mL LRC, 60mg	50	WCX-50.LRC.10.60	
12mL, 500mg	25	WCX-25.S.12.500	
12mL, 1g	25	WCX-25.S.12.1000	
12mL, 2g	25		WCX-25.S.12.2000GP
20mL, 1g	25	WCX-25.S.20.1000	
20mL, 2g	25		WCX-25.S.20.2000GP
Reversible 0.7mL, 100mg	50	WCX-50.REV.1.F	
Reversible 2mL, 225mg	50	WCX-50.REV.2.N10	

Mixed-mode SPE for extraction of weak acid analytes
AttractSPE® SAX is a strong anion exchange sorbent. It is particularly suitable for the extraction of weak acids.

Format, amount	#/box	AttractSPE® SAX -40µm	AttractSPE® SAX -80µm
6mL, 200mg	50	SAX-50.S.6.200	SAX-50.S.6.200GP
6mL, 500mg	50	SAX-50.S.6.500	SAX-50.S.6.500GP
10mL LRC, 60mg	50	SAX-50.LRC.10.60	
12mL, 500mg	25	SAX-25.S.12.500	
12mL, 1g	25	SAX-25.S.12.1000	
12mL, 2g	25		SAX-25.S.12.2000GP
20mL, 1g	25	SAX-25.S.20.1000	
20mL, 2g	25		SAX-25.S.20.2000GP
Reversible 0.7mL, 100mg	50	SAX-50.REV.1.F	
Reversible 2mL, 225mg	50	SAX-50.REV.2.N10	

Mixed-mode SPE for extraction of weak basic analytes.
AttractSPE® SCX is a weak cation exchange sorbent. It is particularly suitable for the extraction of strong bases and quaternary amines.

Format, amount	#/box	AttractSPE® SCX -40µm	AttractSPE® SCX -80µm
6mL, 200mg	50	SCX-50.S.6.200	SCX-50.S.6.200GP
6mL, 500mg	50	SCX-50.S.6.500	SCX-50.S.6.500GP
10mL LRC, 60mg	50	SCX-50.LRC.10.60	
12mL, 500mg	25	SCX-25.S.12.500	
12mL, 1g	25	SCX-25.S.12.1000	
12mL, 2g	25		SCX-25.S.12.2000GP
20mL, 1g	25	SCX-25.S.20.1000	
20mL, 2g	25		SCX-25.S.20.2000GP
Reversible 0.7mL, 100mg	50	SCX-50.REV.1.F	
Reversible 2mL, 225mg	50	SCX-50.REV.2.N10	

SilactSPE inorganic-based SPE

Everything you might need

Reversed phase based silica

- **C8**: moderately hydrophobic
- **Phenyl**: moderately hydrophobic
- **C18**: Strongly hydrophobic

More polar silica based phase

- **SiWCX**: Weak cation exchanger
- **SiSCX**: Strong cation exchanger
- **SiSAX**: Strong anion exchanger
- **Amino (SiWAX)**: Weak anion exchanger
- **Cyano**: Cyano propyl, Polar phase
- **PSA**: Primary secundary amine

Normal phase

- **Silica**: Very polar
- **Alumina (A, B, N)**: Highly active
- **Florisil PR**: polar – highly active – weakly basic

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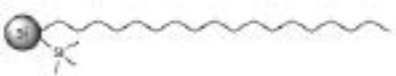
SilactSPE
C18

Strongly hydrophobic and non-polar sorbent.
It was recently developed as an innovative C18 phase characterized by a homogeneous coverage of the silane on the surface.
SilactSPE C18 is particularly suitable for the extraction of acidic, neutral and basic compounds from aqueous solutions, various organic compounds from water, and drugs and metabolites from physiological fluids.



