



26228



24035

All cartridges are manufactured using high density polypropylene and have polyethylene frits unless otherwise noted.



Free sample packs of SPE cartridges are available by adding -248 to the catalog number when you call to place your order.



**please note**

If you need a custom SPE cartridge, contact our Technical Service chemists or your Restek representative.



25989



26207

**Resprep® SPE Cartridges (Normal Phase)**

Hydrophilic (polar) adsorbents used to extract hydrophilic analytes from nonpolar matrices, such as organic solvents (e.g., polar contaminants from sample extracts).

	3mL/500mg (50-pk.)	6mL/500mg (30-pk.)	6mL/1000mg (30-pk.)	6mL/1000mg (100-pk.)	15mL/2g (100-pk.)
Florisil (EPA SW 846 methods and CLP protocols)	24031 24032*	26086**	24034 26085**	26205	26228
Silica (EPA SW 846 methods)	24035 24036*		24038		

\*Teflon frits

\*\*Glass tubes with Teflon frits

**Resprep® SPE Cartridges (Ion Exchange Phases)**

Ionized phases bonded to silica-based adsorbents used to extract positively- or negatively-charged analytes from aqueous matrices (e.g., tricyclic antidepressants from plasma).

	1mL/100mg (100-pk.)	3mL/200mg (50-pk.)	3mL/500mg (50-pk.)	6mL/500mg (30-pk.)	6mL/1000mg (30-pk.)
SAX, quaternary amine	26054		26055		
SCX, benzyl	26056	26058	26057	26059	26060
WAX, NH <sub>2</sub> , primary amine	26050	26051	26052	26053	
WCX, COOH, carboxylic acid	26061		26062		

Strong Anion Exchange (SAX); Strong Cation Exchange (SCX); Weak Anion Exchange (WAX); Weak Cation Exchange (WCX)

**Resprep® SPE Cartridges (Bonded Reversed Phases)**

Hydrophobic (nonpolar) silica-based adsorbents, used to extract hydrophobic analytes from polar matrices, such as water (e.g., pesticides from water).

	1mL/100mg (100-pk.)	3mL/200mg (50-pk.)	3mL/500mg (50-pk.)	6mL/500mg (30-pk.)	6mL/1000mg (30-pk.)	20mL/5g (20-pk.)	60mL/10g (16-pk.)
C18 (high load, endcapped)	26030	26031	24050	24052	24051	26034	26035
C8 (high load, endcapped)	26036	26037	26038	26039	26040		
Cyclohexyl (endcapped)					26043		

**Resprep® SPE Cartridges (Polymeric DVB Adsorbents)**

Polymeric adsorbents are used to extract a wide range of polar aromatic and unsaturated analytes from aqueous matrices and can tolerate a wider pH range than silica-based adsorbents.

	6mL/500mg (50-pk.)
DVB (Teflon frits)	25989

**Closed End SPE Cartridge: Activated Sodium Sulfate**

- High quality anhydrous sodium sulfate.
- Approximately 2 grams prepackaged in a convenient capped cartridge with both male and female luer ends for easy connection to a variety of devices or equipment.
- The adsorbent is fully activated and ready to use for removal of excess water from organic solvent solutions, prior to many types of analysis.
- Capped cartridges will remain active for long periods of storage in the lab.

SPE Cartridge	Bed Weight	qty.	cat.#
Activated Sodium Sulfate	2g	50-pk.	26207

### CarboPrep® SPE Cartridges

- Improved recovery of sulfonylurea herbicides, phenols, carbamates, and triazine herbicides, compared to C18 and C8 cartridges.
- Wide range of selectivity for both analytes and their metabolites or degradation products.
- Rapid sampling flow rates; uncompromised recoveries.
- Maximum capacity for contaminant cleanup.
- Controlled manufacturing improves cleanliness, ensures reproducible performance.

CarboPrep® cartridges are manufactured from chromatographic-grade, nonporous, graphitized carbon. Our manufacturing process minimizes variability and improves recovery and cleanup procedures. We offer two types of carbons: CarboPrep® 90 has a surface area of approximately 90 m<sup>2</sup>/g, CarboPrep® 200 has a surface area of 200 m<sup>2</sup>/g. Both have higher capacity than silica-based packings for a variety of compounds.

CarboPrep® cartridges can be used for sample extraction of organic compounds and extract cleanup of matrix interferences.

