



Discovery Normal Phase SPE Products

Base Silica: Irregular shaped, acid washed; 50µm particle size, 70Å pore diameter, 480m²/g specific surface area, 0.9cm³/g pore volume

Discovery normal phase SPE products are specifically developed, tested and quality controlled for normal phase pharmaceutical applications and other modified flash techniques. The Discovery normal phase product line enables you to quickly and effectively extract, isolate, purify, and concentrate polar compounds from non-polar solutions. Its highly selective properties allows the user to separate or remove structurally similar molecules through successive wash/elutions with increasingly polar solutions.

- Excellent capacity for the baseline clean-up of solution phase combinatorial chemistry reactions (removing target molecules from reaction by-products and excess reagents)
- Available in Büchner Funnels for easier scalability, and 96-well plates for the high throughput purification of CombiChem libraries
- Improve extraction selectivity through Discovery's narrower pore size distribution
- Acid washed to reduced metal chelating activity

A comprehensive line of normal-phase chemistries (four different SPE chemistries) and hardware configurations to meet your diverse and most demanding sample prep needs.

<p>DSC-Si</p> <p>-Si-OH</p>	<ul style="list-style-type: none"> - Unbonded acid washed silica sorbent ideal for normal phase SPE and other modified flash techniques - Considered the most polar normal phase sorbent available - Excellent capacity for purifying solution phase CombiChem reactions when removing target molecules from reaction by-products and excess reagents - Available in Büchner Funnel configurations for easy scalability
<p>DSC-Diol</p> $\begin{array}{c} \\ \text{--- Si ---} \\ \end{array} \begin{array}{c} (\text{CH}_2)_3\text{CH}_2\text{CH} \\ \\ \text{OH} \end{array} \begin{array}{c} \text{--- CH}_2 \\ \\ \text{OH} \end{array}$ <p style="text-align: right; font-size: small;">G001627</p>	<ul style="list-style-type: none"> - Polymerically bonded, 2,3-Dihydroxypropoxypropyl (7% C) - Polar sorbent most commonly used for normal phase applications (polar extractions from non-polar matrices) - The sorbent's dihydroxy groups facilitates strong hydrogen bonding - Excellent selectivity when extracting structurally similar molecules
<p>DSC-CN</p> $\begin{array}{c} \\ \text{--- Si ---} \\ \end{array} (\text{CH}_2)_3\text{CN}$ <p style="text-align: right; font-size: small;">G001626</p>	<ul style="list-style-type: none"> - Monomerically bonded, Cyanopropyl (7% C), endcapped - Can behave as either reversed phase or normal phase - Ideal for very hydrophobic analytes that may be irreversibly retained on more hydrophobic sorbents such as DSC-18 - Less retentive than DSC-Si or DSC-Diol when used as normal phase (organic matrices such as hexane or oils) - Allows for the rapid release of very polar molecules irreversibly retained on very polar sorbents
<p>DSC-NH₂</p> $\begin{array}{c} \\ \text{--- Si ---} \\ \end{array} (\text{CH}_2)_3\text{NH}_2$ <p style="text-align: right; font-size: small;">G001631</p>	<ul style="list-style-type: none"> - Polymerically bonded, aminopropyl phase that is very polar in nature (hydrogen bonding) allowing for both normal phase and ion exchange applications - A weak anion exchanger with a pKa of 9.8. At pH 7.8 or below, the functional groups are positively charged - Allows the rapid release of very strong anions such as sulfonic acids that may be retained irreversibly on SAX (a quarternary amine sorbent that is always positively charged) - Can be used in some reversed phase applications (due to ethyl spacer); however, it is predominately used as an ion-exchanger or normal phase sorbent due to its polar nature

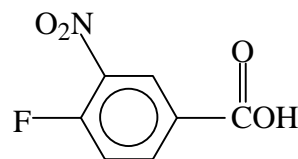
Here's the Proof:

Combinatorial Chemistry Application

Many Combinatorial Chemistry Labs of today are synthesizing and characterizing extensive drug libraries. Chemists are therefore employing modified flash chromatography techniques in a 96-well SPE format for the purposes of sample clean up and baseline impurity removal. In such cases, impurities are selectively retained on the stationary phase, and the compounds of interest are collected during the sample load and/or subsequent wash steps. In many combinatorial chemistry labs, capacity is a primary concern for such applications.

In our studies, we have determined the binding capacity of 4-fluoro-3-nitrobenzoic acid when loaded on to DSC-Si SPE-96 (100mg/well). Our results show that ≥ 12.5 mg of the fluoro compound can be loaded on to 100mg DSC-Si before breakthrough occurs. Breakthrough determination was analyzed via HPLC analysis. See Table 1.

Table 1. Binding Capacity of 4-Fluoro-3-Nitrobenzoic acid on DSC-Si (100mg/well)



4-Fluoro-3-Nitrobenzoic acid
G001555

Load Amount (Sample Matrix = 200 μ L Methylene Chloride)	Breakthrough Amount
2.5mg	No Breakthrough
5.0mg	No Breakthrough
10.0mg	No Breakthrough
12.5mg	No Breakthrough
15.0mg	0.10 % Breakthrough Occurred

n = 3 for each load amount.

Ordering Information:

Discovery Normal Phase SPE Products

Product	Qty./Pk	DSC-CN	DSC-Si	DSC-Diol	DSC-NH ₂
Discovery SPE Tubes					
50mg/1mL	108 qty/pk	52693-U	52652-U	52747-U	52635-U
100mg/1mL	108 qty/pk	52694-U	52653-U	52748-U	52636-U
500mg/3mL	54 qty/pk	52695-U	52654-U	52751-U	52637-U
500mg/6mL	30 qty/pk	52696-U	52655-U	52752-U	52638-U
1g/6mL	30 qty/pk	52697-U	52656-U	52753-U	52640-U
2g/12mL	30 qty/pk	52698-U	52657-U	Custom	52641-U
5g/20mL	20 qty/pk	52699-U	52658-U	Custom	52642-U
10g/60mL	20 qty/pk	52700-U	52659-U	Custom	52644-U
Bulk packing	100g	57222-U	52651-U	57229-U	57212-U
Discovery SPE-96 Well Plates					
100mg/well	1 ea	575624-U	575609-U	575636-U	575615-U
50mg/well	1 ea	575625-U	575608-U	575637-U	575616-U
25mg/well	1 ea	575626-U	575607-U	575638-U	575617-U
Discovery Büchner Funnels					
55mm ID x 30mm H, 12.5g	6 qty/pk	Custom	52591-U	Custom	Custom
70mm ID x 40mm H, 25g	6 qty/pk	Custom	52592-U	Custom	Custom
90mm ID x 48mm H, 50g	6 qty/pk	Custom	52593-U	Custom	Custom
110mm ID x 66mm H, 100g	6 qty/pk	Custom	52594-U	Custom	Custom

Trademark

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