

# Strata Activated Carbon

Reproducible Extraction of Polar Analytes

- Cost-efficient sample prep
- Available in two formats: 2 g and 400 mg
- For EPA methods 521, 522, 8270, and more

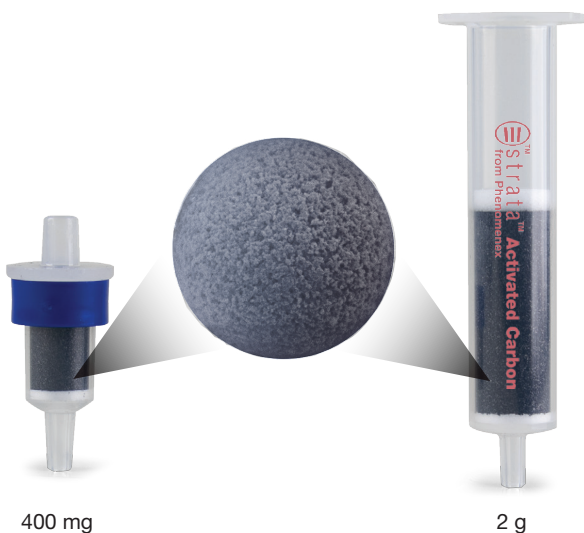




# Strata Activated Carbon

**Reproducible** and **cost-efficient** extraction of polar analytes from aqueous matrices

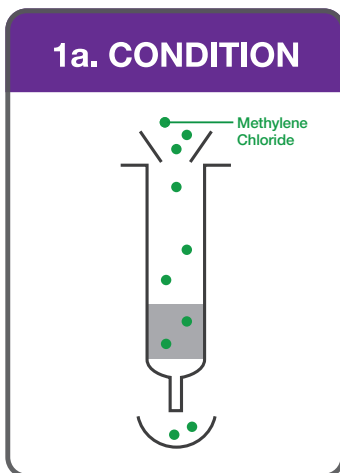
Strata Activated Carbon is a high surface area fully porous sorbent that provides better retention of polar compounds compared to C8 and C18 silica products.



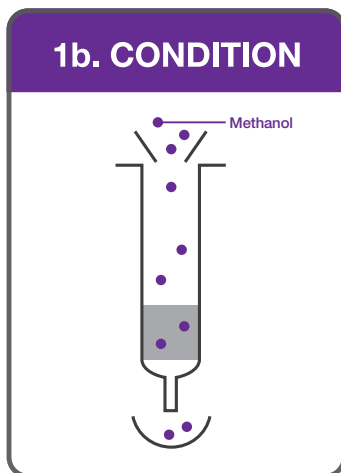
## Product Benefits

- High quality chromatography-grade porous carbon
- Improved reproducibility and recovery of polar analytes
- Prescribed for EPA methods 521, 522, and 8270
- Suitable for extraction of 1,4-Dioxane, Nitrosamines, and Acrylamide
- Available in 2 g and 400 mg format

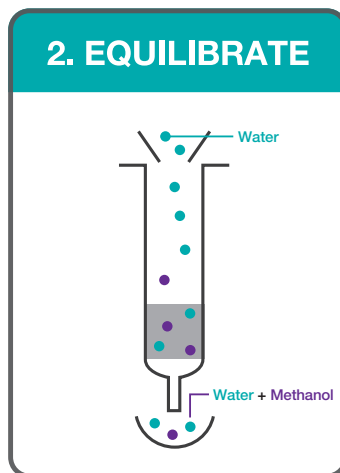
# Steps in Polar Analytes Extraction Using Strata Activated Carbon



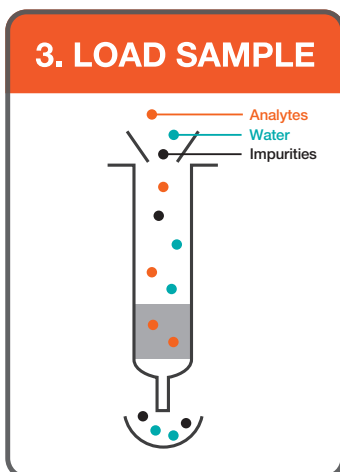
2 x 10 mL  
Methylene Chloride



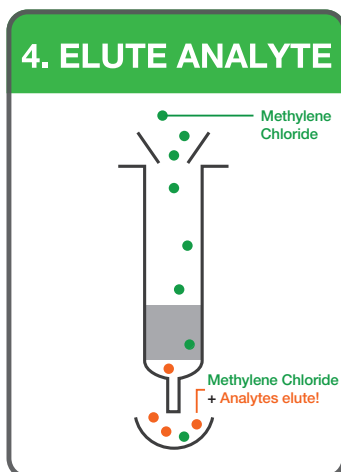
2 x 10 mL Methanol



2 x 10 mL Water



500 mL water sample  
spiked with internal  
standard. Dry for 10 min.



