

ULTRACARB™

- High efficiencies
- Excellent peak shape for basic compounds

ODS(20)

The Ultracarb™ ODS(20) contains a 22 % carbon load and gives excellent separations of free fatty acids, triglycerides, fat-soluble vitamins, and other lipophilic compounds.

C8

Ultracarb C8 was introduced to offer a high carbon load material with somewhat different selectivity than the two Ultracarb ODS phases. Ultracarb C8 is chemically modified in a method very similar to the ODS phases, resulting in a material with extensive coverage with octyl groups and very few unreacted silanols.

ODS(30)

The Ultracarb ODS(30) contains one of the highest commercially available carbon loadings, at 31 %. Ultracarb columns yield high efficiencies and symmetrical peaks for basic compounds, making sample quantification simple and reliable. The excellent stability of the ODS(30) phase in mobile phase systems of pH 2 to 9 allows a wide range of mobile phases to be used.

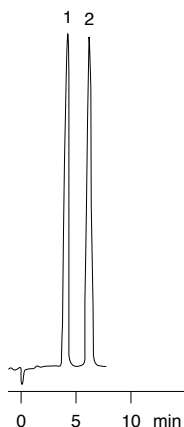
Material Characteristics

Packing Material	Particle Shape/Size (µm)	Pore Size (Å)	Pore Volume (mL/g)	Surface Area (m ² /g)	Carbon Load %	Calculated Bonded Phase Coverage (µmole/m ²)	End Capping
Ultracarb C8	Spher. 5	60	0.80	550	14, Monomeric	2.71	Yes
Ultracarb ODS (20)	Spher. 3, 5, 7	90	0.75	370	22, Monomeric	3.53	Yes
Ultracarb ODS (30)	Spher. 5, 7	60	0.80	550	31, Monomeric	4.06	Yes

App ID 5640 Isosorbide Dinitrate with Nitroglycerin

(USP XXI 5th Supplement, p. 2396)

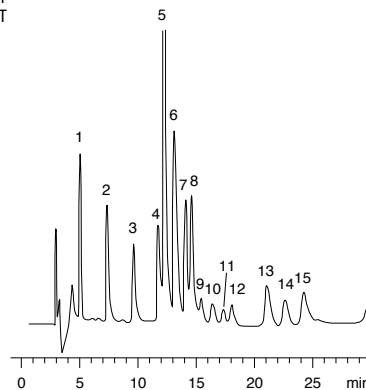
Column: Ultracarb 5 µm ODS (30)
Dimensions: 150 x 4.6 mm
Part No.: 00F-0351-E0
Mobile Phase: Water/0.05 M NH₄Ac pH 4.7/
Methanol (35:10:55)
Flow Rate: 1.0 mL/min
Detection: UV @ 220 nm
Sample: 1. Isosorbide Dinitrate 0.25 mg/mL
2. Nitroglycerin (IS) 0.48 mg/mL



App ID 5306 EPA 8330 - Explosives

(Chromatogram of Solid-Phase Extraction sample)

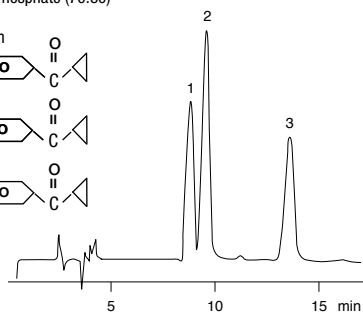
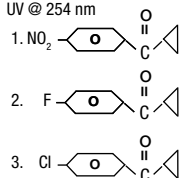
Column: Ultracarb 5 µm ODS(20)
Dimensions: 250 x 4.6 mm
Part No.: 00G-0206-E0
Mobile Phase: Methanol /Water (v/v)(55:45)
Flow Rate: 0.8 mL/min
Temperature: Ambient
Detection: UV @ 250 nm
Sample: 1. HMX
2. RDX
3. 1,3,5-TNB
4. 1,3-DNB
5. Tetryl
6. Nitrobenzene
7. 3,4-DNT
8. 2,4,6-TNT
9. 4-Amino-2,6-DNT
10. 2-Amino-4,6DNT
11. 2,6-DNT
12. 2,4-DNT
13. 2-NT
14. 4-NT
15. 3-NT



App ID 5633

Butyrophenone Related Compounds

Column: Ultracarb 5 µm ODS (30)
Dimensions: 150 x 4.6 mm
Part No.: 00F-0351-E0
Mobile Phase: Acetonitrile/4 mM Ammonium Phosphate (70:30)
Flow Rate: 0.8 mL/min
Detection: UV @ 254 nm
Sample:



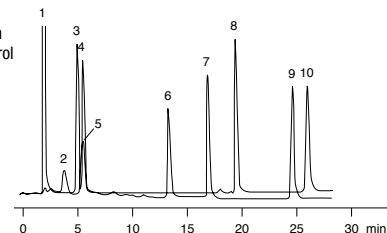
Chromatogram courtesy of Colleen Shea, Joanna Fowler, and Alfred Wolf, Chemistry Dept., Brookhaven National Laboratory, Upton, NY.

App ID 5635

Gibberellins

Column: Ultracarb 5 µm ODS (30)
Dimensions: 250 x 4.6 mm
Part No.: 00G-0351-E0
Mobile Phase: A: 0.05 M NaH₂PO₄, 0.01 M TEA, pH 2.6
 B: Acetonitrile
Gradient: 30 % B to 70 % B
Flow Rate: 1.0 mL/min
Detection: UV @ 254 nm
Sample:

- Caffeic Acid
- Quercetin-3-glucuronide
- GA3
- Astilbin
- GA1
- Quercetin
- Kaempferol
- GA4
- Galangin
- GA9



ORDERING INFORMATION

SecurityGuard™ Analytical Cartridges require universal holder Part No.: KJO-4282

Phases	Microbore, Minibore and MidBore™ Columns (mm)					Guards	SecurityGuard™ Cartridges	
	150 x 1.0	150 x 2.0	250 x 2.0	150 x 3.2	250 x 3.2	30 x 1.0	4 x 2.0 mm* /10pk	4 x 3.0 mm* /10pk
3 µm ODS (20)	00F-0205-A0	00F-0205-B0	—	00F-0205-R0	00G-0205-R0	—	AJO-4286	AJO-4287
5 µm C8	—	—	—	00F-2134-R0	00G-2134-R0	—	AJO-4289	AJO-4290
5 µm ODS (20)	—	00F-0206-B0	00G-0206-B0	00F-0206-R0	00G-0206-R0	—	AJO-4286	AJO-4287
5 µm ODS (30)	00F-0351-A0	00F-0351-B0	—	00F-0351-R0	00G-0351-R0*	03A-0351-A0	AJO-4286	AJO-4287

for ID: 2.0-3.0 mm

3.2-8.0 mm

Phases	Analytical, Semi-Preparative and Preparative Columns (mm)					SecurityGuard™ Cartridges	
	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	250 x 10	4 x 3.0 mm* /10pk	10 x 10 mm‡ /3pk
3 µm ODS (20)	00B-0205-E0	00D-0205-E0	00F-0205-E0	00G-0205-E0	—	AJO-4287	AJO-7221
5 µm C8	00B-2134-E0	00D-2134-E0	00F-2134-E0	00G-2134-E0	—	AJO-4290	AJO-7222
5 µm ODS (20)	00B-0206-E0	00D-0206-E0	00F-0206-E0	00G-0206-E0	—	AJO-4287	AJO-7221
5 µm ODS (30)	00B-0351-E0	00D-0351-E0	00F-0351-E0	00G-0351-E0*	00G-0351-N0*	AJO-4287	AJO-7221
7 µm ODS (20)	—	—	—	00G-0320-E0	—	AJO-4287	AJO-7221
7 µm ODS (30)	—	—	00F-0352-E0	00G-0352-E0	00G-0352-N0	AJO-4287	AJO-7221

for ID: 3.2-8.0 mm

9-16 mm



***IMPORTANT:** Phenomenex highly recommends the use of 150 mm column length, as opposed to the “traditional” 250 mm column length, when the 5 µm ODS (30) phase is desired. In those cases when the additional retention and resolution of a 250 mm column is desired, please be aware that column backpressure with Ultracarb 5 µm ODS (30) can be 50 to 100 % higher than that experienced with “standard” ODS columns. This relatively high backpressure is a function of the hydrophobicity of the 5 µm ODS(30) phase; higher backpressure is completely “natural” with this phase and will have no ill consequence for the column.

*SecurityGuard™ Analytical Cartridges require holder, Part No.: KJO-4282
 †Semi-prep SecurityGuard™ Cartridges require holder, Part No.: AJO-7220



See p. 218 for SecurityGuard Cartridge Holders

HPLC

Ultracarb