SilactSPE C18 end-capped

SilactSPE C18NEC not end-capped

Format, amount	#/box	SilactSPE C18 (end capped)	SilactSPE C18 NEC (not end capped)
1mL, 50mg	100	C18-100.S.1.50	C18nec-100.S.1.50
1mL, 100mg	100	C18-100.S.1.100	C18nec-100.S.1.100
3mL, 200mg	50	C18-50.S.3.200	C18nec-50.S.3.200
3mL, 500mg	50	C18-50.S.3.500	C18nec-50.S.3.500
6mL, 500mg	50	C18-50.S.6.500	C18nec-50.S.6.500
6mL, 1g	50	C18-50.S.6.1000	C18nec-50.S.6.1000
10mL LRC, 500mg	50	C18-50.LRC.10.500	C18nec-50.LRC.10.500
12mL, 2g	20	C18-20.S.12.2000	C18nec-20.S.12.2000
Reversible 0.7mL, 260mg	25	C18-25.REV.1.260	C18nec-25.REV.1. 360
Reversible 2mL, 1g	25	C18-25.REV.2.1000	C18nec-25.REV.2.1000

Moderately hydrophobic and non-polar sorbent

SilactSPE C8:
More selective than sorbent C18 for big compounds such as PAH, vitamin D, and oils as well as greasy compounds. Suits for the extraction of extremely non-polar compounds.

SilactSPE Phenyl:
Suits for the extraction of non-polar compounds with different selectivities through π-π interactions including aromatic compounds and other non-polar phases.

Format, amount	#/box	SilactSPE C8	SilactSPE Phenyl
6mL, 500mg	50	C8-50.S.6.500	Phe-50.S.6.500
6mL, 1g	50	C8-50.S.6.1000	Phe-50.S.6.1000
12mL, 2g	20	C8-20.S.12.2000	Phe-20.S.12.2000

Most polar sorbent

SilactSPE Silica:
It presents a slightly acidic character and is used to extract various compounds from non-polar solvents through hydrogen bonding.

SilactSPE Cyano:
As a normal phase (less polar compared to silica), particularly suits for the extraction of acidic, basic and neutral compounds from aqueous solutions. As a reversed-phase (less hydrophobic than C8 and C18).

Format, amount	#/box	SilactSPE Silica	SilactSPE Cyano
6mL, 500mg	50	Si-50.S.6.500	CN-50.S.6.500
6mL, 1g	50	Si-50.S.6.1000	CN-50.S.6.1000
12mL, 2g	20	Si-20.S.12.2000	CN-20.S.12.2000

Weak anion exchanger silica-based sorbent

SilactSPE Amine (SiWAX):
Avoids irreversible retention of acidic molecules (pKa < 3) and suits for the separation of peptides, drugs and metabolites from physiological fluids, poly- and monosaccharides and structural isomers.

SilactSPE PSA:
Less polar sorbent than SilactSPE Amine used for its replacement with analytes that are too strongly retained on an amine phase.

Format, amount	#/box	SilactSPE C8	SilactSPE Phenyl
6mL, 500mg	50	C8-50.S.6.500	Phe-50.S.6.500
6mL, 1g	50	C8-50.S.6.1000	Phe-50.S.6.1000
12mL, 2g	20	C8-20.S.12.2000	Phe-20.S.12.2000

Weak cation exchanger silica-based sorbent with carboxylic acid

SilactSPE SiWCX:
Suits to extract strong basic molecules (pKa>9).

Strong cation exchanger silica-based sorbent positively charged with tosic acid moieties.

SilactSPE SiSCX:
Suits to extract basic molecules (pKa 7-10).

Format, amount	#/box	SilactSPE Silica	SilactSPE Cyano
6mL, 500mg	50	Si-50.S.6.500	CN-50.S.6.500
6mL, 1g	50	Si-50.S.6.1000	CN-50.S.6.1000
12mL, 2g	20	Si-20.S.12.2000	CN-20.S.12.2000

Strong anion exchanger silica-based sorbent using trimethyl ammonium moieties

SilactSPE SiSAX:
Suits to extract acidic molecules (pKa 3-5).

Format, amount	#/box	SilactSPE SiSAX
6mL, 500mg	50	SiSAX-50.S.6.500
6mL, 1g	50	SiSAX-50.S.6.1000
10mL LRC, 500mg	50	SiSAX-50.LRC.10.500
12mL, 2g	20	SiSAX-20.S.12.2000

Polar sorbent

SilactSPE Florisil PR (MgO_3Si):
They present a basic character used to extract non-polar to moderately polar compounds from non-polar solvents.
Suits for the retention of chlorinated pesticides, PCB's and polysaccharides due to the magnesium ion.

