 **INOPAK**
For Solid Phase Extraction

Introduction

Solid phase extraction is the most powerful sample preparation technique and a separation process that is used to extract compounds (called analytes) from a mixture of impurities. Initially introduced as an alternative to liquid-liquid extraction, SPE employs a solid phase and a mobile phase to separate a sample component for cleanup, concentration, medium exchange or sample preservation.

INOPAK SPE Column is widely used for the purification of biologically useful materials, catalysis, toxic substance monitors organic synthesis, biopolymer blotting, ionic exchange and wastewater cleanup.

INOPAK has wide range of applications with high selectivity and enhanced recovery and offers reproducible result through automated potential. INOPAK sorbent includes C₁₈, C₈, NH₂, Silica and Florisil packed in 1, 3, 6 ml syringes.

INOPAK Advantages

- Higher recoveries
- Wide range of selectivity
- Better reproducibility
- Maximum capacity for contaminant cleanup

Quality Assurance Certificate

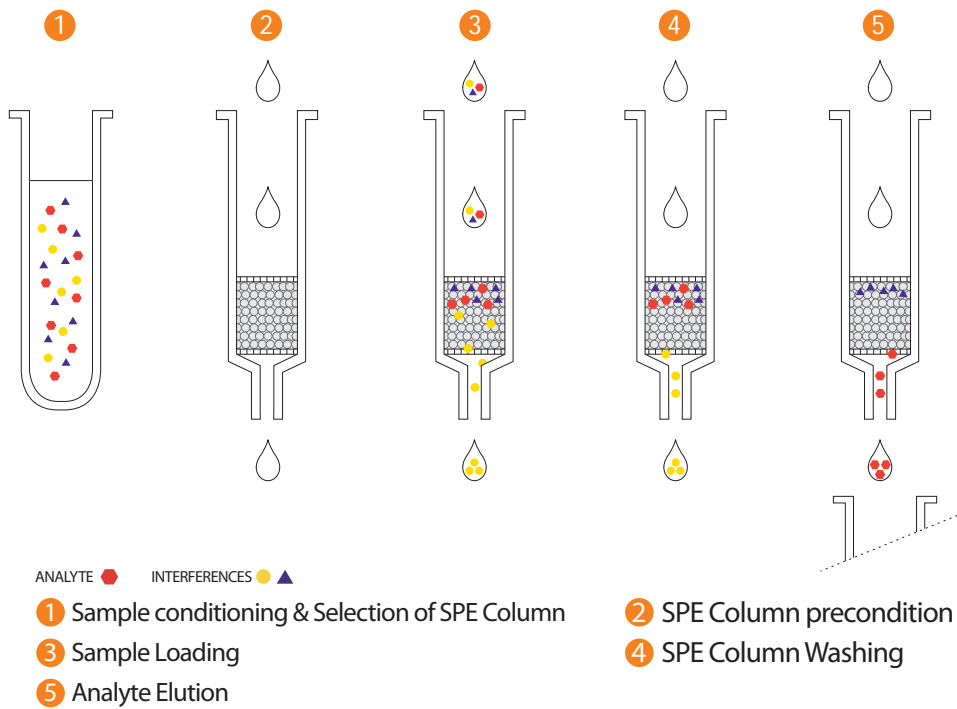
1. Sorbent Test
 - Mass consistency
 - Flow rate consistency
 - Trace metal analysis
2. Sorbent Selectivity Test by HPLC
 - QC chromatogram
3. Component Properties test
 - Extract cleanliness



Custom Manufacturing Service

RStech offers custom manufacturing service that allows you to optimize your sample.

Mechanisms of Retention in SPE



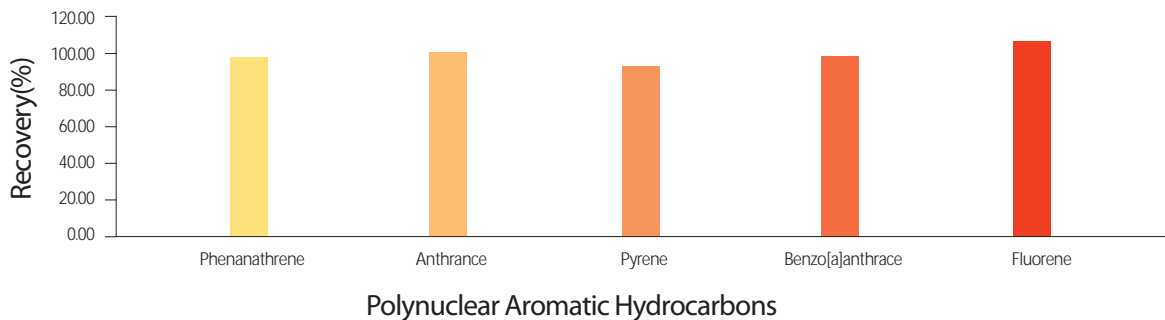
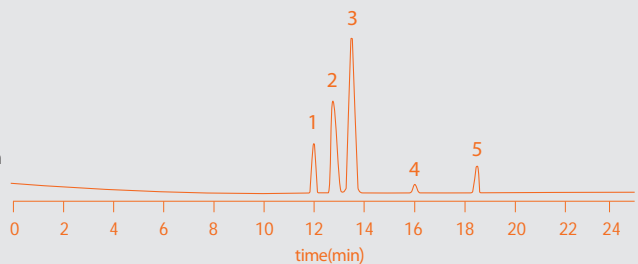
Recovery of INOPAK C₁₈, 1 g/6 mL

