



# Choosing your SPE solution

Compound of interest

Water soluble

Organic soluble

Non-ionic

Ionic

Soluble in non-polar solvent

Soluble in moderately polar

Soluble in polar solvent

Non-polar

Moderately polar

Polar

Anionic

Cationic

Non-polar

Moderately polar

Polar

Reversed-phase

Normal phase

Normal phase

Anion exchange

Cation exchange

Reversed-phase

Normal phase

Normal phase

Reversed-phase

Reversed-phase

Reversed-phase

HyperSep Retain PEP

HyperSep Retain PEP

HyperSep Retain PEP

SOLA SAX

HyperSep Retain-CX

HyperSep Retain PEP

HyperSep Silica

HyperSep Hypercarb

SOLA HRP

SOLA HRP

HyperSep Hypercarb

SOLAμ SAX

SOLA SCX

SOLA HRP

HyperSep Florisil

HyperSep Cyano

SOLAμ HRP

SOLAμ HRP

HyperSep Cyano

SOLA WAX

SOLAμ SCX

SOLAμ HRP

HyperSep Aminopropyl

HyperSep C18

HyperSep Silica

HyperSep Aminopropyl

SOLAμ WAX

SOLA WCX

HyperSep C18

HyperSep Diol

HyperSep C8

HyperSep Florisil

HyperSep Diol

HyperSep Retain-CX

SOLAμ WCX

HyperSep C8

HyperSep Phenyl

HyperSep Retain-AX

HyperSep Verify-CX

HyperSep Phenyl

HyperSep Verify-AX

HyperSep SCX

HyperSep SAX

## Thermo Scientific™ solid phase extraction (SPE) phases

### Polymeric

**HyperSep™ Retain PEP**  
Polystyrene divinylbenzene material surface modified with urea groups

**HyperSep™ Retain-CX**  
Versatile polymeric material for retention of basic compounds

**HyperSep™ Retain-AX**  
Versatile polymeric material for retention of acidic compounds

**HyperSep™ Hypercarb**  
Unique material for retention of highly polar compounds

**SOLA™ and SOLAμ™ HRP**  
Next-generation polystyrene divinylbenzene material surface functionalized with pyrrolidone

**SOLA™ and SOLAμ™ SCX**  
Next-generation polystyrene divinylbenzene material surface functionalized with sulphonate groups

**SOLA™ and SOLAμ™ SAX**  
Next-generation polystyrene divinylbenzene material surface functionalized with quaternary amine groups

**SOLA™ and SOLAμ™ WCX**  
Next-generation polystyrene divinylbenzene material surface functionalized with carboxylic acid groups

**SOLA™ and SOLAμ™ WAX**  
Next-generation polystyrene divinylbenzene material surface functionalized with tertiary amine groups