SPE Cartridge	Tube Volume, Bed Weight	qty.	cat#
CarboPrep 90	3mL, 250mg	50-pk.	26091
CarboPrep 90	6mL, 500mg	30-pk.	26092
CarboPrep 200	3mL, 250mg	50-pk.	26088
CarboPrep 200	6mL, 500mg	30-pk.	26087

### CarboPrep® Reversing SPE Cartridges

- High adsorbent capacity (surface area ~200 m<sup>2</sup>/g) for large volume sampling.
- Chromatographic grade graphitized carbon provides consistent and quantitative recoveries of a wide variety of semivolatiles, pesticides, and herbicides.
- 500 mg bed weight (100 mg and 900 mg bed weights available on request).

Reversing cartridge design allows convenient inverted elution of strongly retained analytes using minimum solvent volumes. Ideal design for extraction of pesticides in water.<sup>1</sup>

SPE Cartridge	Bed Weight	qty.	cat#
CarboPrep 200 Reversing Cartridge	500mg	30-pk.	26206

<sup>1</sup>Crescenzi, C.; DiCorcia, A.; Guerriero, E.; and Saperi, R. "Development of a Multi-residue Method for Analyzing Pesticide Traces in Water Based on Solid-Phase Extraction and Electrospray Liquid Chromatography Mass Spectrometry", Environmental Science & Technology vol.31, no. 2 (1997) 479-488. (Reference not available from Restek.)

### Pesticide Residue Cleanup SPE Cartridges

- Convenient, multiple adsorbent beds in a single cartridge.
- For use in multi-residue pesticide analysis, to remove matrix interferences.
- Excellent for cleanup of dietary supplement extracts.

SPE Cartridge	qty.	cat#
6mL Combo SPE Cartridge Packed with 500mg CarboPrep 90/500mg Aminopropyl, Polyethylene Frits	30-pk.	26193
6mL Combo SPE Cartridge Packed with 500mg CarboPrep 90/500mg PSA, Polyethylene Frits	30-pk.	26194
6mL SPE Cartridge Packed with 500mg PSA, Polyethylene Frits	30-pk.	26195
6mL Combo SPE Cartridge Packed with 200mg CarboPrep 200 and 400mg PSA, Teflon Frits	30-pk.	26127
6mL Combo SPE Cartridge Packed with 250mg CarboPrep 200 and 500mg PSA, Teflon Frits	30-pk.	26128
6mL Combo SPE Cartridge Packed with 500mg CarboPrep 200 and 500mg PSA, Teflon Frits	30-pk.	26129



26091



### free literature

**Improve Recoveries of Chlorinated Pesticides with CarboPrep® SPE Cleanup**

Download your free copy from [www.restek.com](http://www.restek.com)

lit. cat.# EVAN1197



### also available

For Rtx®-CLPesticides columns, see **page 88**.



26206



26194



26195



26128

## SAMPLE HANDLING | SAMPLE PREPARATION

### SPE Cartridges

#### Method Specific SPE Cartridges

These cartridges have been specifically designed to provide consistent and reproducible results for the method or application stated.

Description	Applications	Tube Volume, Bed Weight	qty.	cat.#
<b>EPH Fractionation</b>	Extraction of hexane-extractable petroleum hydrocarbons from soil and waste samples. Specially treated to reduce contaminants and increase capacity. Silica packing.	20mL, 5g	20-pk.	26065
<b>EPA Methods 521 &amp; 522</b>	For use in EPA Method 521: Nitrosamines in Drinking Water and EPA Method 522 for 1,4-Dioxane in Drinking Water. Activated charcoal packing.	6mL, 2g	30-pk.	26032
<b>EPA Method 548.1</b>	Extraction of endoathall from aqueous samples. Weak anion exchange resin (BioRex 5) packing.	6mL	30-pk.	26063
<b>Ultra Quat SPE</b>	For use in HPLC analysis of paraquat/diquat, as an alternative to EPA 549.2. For an HPLC column developed specifically for this application, see page 189.	6mL, 500mg	30-pk.	25499
<b>EPA Method 8321 (AH SPE)</b>	For use in HPLC analysis of phenoxy acid herbicides.	6mL, 500mg	30-pk.	26029
<b>Organo Tin</b>	High-capacity clean-up of butyl and phenyl tin compounds from soil, water, and biota. Mixed bed.	60mL	16-pk.	24049
<b>Drug Prep I</b>	Suitable for acidic, basic, and neutral drugs. Mixed-mode hydrophobic and ion exchange sites provide selective, reproducible extraction of biological samples containing therapeutic or illegal drugs.	3mL, 200mg 10mL, 200mg	50-pk. 50-pk.	26044 26045
<b>Drug Prep II</b>	Extraction of THCA from biological samples. Copolymeric anion exchange sites provide selective, reproducible extraction of THCA from urine.	3mL, 200mg 10mL, 200mg	50-pk. 50-pk.	26046 26047
<b>GHB</b>	Extraction of $\gamma$ -hydroxybutyric acid from biological samples. Provides reproducible extraction of GHB from urine, blood, or tissue without conversion to GBL ( $\gamma$ -butyrolactone).	10mL, 200mg	50-pk.	26208
<b>RDX</b>	Extraction of explosive compounds (similar to EPA Method 8095 and 8330 list) from water samples.	6mL, 500mg	30-pk.	26093