3 x 3 mL  
Methylene Chloride

## REMOVE MOISTURE

Pass the eluent through Methylene Chloride prewetted Strata Sodium Sulfate Giga™ Tubes, 5 g / 20 mL (Part No. [8B-S124-LEG](#)) and wash with 5 mL Methylene Chloride.

## RECONSTITUTE

Evaporate solvent under Nitrogen to required volume and reconstitute with Methylene Chloride.







## Reproducible Extraction of Nitrosamines From Water by EPA 521 on Strata™ Activated Carbon

### Sample Preparation Steps

Phenomenex [CS0-9209](#)

Part No.: Strata Activated Carbon, 2 g / 6 mL

[8B-S124-LEG](#)

Strata Sodium Sulfate Giga™ Tubes, 5 g / 20 mL

Part No.: EU52112M6

Method 521 2000 mg, 6 mL

Condition: 2 X 3 mL Methylene Chloride and soak for 2 min

2 X 3 mL Methanol and soak for 2 min

Equilibrate: 3 X 3 mL reagent water

Load: 500 mL water sample spiked with internal standard

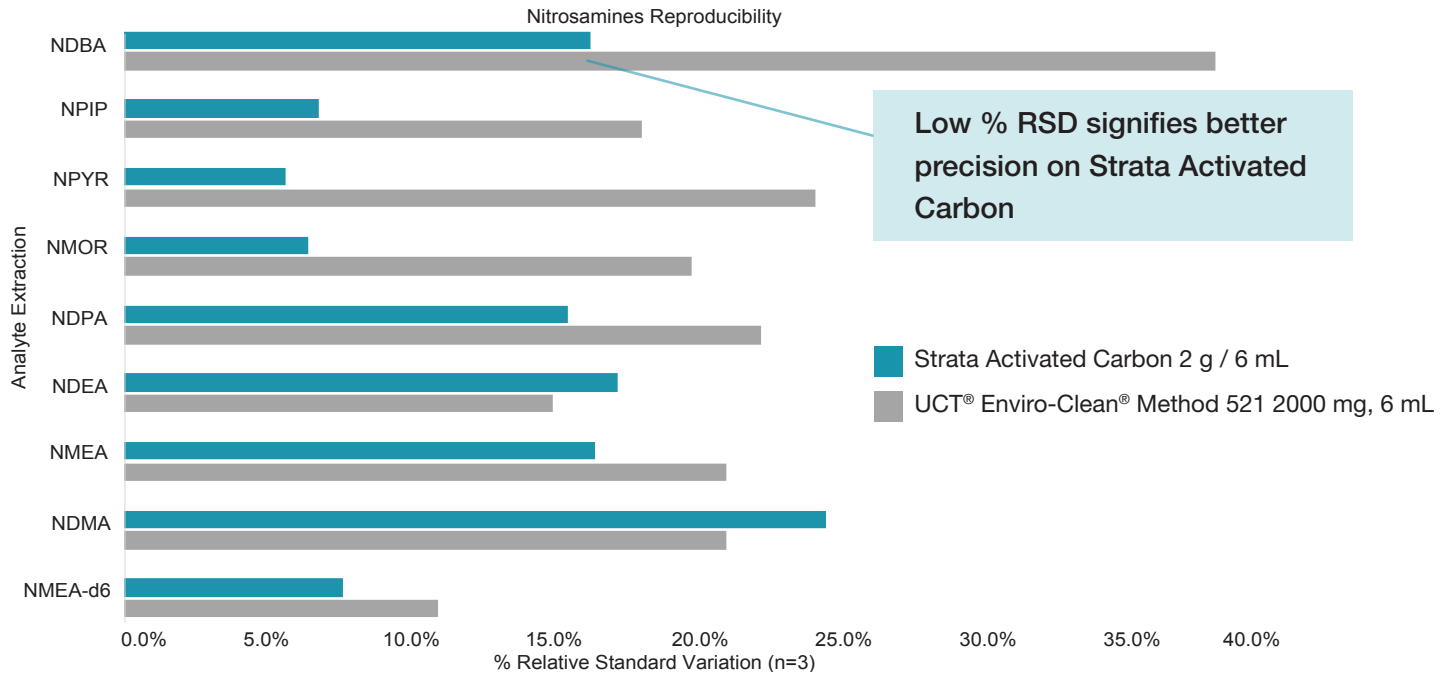
Dry: Dry cartridge for 10 min

Elute: 4 X 3 mL Methylene Chloride (Total 12 mL)