- Sample preparation : Sample 4 mg was dissolved in 500 mL 50:50 Acetonitrile/Deionized water
- Precondition : Methanol 5 mL, Deionized Water 5 mL
- Load : Load 5 ml sample through the SPE cartridge
- Wash : 50:50 Acetonitrile/Deionized water 5 mL, Deionized Water 5 mL, Centrifuge cartridge at 1000-1500 rpm for 5 min.(remove excess water)
- Elute : Extract the elute with 5 mL acetonitrile

Column : HECTOR-A C₁₈ (250*4.6mm)
 Mobile phase : Deionized water/Acetonitrile, Gradient method

Time	0	5	30
%ACN	65	65	100

Detector : UV 254 nm Flow rate : 1 mL/min
 Column Temp : 25°C Injection Vol. : 1µL
 Sample : ①Phenanathrene, ②Anthrance, ③Pyrene, ④Benzo [a]anthrace, ⑤Fluorene



SPE Phase Selection by Manufacturer

INOPAK C18

- HyperSep C18
- CLEAN-UP C18-U
- Supelclean™ ENVI-18 /LC-18
- SampliQ C18
- BAKERBOND spe™ Polar Plus
- Isolute™ C18
- CHROMABOND™ C18
- Bond Elut™ C18
- strata™ C18-U
- SepPak™ C18

INOPAK C8

- HyperSep C8
- CLEAN-UP C8-U
- Supelclean™ ENVI-18 /LC-8
- SampliQ C8
- BAKERBOND spe Octyl C8
- Isolute™ C8
- CHROMABOND™ C8
- Bond Elut™ C8
- strata™ C8
- SepPak™ C8

INOPAK NH2

- HyperSepc Aminopropyl
- CLEAN-UP Aminopropyl
- Supelclean™ ENVI-18 /LC-NH2
- SampliQ Amino
- BAKERBOND spe Amino
- Isolute NH2
- CHROMABOND NH2
- Bond Elut NH2
- strata NH2
- SepPak NH2

INOPAK Sil

- HyperSep Silica
- CLEAN-UP Silica
- Supelclean SilicaZ
- SampliQ Silica
- BAKERBOND spe Silica Gel
- Isolute Silica
- CHROMABOND SiOH
- Bond Elut™ Si
- strata Si-1
- SepPak™ Si

INOPAK Florisil

- HyperSep Florisil
- CLEAN-UP Florisil
- Supelclean™ ENVI-18 /LC- Florisil
- SampliQ Florisil
- BAKERBOND spe Florisil
- Isolute Florisil
- CHROMABONDc
- Bond Elut Florisil
- strata™ FL-PR
- SepPak™ Florisil

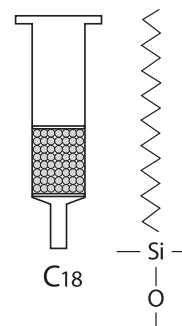


Non-polar sorbent for Reversed Phase

INOPAK C₁₈

INOPAK C₁₈ is packed with octadecyl bonded silica particles.
For nonpolar to moderately polar compounds

- Sorbent: Octadecyl bonded
- Typical Loading (% C) : 18
- End-capping : Yes
- Average Particle Size (µm) : 60
- Pore Diameter (Å) : 100
- Sample Composition: water, water/polar organic mixtures
- Application : neutral, weakly acidic, and basic compounds, antibiotics, barbiturates, benzodiazepines, caffeine, drugs, dyes, essential oils, fat soluble vitamins, fungicides, herbicides, pesticides, nucleic acid bases, hydrocarbons, parabens, phenols, phthalate esters, steroids, surfactants, theophylline, water soluble vitamins, organic acids

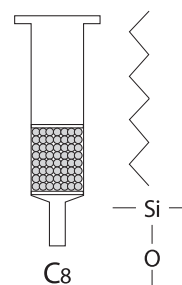


Bed Weight	Column Volume	Part No.	Quantity
50 mg	1 mL	100-005-A	100 ea
100 mg	1 mL	100-010-A	100 ea
500 mg	3 mL	100-050-B	50 ea
500 mg	6 mL	100-050-C	30 ea
1g	6 mL	100-100-C	30 ea

INOPAK C₈

INOPAK C₈ is packed with octyl bonded silica particles.
Lower carbone content than INOPAK C₁₈.
We recommend INOPAK C₈ when use less retentive phase
for the rapid release of hydrophobic molecules.