#### Resprep® SPE Tube Parts & Accessories

Empty Tubes (polypropylene)	Volume	qty.	cat.#
	1mL	50-pk.	26010
	3mL	50-pk.	26011
	6mL	50-pk.	26012
	15mL	50-pk.	26013
	sample reservoir, 25mL	12-pk.	26014
	sample reservoir, 70mL	12-pk.	26015
Frits (polyethylene), 20 $\mu$ m	Fits Tube Volume, Diameter	qty.	cat.#
	1mL, 6mm	100-pk.	26016
	3mL, 9mm	100-pk.	26017
	6mL, 1.2cm	100-pk.	26018
	15mL, 1.6cm	100-pk.	26019
	25mL, 2.0cm*	100-pk.	26020
	70mL, 2.6cm**	100-pk.	26021
Tube Caps	Fits Tube Volume	qty.	cat.#
	1mL	12-pk.	26001
	3mL	12-pk.	26002
	6mL	12-pk.	26003
	15mL	12-pk.	26004
	25mL*	12-pk.	26005
	70mL**	12-pk.	26006
Female Luer End Caps	Fits Tube Volume	qty.	cat.#
	universal	12-pk.	26000
Connectors	Fits Tube Volume	qty.	cat.#
	1, 3, 6mL	12-pk.	26007
	15, 25mL*	12-pk.	26008
	70mL**	12-pk.	26009

\*For 20mL packed tubes.

\*\*For 60mL packed tubes.

#### did you know?

You can elute an SPE tube manually with our connectors and NORM-JECT® syringes. See [page 369](#).



26012



26018



26003



26000



26007

**Resprep® 12- or 24-Port SPE Manifolds**

- Use with any standard male luer-end SPE cartridges.
- Inert, Teflon® sample guides reduce cross-contamination and carryover.
- Flexible sample collection rack will accommodate a variety of receiving vessels.
- Quick vacuum-release valve for better system control.
- Individual vacuum control for each cartridge—improves reproducibility.



26077

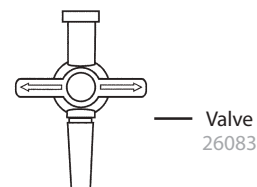


26077

26078

26079

**Resprep® Manifold Replacement Parts**



Valve  
26083



Valve Attachment  
26130



Manifold Lid



Needle Attachment  
26131



Sample Guide  
26084

Description	qty.	cat.#
<b>Complete Resprep SPE Manifold, 12-Port</b> (Includes: glass basin with built-in vacuum regulator, polypropylene lid with 12 individual control valves, 12-position collection rack, 12 Teflon sample guides, and waste container)	kit	26077
<b>Complete Resprep SPE Manifold, 24-Port</b> (Includes: glass basin with built-in vacuum regulator, polypropylene lid with 24 individual control valves, 24-position collection rack, and 24 Teflon sample guides)	kit	26080

**Resprep® Manifold Replacement Parts**

Description	qty.	cat.#
Replacement Waste Container, 12-Port	ea.	24014
Replacement Vacuum Valve and Gauge Assembly	ea.	24008
Glass Vacuum Chamber w/gauge & valve for Resprep manifolds, 6 or 12-Port	ea.	25991
<b>Collection Rack</b>		
Collection Rack, 12-Port	ea.	26079
Collection Rack, 24-Port	ea.	26082
<b>Manifold Lid</b>		
Replacement Manifold Lid (sample guides not included), 12-Port	ea.	26078
Replacement Manifold Lid (sample guides not included), 24-Port	ea.	26081
<b>Manifold Lid Replacement Parts</b>		
Valves, 12 or 24-Port	2-pk.	26083
Valve Attachment	48-pk.	26130
Needle Attachment	48-pk.	26131
Sample Guides, 12 or 24-Port	12-pk.	26084

\*Not included in 24-port manifold (cat.# 26080 or 26082).