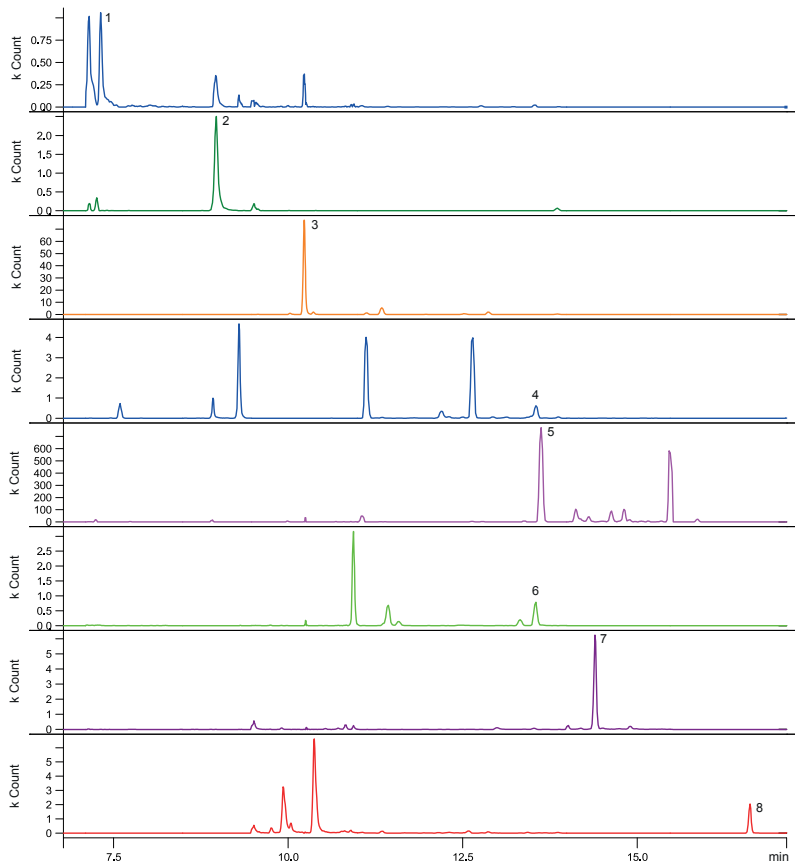
Water Removal: Pass 12 mL eluent from previous step through Strata Sodium Sulfate cartridge, prewetted with Methylene Chloride to remove water and wash with 3 mL Methylene Chloride

Reconstitute: Dry the eluent under Nitrogen at 20-25 °C to 0.9 mL volume and reconstitute to 1 mL with Methylene Chloride

## Low Variability and High Reproducibility for EPA 521 on Strata™ Activated Carbon



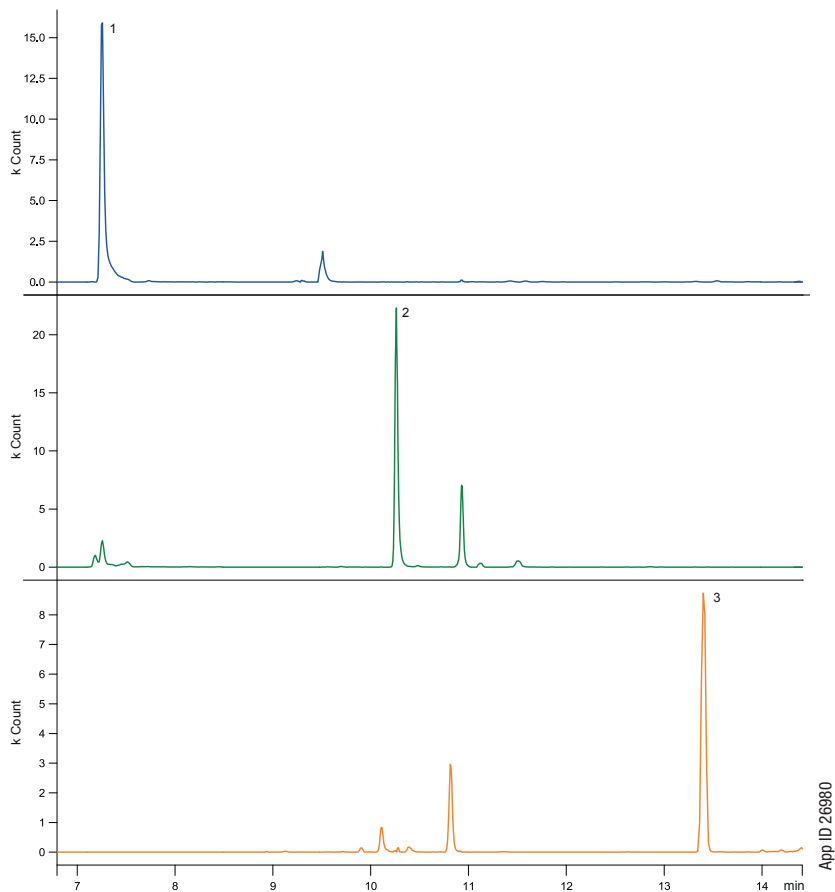
## Retention Identification of Extracted Nitrosamines on a Zebron™ ZB-5MS<sub>PLUS</sub> GC Column