### Reversed-phase silica phases

**HyperSep™ C18**  
Highly retentive alkyl-bonded silica phase for non-polar to moderately polar compounds

**HyperSep™ C8**  
Less retentive alternative to C18 for non-polar to moderately polar compounds

**HyperSep™ Phenyl**  
Alternative selectivity for retention of basic compounds

### Normal phase silica phases

**HyperSep™ Silica**  
A polar sorbent primarily used to retain analytes from non-polar matrices

**HyperSep™ Florisil**  
Ideal for the isolation of polar compounds from non-polar matrices

**HyperSep™ Cyano**  
For retention of polar compounds from non-polar matrices

**HyperSep™ Aminopropyl**  
A polar sorbent for both polar and anion exchange interactions

**HyperSep™ Diol**  
For extraction of polar compounds

### Ion-exchange phases

**HyperSep™ SAX (Strong anion exchanger)**  
Strong anion exchange sorbent for extraction of weak acids

**HyperSep™ SCX (Strong cation exchanger)**  
Strong cation exchange sorbent for extraction of charged basic compounds

**HyperSep™ Verify-CX**  
Non-polar and anionic characteristics for improved analysis of basic drugs of abuse

**HyperSep™ Verify-AX**  
Non-polar and cationic characteristics for improved analysis of acidic drugs of abuse

| Applications include   |
|--|
| <ul style="list-style-type: none"> <li>Drugs and metabolites in biological matrices</li> <li>Environmental samples</li> <li>Desalting of peptides in serum, plasma or biological fluids</li> </ul>   |
| <ul style="list-style-type: none"> <li>Drugs of abuse from biological matrices HyperSep C18</li> </ul>   |
| <ul style="list-style-type: none"> <li>Acidic drugs of abuse from biological matrices (THC and its metabolites)</li> </ul>   |
| <ul style="list-style-type: none"> <li>Retention and separation of highly polar species. Ideal for problem analytes in SPE applications</li> <li>Extraction of polar and non-polar analytes, such as vitamin D biomarkers</li> <li>Drugs and metabolites in biological matrices</li> <li>Desalting of peptides in serum, plasma, or biological fluids</li> </ul> |
| <ul style="list-style-type: none"> <li>Enhanced retention of weak bases</li> <li>Drugs and metabolites in biological matrices, such as synthetic cathinones</li> <li>Desalting of peptides in serum, plasma, or biological fluids</li> </ul>   |
| <ul style="list-style-type: none"> <li>Enhanced retention of weak acids, such as 5-HIAA</li> <li>Drugs and metabolites in biological matrices</li> <li>Desalting of peptides in serum, plasma, or biological fluids</li> </ul>   |
| <ul style="list-style-type: none"> <li>Enhanced retention of strong bases, such as acetylcholinesterase inhibitors</li> <li>Drugs and metabolites in biological matrices</li> <li>Desalting of peptides in serum, plasma, or biological fluids</li> </ul>  |
| <ul style="list-style-type: none"> <li>Enhanced retention of strong acids, such as niifuric acid</li> <li>Drugs and metabolites in biological matrices</li> <li>Desalting of peptides in serum, plasma, or biological fluids</li> </ul>  |
| <ul style="list-style-type: none"> <li>Drugs and their metabolites in biological matrices</li> <li>Trace organics in environmental water samples</li> <li>Toxins in food samples</li> </ul>  |
| <ul style="list-style-type: none"> <li>Drugs and their metabolites in biological matrices</li> <li>Trace organics in environmental water samples</li> <li>Toxins in food samples</li> </ul>  |
| <ul style="list-style-type: none"> <li>Benzodiazepines in biological matrices</li> <li>Extraction of aromatic compounds</li> </ul>   |
| <ul style="list-style-type: none"> <li>Aldehydes</li> <li>Pesticides</li> <li>Carotenoids</li> <li>Aflatoxins</li> <li>Phospholipids</li> <li>Amines</li> <li>Herbicides</li> <li>Fat soluble vitamins</li> <li>Fatty acids</li> </ul>   |
| <ul style="list-style-type: none"> <li>Pesticides using AOAC and EPA methods, as well as</li> <li>Polychlorinated biphenyls (PCBs) in transformer oil</li> </ul>   |
| <ul style="list-style-type: none"> <li>Retention of polar compounds from hexane and oil</li> </ul>   |
| <ul style="list-style-type: none"> <li>Petroleum fractionation</li> <li>Saccharides</li> <li>Drugs and drug metabolites</li> </ul>   |
| <ul style="list-style-type: none"> <li>Normal phase extraction</li> <li>Purification of polar compounds</li> </ul>   |
| <ul style="list-style-type: none"> <li>Removal of acidic food pigments</li> <li>Removal of phenolic compounds</li> <li>Nucleic acids and surfactants</li> </ul>  |
| <ul style="list-style-type: none"> <li>Antibiotics</li> <li>Organic bases</li> <li>Catecholamines</li> <li>Drugs</li> <li>Amino acids</li> <li>Herbicides</li> </ul>   |
| <ul style="list-style-type: none"> <li>Basic drugs of abuse from biological matrices</li> </ul>  |
| <ul style="list-style-type: none"> <li>Acidic drugs of abuse from biological matrices</li> <li>(THC and its metabolites)</li> </ul>  |