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ACCLAIM CARBONYL RSLC COLUMNS QUICKSTART

Acclaim Carbonyl RSLC, 2.2 μ m, Analytical Column, 2.1 x 100mm (P/N 077972)

Acclaim Carbonyl RSLC, 2.2 μ m, Analytical Column, 2.1 x 150mm (P/N 077973)

Acclaim Carbonyl RSLC, 2.2 μ m, Analytical Column, 3.0 x 100mm (P/N 077974)

I. Overview

The Acclaim[®] Carbonyl columns are silica-based reversed phase columns designed specifically for superior resolution and high throughput separation for DNPH derivatives of aldehydes and ketones in such standard methods as EPA 554, EPA 8315, EPA 1667, EPA TO11, and CARB 1004.

II. Main Features

- Ideal selectivity for baseline resolution of all DNPH derivatives of aldehydes and ketones in various regulatory methods, including EPA 554, EPA 8315, EPA 1667, EPA TO11, and CARB 1004
- High efficiency for high throughput analysis
- Rugged columns with good lot-to-lot reproducibility

III. Specifications and Recommended Operational Parameters

Shipping solution: 70% acetonitrile in water
 Long term storage solution: 100% acetonitrile or methanol
 Aqueous compatibility: up to 95% aqueous

Particle Size	Column Dimensions	Maximum Pressure (bar)	Maximum Flow Rate (mL/min)	Typical Flow Rate (mL/min)	pH Range	Typical Temperature (°C)	Maximum Temperature (°C)
2.2 μ m	3.0 x 100mm	600	1.6	0.40 – 1.40	2.5 – 7.5	25 – 35	50
	2.1 x 150mm	800	1.0	0.25 – 0.75	2.5 – 7.5	25 – 35	50
	2.1 x 100mm	700	1.0	0.25 – 0.75	2.5 – 7.5	25 – 35	50

IV. Operational Guidelines

- The direction of flow is marked on the column.
- While it is not harmful to the column, reverse flow should be avoided except to attempt removal of inlet blockage (see “Column Care”).
- A new column is shipped in a solution of acetonitrile and water in 70:30 ratio. Initially, care should be taken to avoid any mobile phase that might cause a precipitate.
- Acclaim Carbonyl columns are compatible with aqueous mobile phases up to 95% and all common organic solvents.
- The use of a guard column and/or a pre-column filter is highly recommended whenever possible to protect the analytical column and extend its useful lifetime.
- Recommended operating pressures are column format dependent (see Table above for details).

V. Suggested Analytical Conditions

These are recommended starting points for method development. Depending on the gradient delay volume of your system, you may want to adjust the gradient start times or re-equilibration times.

Acetonitrile Conditions

These gradients are satisfactory for CARB 1004, EPA 554, EPA 1667, EPA TO11, and EPA 8315. For EPA 1667, the gradient is optional; you may use simply the initial isocratic conditions if there are no late-eluting interferences.

Column	Flow Rate (mL/min)	Temp. (°C)	Data Rate (Hz)	Inj. Volume (µL)	Gradient		
					Time (min)	% Acetonitrile	% Aqueous
2.2 µm, 2.1 x 150 mm	0.40	28	25	1	-4.5	52	48
					0.0	52	48
					8.3	52	48
					15.0	100	0
					18.0	100	0
2.2 µm, 2.1 x 100 mm	0.75	28	25	1	-1.7	52	48
					0.0	52	48
					2.9	52	48
					5.3	100	0
					6.2	100	0
2.2 µm, 3.0 x 100 mm	1.00	28	25	2	-3.0	52	48
					0.0	52	48
					4.4	52	48
					8.0	100	0
					9.8	100	0

Methanol Conditions

These gradients are satisfactory for EPA 554.

Column	Flow Rate (mL/min)	Temp. (°C)	Data Rate (Hz)	Inj. Volume (µL)	Gradient		
					Time (min)	% Methanol	% Aqueous
2.2 µm, 2.1 x 150 mm	0.50	42	25	1	-1.9	70	30
					0.0	70	30
					5.8	70	30
					8.9	100	0
					10.5	100	0
2.2 µm, 2.1 x 100 mm	0.50	42	25	1	-1.7	70	30
					0.0	70	30
					3.4	70	30
					5.5	100	0
					7.0	100	0
2.2 µm, 3.0 x 100 mm	0.75	42	10	2	-3.5	70	30
					0.0	70	30
					3.5	70	30
					7.0	100	0
					9.3	100	0