Peak No.	RT (min)	Analyte Name
1	7.299	NDMA
2	8.967	NMEA
3	10.367	NDEA
4	13.503	NDPA
5	13.551	NPYR
6	13.631	NMOR
7	14.407	NPIP
8	16.623	NDBA

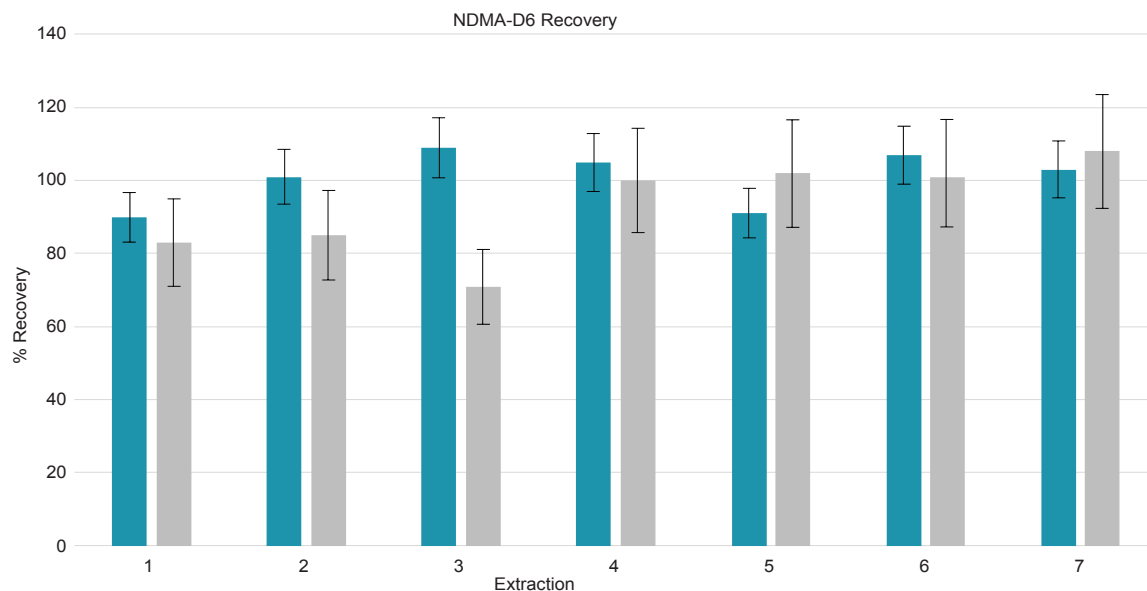
App ID 26981

## Retention Identification of Extracted Nitrosamines on a Zebron™ ZB-5MS<sub>PLUS</sub> GC Column



Peak No.	RT (min)	Analyte Name
1	7.236	NDMA-d6 (SS)
2	10.268	NDEA-d10 (IS)
3	13.413	NDPA d14 (IS)

## Reproducibility of NDMA-D6 Recovery



- Strata™ Activated Carbon 2 g / 6 mL
- UCT® Enviro-Clean® Method 521 2000 mg, 6 mL

Shorter Standard Deviation bars signifies reproducible extraction of Nitrosamines on Strata Activated Carbon

# Extraction of Nitrosamines in a Losartan Drug Substance using Strata™ Activated Carbon 400 mg SPE Cartridge

## Sample Preparation Steps

**Condition:** Strata Activated Carbon, 400 mg cartridge (Part No. [CS0-9210](#)) with 2 washes of 3 mL Methylene Chloride, 3 washes of 3 mL Methanol

**Equilibrate:** Cartridges with 6 washes of 3 mL Water

**Load:** 100 mL sample onto cartridges

**Dry:** Cartridges for 10 min

**Elute:** With 1 mL Methylene Chloride and repeat elution 3 more times (3 mL total volume), add 10 µL Ethylene Glycol

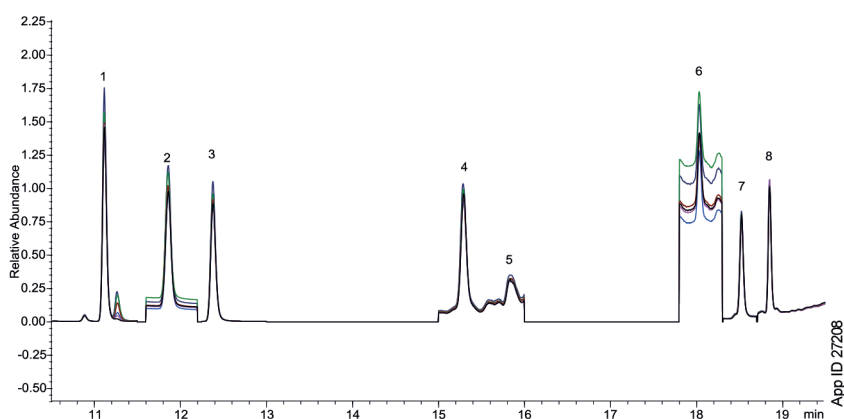
**Water Removal:** Pass eluent through Sodium Sulfate tubes, 1 g/6 mL (Part No. [8B-S124-JCH](#)) that is prewetted with Methylene Chloride and wash with 3 mL Methylene Chloride

