

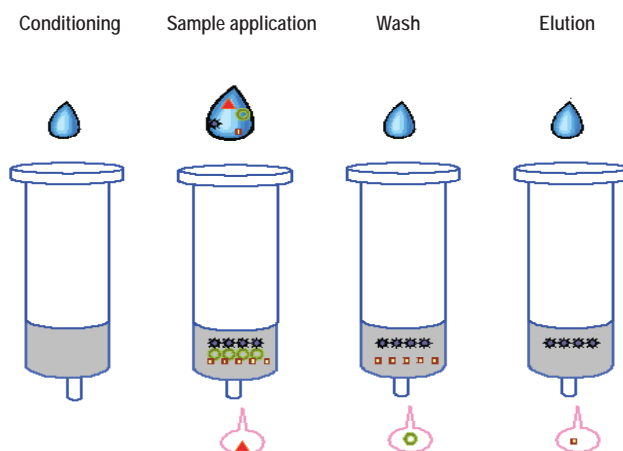
SPE Cartridges

All Finneran Products Are Certified



Finneran Solid Phase Extraction (SPE) cartridges provide a fast and efficient sample clean-up and concentration prior to analysis through GC, HPLC, and/or other instrument methods. SPE method concentrates and purifies analytes from solution by absorption onto a disposable solid phase cartridge, followed by elution of the analyte with a solvent appropriate for instrument analysis. Finneran SPE cartridges consist of molded high purity polypropylene bodies with two 20µm polyethylene frits that contain the packing material. The cartridges are designed for manual and automated uses. All of our SPE cartridges are equipped with male Luer-tips to permit the use with multi-position vacuum manifolds.

SPE cartridges are simple to use and allow four-step sample preparation: conditioning, sample application, wash and elution.



SPE products are manufactured in compliance with ISO 9001 and technical procedures and tested according to international standards of ISO 17025. The manufacturing methods guarantee the highest quality of products. The controlled weighing system, for each functional group dosage, assures high accuracy results from cartridge to cartridge with minimal variability. Samples and raw data of all SPE cartridge batches are stored for five years from production for reference.

Finneran SPE cartridges are available in four sizes (1, 3, 6, and 12mL) and different packing/phase materials (C2, C4, C8, C18, SI, CN, NH2, DIOL, Phenyl, Florisil®, SAX and SCX). Sorbent weights range from 100mg to 1g.

SPE Cartridges

GENERAL EXTRACTION PROCEDURES

Reversed-phase: Packing is composed of a silica backbone bonded with hydrocarbon chains. It is used to isolate relatively non-polar compounds from a polar matrix.

Conditioning	Sample application	Wash	Elution
Rinse packing bed with 3 - 5ml of methanol followed by 3 - 5ml of water or buffer (do not let packing bed dry before adding sample).	Apply sample solution to the top of the packing bed. Push or draw the sample through the bed at a flow rate of 1 - 5ml/min. Collect sample for analysis if desired compound has passed through the packing bed without being retained.	If the desired compound was retained, wash off any weakly retained interfering compound(s) with a polar solvent.	Elute desired compound with 1 - 2ml of a non-polar solvent and collect for analysis.

Normal-phase: Packing is composed of a silica backbone bonded with carbon chains containing polar functional groups. It is used to isolate polar compounds from a non-polar matrix.

Conditioning	Sample application	Wash	Elution
Rinse packing bed with 3 - 5ml of non-polar solvent (do not let packing bed dry before adding sample).	Apply sample solution to the top of the packing bed. Push or draw the sample through the bed at a flow rate of 1 - 5ml/min. Collect sample for analysis if desired compound has passed through the packing bed without being retained.	If the desired compound was retained, wash off any weakly retained interfering compound(s) with a non-polar solvent.	Elute desired compound with 1 - 2ml of a polar solvent and collect for analysis.

Ion-exchange: Packing is composed of different materials backbone bonded with carbon chains terminated by a negatively or positively charged functional groups. It is used to isolate charged or potentially charged compounds.

Conditioning	Sample application	Wash	Elution
Rinse packing bed with 3 - 5ml of de-ionized water or low ionic strength buffer (e.g. 0.0001M - 0.01M).	Apply sample to the top of the packing bed. Push or draw the sample through the bed at a flow rate of 1 - 2ml/min. Collect sample for analysis if desired compound has passed through the packing bed without being retained.	If the desired compound was retained, wash off any weakly retained interfering compound(s) with de-ionized water or low strength buffer.	Elute desired compound with 1 - 5ml of a high salt concentration solution (e.g. 0.1M - 0.5M) or change elution buffer pH such that the sample compound is no longer ionized and collect for analysis.