**Oil-Free Vacuum/Pressure Station**

for 12-Port Resprep® SPE Systems

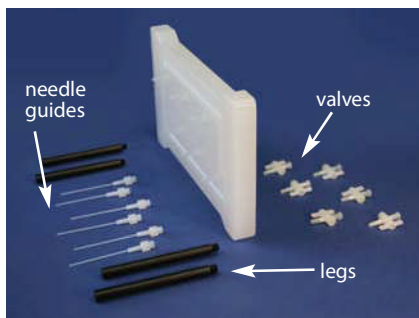
Allows switching from pressure to vacuum in a matter of seconds. Quiet, oil-free unit won't contaminate the extraction system or your samples. Provides 20" Hg (68k Pa) vacuum or 18 psi (124 kPa) pressure.

Description	qty.	cat.#
Oil-Free Vacuum/Pressure Station, 115VAC, 60Hz, US	ea.	24002
Oil-Free Vacuum/Pressure Station, 230VAC, 50Hz, Europe (CE certified)	ea.	24003
Vacuum Tubing (10ft./3m, 1/4" ID)	ea.	24016

Not recommended for use with 24-port manifold.

Warranty period is one-year from date of purchase. Evaluation fee is charged for repairs out of warranty.





Lid components prior to assembly.



Fully assembled unit shown with Glass Vacuum Chamber (cat.# 25991) and Disk Holders (cat.# 24020)

**Resprep® 6-Port Disk Manifold Lid**

- Low cost option for disk extraction; fits standard 3 3/4" x 7 1/2" glass vacuum chambers.
- Doubles sample capacity—holds 6 disks, compared to standard 12-port manifolds, which only hold 3.
- Individual vacuum control for each port improves reproducibility.
- Collection plate design secures variety of receiving vessels.
- Inert Teflon® sample guides reduce cross-contamination and carryover.
- Compatible with any standard male luer end disk holder.



Description	qty.	cat.#
<b>Resprep 6-Port Disk Manifold Lid*</b>		
Includes: polypropylene lid with 6 ports, 6 nylon valves, 6 Teflon needle guides, 4 black lid legs, collection baseplate, collection plate for volumetric flasks, collection plate for concentrator tubes, 3 white collection plate posts, 12 collection plate retaining clips	kit	25992
<b>Accessories</b>		
Glass Vacuum Chamber w/gauge & valve for Resprep manifolds, 6 or 12-Port	ea.	25991
<b>Manifold Lid Replacement Parts</b>		
Valves, 12 or 24-Port	2-pk.	26083
Valve Attachment	48-pk.	26130
Needle Attachment	48-pk.	26131
Sample Guides, 12 or 24-Port	12-pk.	26084
Gasket, 12-port	2-pk.	24011

\*Vacuum chamber not included.



**Resprep® Sample Delivery System**

- Compatible with Resprep® 1, 3, 6, and 15 mL SPE cartridges and Diskcover-47 Extraction Disk Holder (cat.# 24020).
- 6 Teflon® transfer lines (1/8" OD x 1/16" ID x 36" long); each contains a different embedded color stripe, for easy sample identification.
- Specified in EPA drinking water methods.
- Tested to pH of 1 to ensure no contaminants leach from system.

Use the Resprep® Sample Delivery System to transfer large volumes of low viscosity samples directly from a bottle to a solid phase extraction cartridge or to a disk on a vacuum manifold system for extraction or cleanup. Each unit consists of 6 transfer lines with a stainless steel weight on one end, and a color-coded screw fitting and polyethylene terephthalate (PET) adapter on the opposite end.

Description	qty.	cat.#
Resprep Sample Delivery System	6-pk.	26250

# ChromaBLOGraphy

Topical and timely insights from top chromatographers.

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### Resprep®-C18 and Resprep®-C8 SPE Disks

- Glass fiber disks embedded with C18 or C8 bonded silica.
- Extract semivolatile organic compounds.
- Deep-pore design reduces clogging and allows faster flow rates.
- Meet requirements for EPA Methods 525.1, 506, 550.1, and 549.1.
- Lower cost than Teflon® disks.



Resprep® disks & flow filters extract analytes of interest at high flow rates, and significantly reduce clogging.

Description	Porosity	qty.	cat.#
Resprep-C8	47mm	24-pk.	24048
Resprep-C18	47mm	20-pk.	24004
Resprep-C18	90mm	12-pk.	25988

### Resprep® Oil & Grease SPE Disks

- 47 mm glass fiber disks embedded with specialty bonded silica.
- Meet requirements for EPA Method 1664.\*
- Reduce emulsion formation and amount of solvent required by previous EPA methods.
- No chlorofluorocarbons needed.