**Evaporate:** Solvent to approximately 1 mL in a water bath at 20-25 °C under a gentle stream of Nitrogen

**Adjust:** Final volume to 1 mL with Methylene Chloride

**Reconstitute:** Dry the eluent under Nitrogen at 20-25 °C to 0.9 mL volume and reconstitute to 1 mL with Methylene Chloride

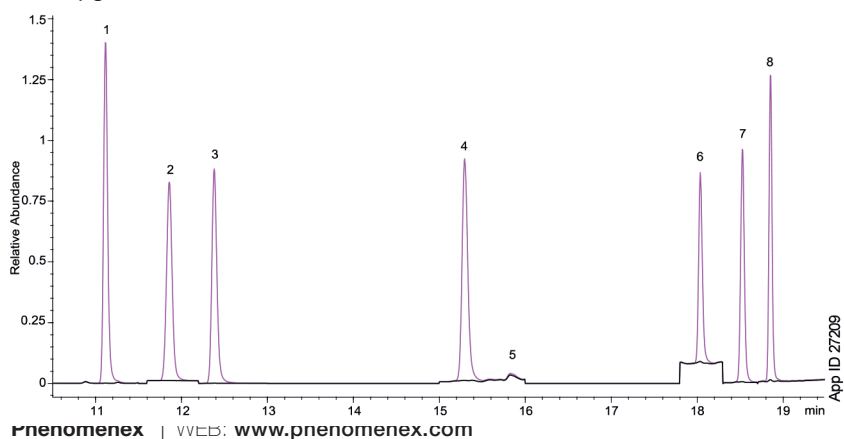
Chromatogram of 0.5 µg/mL Nitrosamine Spiked Losartan Sample after Strata Activated Carbon Extraction



Peak No.	Analyte	RT (min)	% RSD
1	NDMA-d6 (IS)	11.10	-
2	NDMA	11.12	0.8
3	NMEA	11.86	0.6
4	NDEA	12.38	0.9
5	NDPA	15.29	4.2
6	NDBA	18.03	9.4
7	NPIP	18.52	6.3
8	NPYR	18.85	6.1

N = 6 Injections

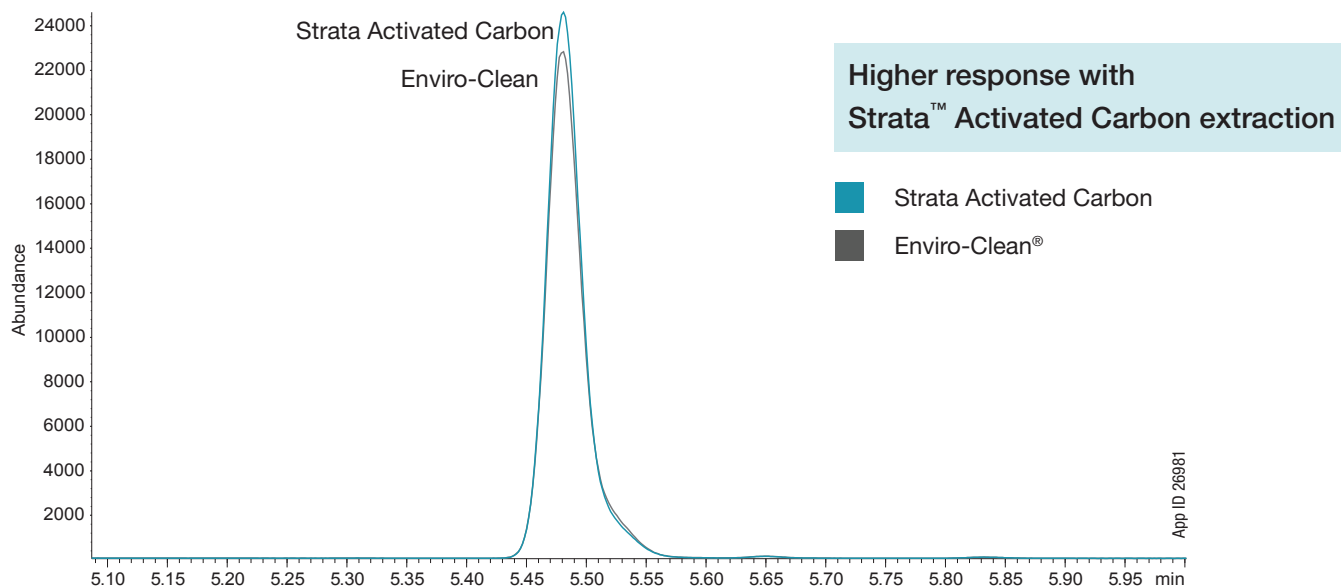
Overlaid Chromatograms of Losartan Sample and Nitrosamine Standard at 5.0 µg/mL