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FUNCTIONAL GROUPS

C8 - Octyl Bonded, Endcapped Silica

Average Particle Size: 50 μ m, Pore Size: 60Å

Retention mechanism: Reversed phase. Hydrophobic phase.

Applications: For reversed phase extraction of non-polar to moderately polar compounds, such as antibiotics, barbiturates, benzodiazepines, caffeine, drugs, dyes, essential oils, fat soluble vitamins, fungicides, herbicides, pesticides, hydrocarbons, parabens, phenols, phthalate esters, steroids, surfactants, theophylline, and water soluble vitamins.

Application Examples: Extraction of Alkylsulfonate Surfactants in Water, Extraction of Aldicarb Residues from Ground Water, Extraction of Anionic Surfactants in Soil.

C18 - Octadecyl Bonded, Endcapped Silica

Average Particle Size: 50 μ m, Pore Size: 60Å

Retention mechanism: Reversed phase. One of the most Hydrophobic phases.

Applications: For reversed phase extraction of nonpolar to moderately polar compounds, such as antibiotics, barbiturates, benzodiazepines, caffeine, drugs, dyes, essential oils, fat soluble vitamins, fungicides, herbicides, pesticides, hydrocarbons, parabens, phenols, phthalate esters, steroids, surfactants, theophylline, and water soluble vitamins.

Application Examples: Extraction of Catecholamines from Urine, Extraction of Polyaromatic Hydrocarbons in Drinking Water, Extraction of Organo Chlorine pesticides from aqueous solutions.

Silica - Silica Gel with no bonded phase

Average Particle Size: 50 μ m, Pore Size: 60Å

Retention mechanism: Normal phase. Polar neutral phase.

Applications: For extraction of polar compounds, such as alcohols, aldehydes, amines, drugs, dyes, herbicides, pesticides, ketones, nitro compounds, organic acids, phenols, and steroids.

Application Examples: Extraction of Vitamin D from Serum, Extraction of Aflatoxins from Corn, Peanuts, and Peanut Butter, Extraction of Amine Antioxidant from motor oil.

CN - Cyanopropyl, Endcapped Silica

Average Particle Size: 50 μ m, Pore Size: 60Å

Retention mechanism: Normal phase.

Weak/moderate non-polar with aqueous matrix, or polar with non-polar organic matrix.

Applications: For reversed phase extraction of moderately polar compounds, normal phase extraction of polar compounds, such as aflatoxins, antibiotics, dyes, herbicides, pesticides, phenols, steroids. Weak cation exchange for carbohydrates and cationic compounds.

Application Examples: Organochlorine Pesticides in Water, Extraction of Paraquat and Diquat from aqueous solutions. Extraction of N-Nitrosamine (N-Nitrosopyrrolidine) from bacon.

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NH₂ - Aminopropyl, Bonded Silica

Average Particle Size: 50 μ m, Pore Size: 60Å

Retention mechanism: Weak anion exchange with aqueous matrix, normal phase with non-polar organic matrix.

Applications: For normal phase extraction of polar compounds, weak anion exchange for carbohydrates, weak anions, and organic acids.

Application Examples: Extraction of Pyridonecarboxylic-Acid Antibacterials (PCAs) from fish tissue, Extraction of Lipids from serum and tissue, Extraction of Pyridonecarboxylic-Acid Antibacterials from fish tissue.

Diol, (Glyceroxypropylsilyl) Bonded Silica

Average Particle Size: 50 μ m, Pore Size: 60Å

Retention mechanism: Normal phase

Applications: For normal phase extraction of polar compounds, weak anion exchange for carbohydrates, weak anions, and organic acids.

Application Examples: Extraction of Antibiotics from Ointment, Extraction of Urinary Cortisol, Extraction of the herbicide Atrazine from Corn Oil.

Florisol[®], Magnesium Silicate

Average Particle Size: 60 μ m, Pore Size: 100Å and Average Particle Size: 100 μ m, Pore Size: 200Å

Retention mechanism: Normal phase application – polar slightly basic phase

Applications: For adsorption extraction of polar compounds, such as alcohols, aldehydes, amines, drugs, dyes, herbicides, pesticides, PCBs, ketones, nitro compounds, organic acids, phenols, and steroids.

Application Examples: Extraction of Polychlorinated Biphenyls (PCBs) from transformer Oil, Extraction of Pesticides from fish, Extraction of Carbofuran and Carboxin from cabbage.