Description	qty.	cat.#
Resprep Oil & Grease SPE Disks	20-pk.	26022

\*A sodium sulfate drying tube and a 0.45 µm PTFE syringe filter (cat.# 26145, page 399) also may be used.

### Resprep® SPE Flow Filters

- Designed specifically to improve flow when filtering oil and grease samples.
- Use with Resprep® Diskcover-47 reservoir, or any 47 mm glass sample reservoir.

Description	qty.	cat.#
Resprep SPE Flow Filters	20-pk.	26024

### Resprep® Resin SPE Disks

- 47 mm glass fiber disks embedded with styrene/DVB resin.
- For chlorinated, benzidine-containing, or nitrogen-containing pesticides.
- Meet requirements of EPA Methods 515.2 and 553.

Description	qty.	cat.#
Resprep Resin SPE Disks	20-pk.	26023

also available

For an alternative membrane filtration system, see page 343.



## Parts for Diskcover-47 Extraction System

### Diskcover-47 Extraction Disk Holder

- Compatible with most vacuum manifold systems that accept 1/8-inch male luer fittings.
- Sample can be automatically introduced via 1/8-inch Teflon® tubing or from the optional Diskcover-47 reservoir.

Description	qty.	cat.#
Diskcover-47 Extraction Disk Holder	ea.	24020
Diskcover-47 Extraction Disk Holder	6-pk.	24021
Teflon Tube Luer Adaptors (1/8" OD)	6-pk.	24017
Teflon Sample Tubing (2ft./0.6m, 1/8" OD)	6-pk.	24025



24020

### Diskcover-47 Reservoir\*

The Diskcover-47 open-top reservoir allows you to pour up to 125 mL of sample directly onto the filter disk holder. It easily installs on top of the Diskcover-47 extraction disk holder.

Description	qty.	cat.#
Diskcover-47 Reservoir	ea.	24029
Diskcover-47 Reservoir	6-pk.	24030
Teflon O-Ring**	ea.	24027
Teflon O-Ring**	6-pk.	24028

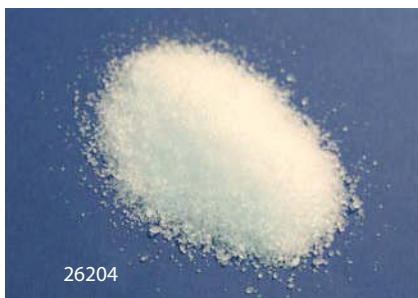
\*Must be used with the Diskcover-47 extraction disk holder.

\*\*Order when using PTFE extraction filters.

24029



## Bulk Adsorbents



26204

### Sodium Sulfate

- Ideal for removing water from sample extracts.
- Requires activation before use.
- Packaged in recloseable 5 kg buckets.

Anhydrous sodium sulfate is the most common drying agent used to remove moisture from sample extracts. We package our 60 mesh material in recloseable buckets.

Description	qty.	cat.#
Sodium Sulfate	5kg	26204



26135

### Florisol® PR

- Pesticide residue grade.
- Each lot certified to meet AOAC method requirements.
- Packaged in glass containers.

Florisol® PR is commonly used to remove polar interferences from pesticide residues. This bulk material is ideal for labs packing their own chromatography columns for pesticide residue extractions.

Description	qty.	cat.#
Florisol PR, 60/100 mesh	500gms	26135



26136

### Granulated Activated Copper

- Convenient form for removing sulfur from environmental extracts.
- Acidified and activated—ready for use.

Activated copper effectively removes elemental sulfur from environmental extracts. Our acid-washed and activated material can be used right out of the package. The 30 mesh granular material eliminates the potential for fine copper particles in filtered extracts.

Description	qty.	cat.#
Granulated Activated Copper, 30 mesh	1kg	26136



26137

### Ottawa Sand

- Sample medium for matrix spikes and laboratory control blanks.
- Packaged in convenient 5 kg buckets.

Ottawa sand is listed in several US EPA methods as the specified medium for matrix spike and laboratory control blanks.

Description	qty.	cat.#
Ottawa Sand	5kg	26137



26033

### Diatomaceous Earth

- Improves extraction efficiency.
- Adsorbs moisture from samples.

Diatomaceous earth is used as a filter aid to improve extraction efficiency of densely packed soils, such as clays. By mixing the sample with diatomaceous earth, recoveries can be improved and excess moisture can be absorbed. Packaged in a convenient 1 kg quantity.

Description	Similar to Dionex part #	qty.	cat.#
Diatomaceous Earth, 30/40 mesh	062819	1kg	26033