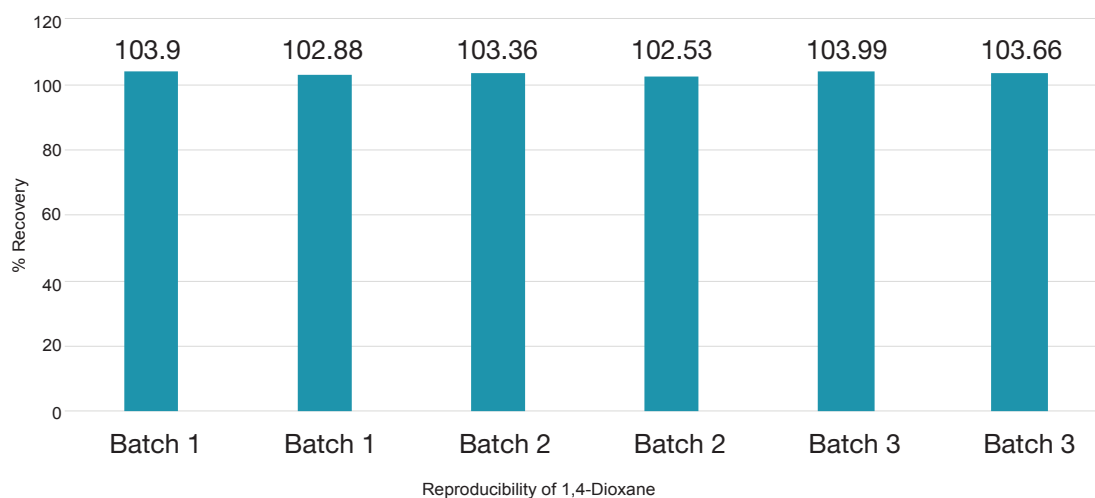
Peak No.	Analyte	RT (min)
1	NDMA-d6 (IS)	11.11
2	NDMA	11.12
3	NMEA	11.86
4	NDEA	12.38
5	NDPA	15.29
6	NDBA	18.04
7	NPIP	18.53
8	NPYR	18.85

[Download application](#)

# Reproducible Extraction of 1,4-Dioxane from Water (Modified EPA 8270 / 522)



## Batch-to-Batch Reproducibility with Strata Activated Carbon

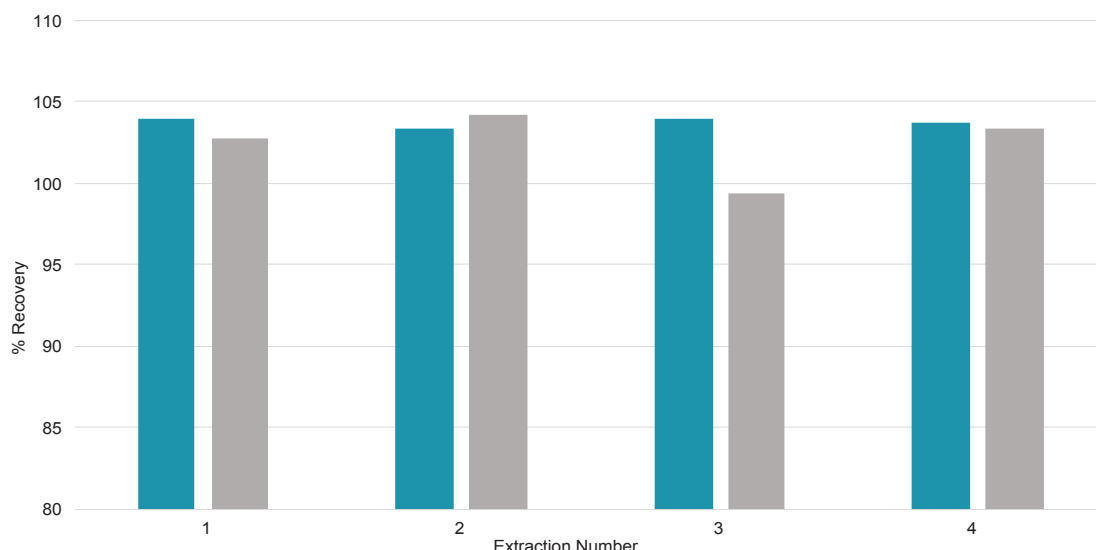


[Download Tech Note TN-0147](#)