SCX, Tosic Acid, Bonded Silica with Na⁺ counterion

Average Particle Size: 40 - 63 μ m, Pore Size: 60Å

Retention mechanism: Cation exchange

Applications: For strong cation exchange for cations, antibiotics, drugs, organic bases, amino acids, catecholamines, herbicides, nucleic acid bases, nucleosides, and surfactants. Exchange Capacity: 0.2meq/g.

Application Examples: Extraction of Methylimidazole from food, Extraction of Amino Acids in medical plant extracts, Extraction of Hydroxyatrazine Metabolites from water.

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SAX, Tetramethyl ammonium chloride

Average Particle Size: 40 - 63 μ m, Pore Size: 60Å

Retention mechanism: Anion exchange

Applications: For strong anion exchange for anions, organic acids, nucleic acids, nucleotides, and surfactants.
Capacity: 0.2meq/g.

Application Examples: Extraction of caffeine, Saccharin and Sodium benzoate in beverages (Diet cola), Extraction of Folic Acid in cabbage, Extraction of Methylmalonic Acid from serum or plasma.



1ml SPE Cartridge, 100mg Dosage

Cat. No.	Description	Qty
JGF01C1801	C18 Functional Group	100
JGF01C801	C8 Functional Group	100
JGF01CN01	CN Functional Group	100
JGF01SI01	Silica Functional Group	100
JGF01NH01	NH2 Functional Group	100
JGF01FL0160	Florisil® Functional Group (60/100)	100
JGF01FL01100	Florisil® Functional Group (100/200)	100
JGF01DI01	Diol Functional Group	100
JGF01SA01	SAX Functional Group	100
JGF01SC01	SCX Functional Group	100



3ml SPE Cartridge, 200mg Dosage

Cat. No.	Description	Qty
JGF03C1802	C18 Functional Group	50
JGF03C802	C8 Functional Group	50
JGF03CN02	CN Functional Group	50
JGF03SI02	Silica Functional Group	50
JGF03NH02	NH2 Functional Group	50
JGF03FL0260	Florisil® Functional Group (60/100)	50
JGF03FL02100	Florisil® Functional Group (100/200)	50
JGF03DI02	Diol Functional Group	50
JGF03SA02	SAX Functional Group	50
JGF03SC02	SCX Functional Group	50



3ml SPE Cartridge, 500mg Dosage

Cat. No.	Description	Qty
JGF03C1805	C18 Functional Group	50
JGF03C805	C8 Functional Group	50
JGF03CN05	CN Functional Group	50
JGF03SI05	Silica Functional Group	50
JGF03NH05	NH2 Functional Group	50
JGF03FL0560	Florisil® Functional Group (60/100)	50
JGF03FL05100	Florisil® Functional Group (100/200)	50
JGF03DI05	Diol Functional Group	50
JGF03SA05	SAX Functional Group	50
JGF03SC05	SCX Functional Group	50

SPE Cartridges



6ml SPE Cartridge, 500mg Dosage

Cat. No.	Description	Qty
JGF06C1805	C18 Functional Group	30
JGF06C805	C8 Functional Group	30
JGF06CN05	CN Functional Group	30
JGF06SI05	Silica Functional Group	30
JGF06NH05	NH2 Functional Group	30
JGF06FL0560	Florisil® Functional Group (60/100)	30
JGF06FL05100	Florisil® Functional Group (100/200)	30
JGF06DI05	Diol Functional Group	30
JGF06SA05	SAX Functional Group	30
JGF06SC05	SCX Functional Group	30



6ml SPE Cartridge, 1000mg Dosage

Cat. No.	Description	Qty
JGF06C1810	C18 Functional Group	30
JGF06C810	C8 Functional Group	30
JGF06CN10	CN Functional Group	30
JGF06SI10	Silica Functional Group	30
JGF06NH10	NH2 Functional Group	30
JGF06FL1060	Florisil® Functional Group (60/100)	30
JGF06FL10100	Florisil® Functional Group (100/200)	30
JGF06DI10	Diol Functional Group	30
JGF06SA10	SAX Functional Group	30
JGF06SC10	SCX Functional Group	30



12ml SPE Cartridge, 1000mg Dosage

Cat. No.	Description	Qty
JGF12C1810	C18 Functional Group	20
JGF12C810	C8 Functional Group	20
JGF12CN10	CN Functional Group	20
JGF12SI10	Silica Functional Group	20
JGF12NH10	NH2 Functional Group	20
JGF12FL1060	Florisil® Functional Group (60/100)	20
JGF12FL10100	Florisil® Functional Group (100/200)	20
JGF12DI10	Diol Functional Group	20
JGF12SA10	SAX Functional Group	20
JGF12SC10	SCX Functional Group	20