Format, amount	#/box	SilactSPE Florisil PR
6mL PP	50	FloPR-50.S.6.500
6mL PP	50	FloPR-50.S.6.1000
12mL, 2g	20	FloPR-20.S.12.2000

SilactSPE Na_2SO_4/Florisil:
Contains an upper layer of sodium sulfate anhydrous (Na2SO4) to dry the solution and a bottom layer of Florisil for the determination of hydrocarbons in water according to DIN-H-53/ ISO 9377-4..

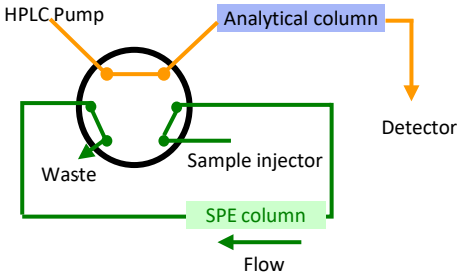
Format, amount	#/box	SilactSPE Florisil PR
6mL PP, 500mg	50	FloNa2SO4-50.S.6.500.500
6mL PP, 1g	50	FloNa2SO4-50.S.6.2g.2g
12mL PP, 3g+3g	25	FloNa2SO4-25.S.12.3g.3g

Other products and accessories

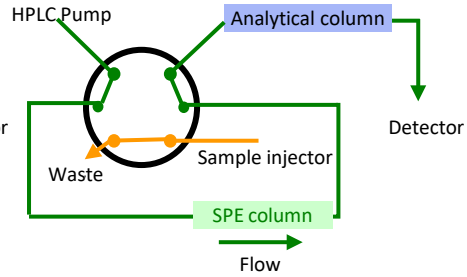
ON-LINE SPE PROCEDURE STEPS

SPE technique can be coupled on-line to HPLC for a high sensitivity or for limited amount of sample. An on-line SPE column containing the SPE sorbents is coupled. A three steps process is used:

1. **Sample injection:** The valve is configured with the injector directly in contact with the on-line SPE column. The sample is injected and goes through the on-line SPE column where the analytes remain.
2. **Washing:** a solution is used to wash out most interferences.
3. **Analysis:** The valve is switched. The analytes are eluted out of the sorbent by the LC mobile phase and transfered into the analytical column for their analyses.



Sample injection and washing (1 and 2)



Sample elution and analysis (step 3)

ON-LINE SPE COLUMNS

Product	Product reference	Number column	I.D (mm)	Lenght (mm)
On-line AttractSPE® HLB columns	OnlineSPE-HLB-1.2.20	1	2.1	20
	OnlineSPE-HLB-1.5.20	1	4.6	20
On-line AFFINIMIP® PHENOLICS columns	OnlineSPE-PHE-1.2.20	1	2.1	20
	OnlineSPE-PHE-1.5.20	1	4.6	20
On-line AFFINIMIP® ESTROGENS columns	OnlineSPE-EST-1.2.20	1	2.1	20
	OnlineSPE-EST-1.5.20	1	4.6	20

AVAILABLE FORMATS

Open Cartridge

Formats: 1mL, 3mL, 6mL, 12mL, 15mL, 20mL
Materials: Polypropylene glass (6mL)
Frits: Polyethylene, PTFE
Sorbents: powder or SPE disk
Luer compatible

Cartridge for Automates

Formats: 1mL, 3mL, 6mL
Materials: Polypropylene
Frits: Polyethylene
Automate: Gerstrel, Gilson...

LRC Cartridge

Formats: 10mL
Materials: Polypropylene
Frits: Polyethylene
Luer compatible

On-line SPE Cartridge

I.D: 2.1 and 4.6mm
Length: 20mm

SPE Tips

Formats: 10µL, 200µL, 1mL

Reversible Cartridge

Formats: 0,7mL, 2mL
Materials: Polypropylene
Frits: Polyethylene
Luer compatible

96 Well Plates

SPE Disks

Formats:
Diameters 25mm, 47mm, 90mm

AttractSPE® Vacuum Manifold

This manifold is required for clean-up processes based on SPE cartridges.