[Download Application Note AN-1102](#)

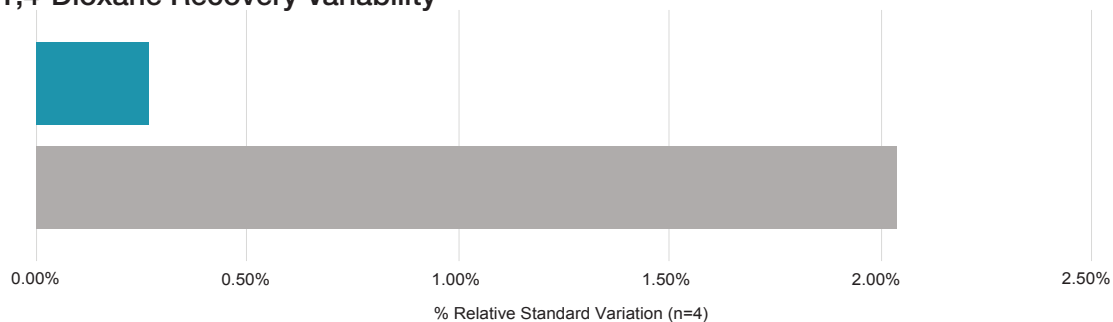


## % Recovery for 1,4-Dioxane



- Strata™ Activated Carbon 2 g / 6 mL
- UCT® Enviro-Clean® Method 521 2000 mg, 6 mL

## 1,4-Dioxane Recovery Variability



- Strata Activated Carbon 2 g / 6 mL
- UCT Enviro-Clean Method 521 2000 mg, 6 mL

[Download complete application](#)



# Need to Process Small Sample Volume?

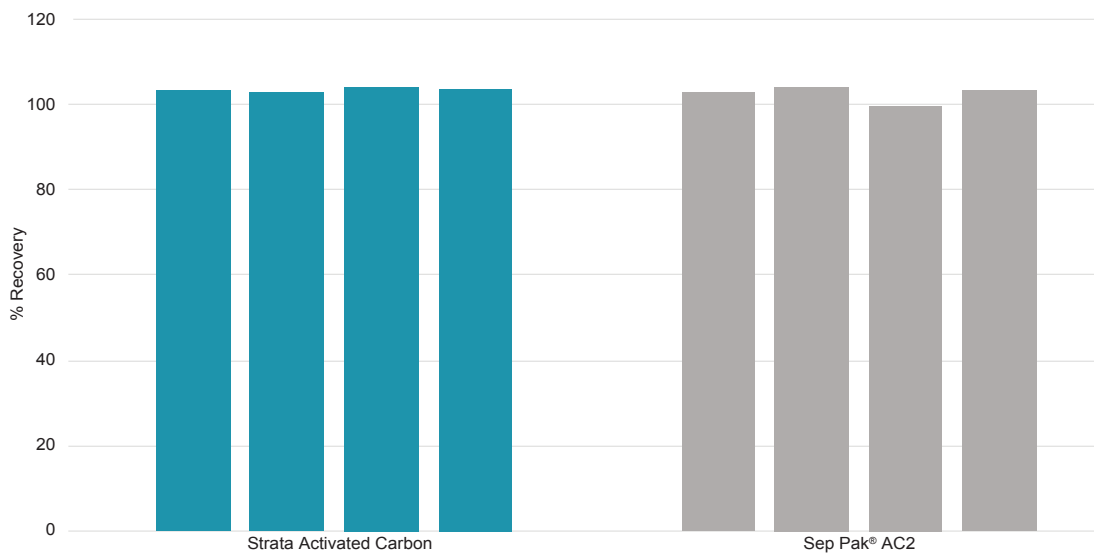
We've got you covered with Strata™ Activated Carbon 400 mg format