- Sorbent: octyl bonded, end-capped silica, regular silica
- Typical Loading (% C) : 10
- End-capping: Yes
- Average Particle Size (µm) : 60
- Pore Diameter (Å) : 100
- Sample composition : water, water/polar organic mixtures
- Application : Less retentive alternative to C₁₈ for polar and non-polar compounds, antibiotics, barbiturates, benzodiazepines, caffeine, drugs, dyes, essential oils, fat soluble vitamins, fungicides, herbicides, pesticides, hydrocarbons, parabens, phenols, phthalate esters, steroids, surfactants, theophylline, water soluble vitamins



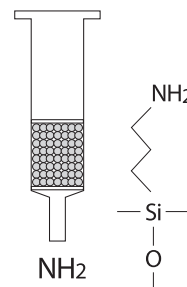
Bed Weight	Column Volume	Part No.	Quantity
50 mg	1 mL	110-005-A	100 ea
100 mg	1 mL	110-010-A	100 ea
500 mg	3 mL	110-050-B	50 ea
500 mg	6 mL	110-050-C	30 ea
1g	6 mL	110-100-C	30 ea

Polar sorbent for Normal Phase/Ion Exchanger

INOPAK NH₂

INOPAK NH₂ is used normal phase. INOPAK NH₂ is weak anion exchanger for anionic analytes from aqueous samples for extraction of anion analyte from non-aqueous matrixes. It is used for the extraction of anions that exhibit a negative charge at pH 8 or lower.

- Sorbent : Aminopropyl boned silica
- Typical Loading (%C) : 4
- End-capping : No
- Average Particle Size(μm) : 60
- Pore Diameter (Å) : 100
- Sample composition : organic or aqueous solutions
- Application : Peptide, drugs and metabolites form physiological fluids, Carbohydrates, Dyes, Strong acids



Bed Weight	Column Volume	Part No.	Quantity
50 mg	1 mL	120-005-A	100 ea
100 mg	1 mL	120-010-A	100 ea
500 mg	3 mL	120-050-B	50 ea
500 mg	6 mL	120-050-C	30 ea
1 g	6 mL	120-100-C	30 ea

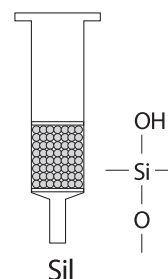


Polar sorbent for Normal Phase

INOPAK Sil

INOPAK Sil is packed with unbonded silica particles, regular type as the sorbent. The sorbent shows high polar interaction and is used for the extraction weak polar or non-polar compounds.

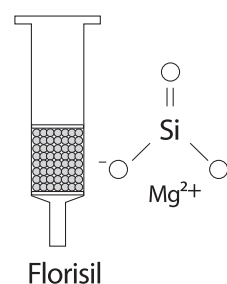
- Sorbent : Silica, -SiOH
- Typical Loading (%C) :-
- Average Particle Size (μm) : 60
- Pore Diameter (\AA) : 100
- Sample composition : Hydrocarbons, chlorinated solvents, non-polar/polar organic mixtures
- Application : polar compounds, such as alcohols, aldehydes, amines, drugs, dyes, herbicides, pesticides, ketones, nitro compounds, organic acids, phenols, steroids



Bed Weight	Column Volume	Part No.	Quantity
50 mg	1 mL	130-005-A	100 ea
100 mg	1 mL	130-010-A	100 ea
500 mg	3 mL	130-050-B	50 ea
500 mg	6 mL	130-050-B	30 ea
1 g	6 mL	130-100-C	30 ea

INOPAK Florisil

- Sorbent : Magnesium silicate
- Average Particle Size : mesh 60 / 100
- Pore Diameter (\AA) : 80
- Sample composition : Hydrocarbons, chlorinated solvents, non-polar/polar organic mixtures
- Application : Cleanup of pesticide residues and other chlorinated hydrocarbons ; the separation of nitrogen compounds from hydrocarbons ; the separation of aromatic compounds from aliphatic-aromatic mixtures; and similar applications for use with fats, oils, and waxes. Additionally, Florisil is considered good for separations with steroids, esters, ketones, glycerides, alkaloids, and some carbohydrates.



Bed Weight	Column Volume	Part No.	Quantity
50 mg	1 mL	200-005-A	100 ea
100 mg	1 mL	200-010-A	100 ea
500 mg	3 mL	200-050-B	50 ea
500 mg	6 mL	200-050-C	30 ea
1 g	6 mL	200-100-C	30 ea