For each SPE columns, a screw valve allows an accurate flow rate control resulting in reproducible results.

PTFE free manifold

Available with 12 and 24 ports.

AttractSPE® Trap

Located between the vacuum manifold and the pump to collect all liquids that are aspirated protecting the vacuum pump. Capacity of 1L or 4L.

AttractSPE® SPE Adapter & Reservoir kit

Additional reservoirs and tube adapters to stack SPE tubes to mix different selectivities.

AttractSPE® Accessories	Definition	Reference
SPE Vacuum Manifold	12-port model with screw valves – 1 unit	ACC-MAN2
SPE Vacuum Manifold	24-port model with screw valves – 1 unit	ACC-MAN24
Trap	1L trap kit – 1 unit	ACC-TRAP-1L
SPE Adapter & Reservoir kit	Kit of 12 reservoirs 60ml and adapters for use with 1,3 & 6 mL cartridges	ACC-AR1

AttractSPE® Disks Manifold

Manifolds designed for 47 mm SPE disks. One-, three- or six-station filtration manifolds allow the simultaneous extractions of several 1-L samples on a very simple and easy-to-handle way. The manifold is a very compact stainless steel device with a filtration glassware. Each station is controlled through an independent flow control valve.

Designation	Reference
AttractSPE® disks Manifolds - 1 station - 47mm	ACC-DISKSPE-G47-1
AttractSPE® disks Manifolds - 3 stations - 47mm	ACC-DISKSPE-G47-3
AttractSPE® disks Manifolds - 6 stations - 47mm	ACC-DISKSPE-G47-6
4L Polycarbonate Trap with 2x 1m vacuum hose	ACC-TRAP-4L

Nitrogen Evaporator concentrator with dry heater

This nitrogen evaporator allow to prepare samples for chromatography analysis after a SPE step for instance. The solvent used for elution is evaporated and the extract can be re-dissolved in the injection solvent.

Designation	Reference
Nitrogen Evaporator concentrator with dry heater - 12 needles - 1 unit. (Require a 12 tubes block). Ideal for evaporation for routine SPE columns processes.	ACC-EVN2H-12.0
Nitrogen Evaporator concentrator with dry heater - 4 needles - 1 unit. Ideal for evaporation with SPE disks processes. **Supplied with an aluminum block - 4 wells of 28mm diameter**	ACC-EVN2H-4.BK28

Aluminium blocks for 12 tubes required for evaporator ACC-EVN2H-12.0

Designation	Definition	Reference
Block 10.5mm	Block for 12 tubes of 10.5mm	ACC-EV12-BK10
Block 13.5mm	block for 12 tubes of 13.5mm	ACC-EV12-BK13
Block 15.5mm	block for 12 tubes of 15.5mm	ACC-EV12-BK15
Block 16.5mm	block for 12 tubes of 16.5mm	ACC-EV12-BK16
Block 20.5mm	block for 12 tubes of 20.5mm	ACC-EV12-BK20

AttractSPE® Mini-Vap

Designation	Reference
AttractSPE® Mini-Vap Evaporator/Concentrator for use with 1 to 250mL containers – 1 unit	ACC-VAP1

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The art of making

sample preparation *easier*

Affinisep is a worldwide expert in sample preparation applications.
Dedicated to the development of analytical applications in various fields such as water monitoring, food quality control and bioanalysis, Affinisep offers a complete set of products for passive sampling and sample preparation.

Brand	Application	Matrices
• **AFFINIMIP®** • **AttractSPE®** • **SilactSPE**	• Sample Preparation • Passive Sampling • Filtration • Microextraction of peptides/proteins	• Food, Feed, Soil, • Oil, Water, • Biological fluids, • Proteolytic digest

Analytical chemists can find any solution for sample preparation, selective extraction and sample clean-up needs in various sectors: food and feed safety and quality, life science and quality control, clinical diagnosis, environment and doping.

In addition, proteomics users can find a complete set of microextraction products for protein/peptides fractionation or desalting.

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Notes

Notes

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