2 g / 6 mL tube

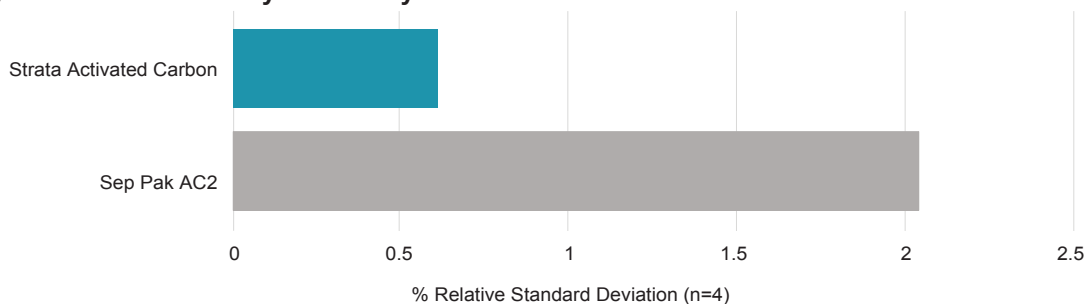
400 mg pass through



## % Recovery of 1,4-Dioxane on a 400 mg Activated Carbon Format



## 1,4-Dioxane Recovery Variability



# Ordering Information

## Strata™ Activated Carbon

Technique	Part number	Sorbent Mass	Volume	Format	Units/pk
Sample Prep	<a href="#">CS0-9209</a>	2 g	6 mL	Tube	30
Sample Prep	<a href="#">CS0-9210</a>	400 mg	Pass through	Cartridge	50

## Other Products

Technique	Product	Part number
Sample Prep	Strata Sodium Sulfate, 1 g / 20 mL, Giga™ Tubes	<a href="#">8B-S124-JEG</a>
Sample Prep	Strata Sodium Sulfate, 5 g / 20 mL, Giga Tubes	<a href="#">8B-S124-LEG</a>
Sample Prep	Presston™ 1000 Positive Pressure Manifold	<a href="#">AH1-7033</a>
Sample Prep	Empty SPE Tubes, 6 cc	<a href="#">AH0-7002</a>
Sample Prep	SPE-Column Adapter	<a href="#">A80215</a>
GC	Zebon™ ZB-624 <sub>PLUS</sub> ™, GC Cap. Column 30 m x 0.25 mm x 1.40 μm	<a href="#">7HG-G040-27</a>
GC	Zebon ZB-5MS <sub>PLUS</sub> ™, GC Cap. Column 30 m x 0.25 mm x 1.00 μm	<a href="#">7HG-G030-22</a>
GC	Zebon PLUS Liner Single Taper with Wool	<a href="#">AG2-0A11-05</a>



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# Strata Activated Carbon

## Australia

t: +61 (0)2-9428-6444  
auiinfo@phenomenex.com

## Austria

t: +43 (0)1-319-1301  
anfrage@phenomenex.com

## Belgium

t: +32 (0)2 503 4015 (French)  
t: +32 (0)2 511 8666 (Dutch)  
beinfo@phenomenex.com

## Canada

t: +1 (800) 543-3681  
www.phenomenex.com/chat

## China

t: +86 400-606-8099  
cninfo@phenomenex.com

## Czech Republic

t: +420 272 017 077  
cz-info@phenomenex.com

## Denmark

t: +45 4824 8048  
nordicinfo@phenomenex.com

## Finland

t: +358 (0)9 4789 0063  
nordicinfo@phenomenex.com

## France

t: +33 (0)1 30 09 21 10  
franceinfo@phenomenex.com

## Germany

t: +49 (0)6021-58830-0  
anfrage@phenomenex.com

## Hong Kong

t: +852 6012 8162  
hkinfo@phenomenex.com

## India

t: +91 (0)40-3012 2400  
indiainfo@phenomenex.com

## Indonesia

t: +62 811 8805 396  
indoinfo@phenomenex.com

## Ireland

t: +353 (0)1 247 5405  
eireinfo@phenomenex.com

## Italy

t: +39 051 6327511  
italiainfo@phenomenex.com

## Japan

t: +81 (0) 120-149-262  
jpinfo@phenomenex.com

## Luxembourg

t: +31 (0)30-2418700  
nlinfo@phenomenex.com

## Mexico

t: 01-800-844-5226  
tecnicomx@phenomenex.com

## The Netherlands

t: +31 (0)30-2418700  
nlinfo@phenomenex.com

## New Zealand

t: +64 (0)9-4780951  
nzinfo@phenomenex.com

## Norway

t: +47 810 02 005  
nordicinfo@phenomenex.com

## Poland

t: +48 22 104 21 72  
pl-info@phenomenex.com

## Portugal

t: +351 221 450 488  
ptinfo@phenomenex.com

## Singapore

t: +65 6559 4364  
sginfo@phenomenex.com

## Slovakia

t: +420 272 017 077  
sk-info@phenomenex.com

## Spain

t: +34 91-413-8613  
espinfo@phenomenex.com

## Sweden

t: +46 (0)8 611 6950  
nordicinfo@phenomenex.com

## Switzerland

t: +41 (0)61 692 20 20  
swissinfo@phenomenex.com

## Taiwan

t: +886 (0) 0801-49-1246  
twinfo@phenomenex.com

## Thailand

t: +66 (0) 2 566 0287  
thaiinfo@phenomenex.com

## United Kingdom

t: +44 (0)1625-501367  
ukinfo@phenomenex.com

## USA

t: +1 (310) 212-0555  
www.phenomenex.com/chat

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