

# HPLC Application

ID No.: 21960

## EPA 554: Carbonyl Compounds in Drinking Water

**Column:** Kinetex® 5µm C18 100 Å, LC Column 150 x 4.6 mm, Ea

**Dimensions:** 150 x 4.6 mm ID

**Order No:** 00F-4601-E0

**Elution Type:** Gradient

**Eluent A:** Water

**Eluent B:** Acetonitrile

| Gradient Profile: | Step No. | Time (min) | Pct A | Pct B |
|-------------------|----------|------------|-------|-------|
|                   | 1        | 0          | 50    | 50    |
|                   | 2        | 15         | 0     | 100   |
|                   | 3        | 20         | 0     | 100   |

**Flow Rate:** 2 mL/min

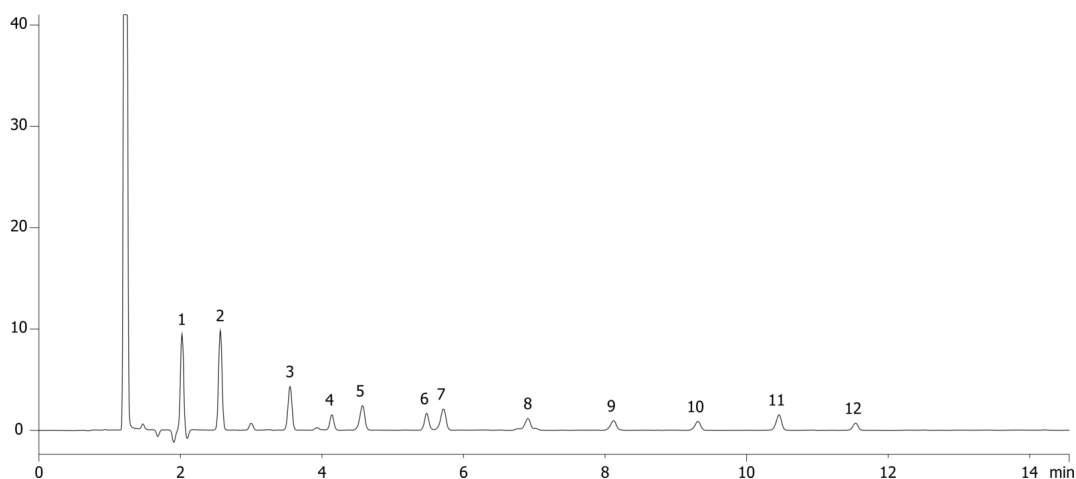
**Col. Temp.:** 30 °C

**Detection:** Electrospray Mass Spec (ESMS) @ 0.0000000000 (ambient)

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Products used in this application:



## EPA 554: Carbonyl Compounds in Drinking Water

### ANALYTES:

- 1** Formaldehyde
- 2** Acetaldehyde
- 3** Propanal
- 4** Crotonaldehyde
- 5** Butanal
- 6** Cyclohexanone
- 7** Pentanal
- 8** Hexanal
- 9** Heptanal
- 10** Octanal
- 11** Nonanal
- 12** Decanal



# Sample Preparation Details

for HPLC Application ID No.: 21960

## EPA 554: Carbonyl Compounds in Drinking Water

### PRODUCT DESCRIPTION:

Strata® C18-E (55 µm, 70 Å), 500 mg / 6 mL, Tubes , 30/Pk

Order No.: 8B-S001-HCH

### SOLID PHASE EXTRACTION (SPE) PROCEDURE:

**Note:** The solvent volumes shown below are for a 500 mg bed mass.

The solvent volumes will need to be adjusted for a smaller or larger bed mass.

#### Condition:

#### Load:

#### Wash:

#### Dry:

#### Elute:

#### Final Prep and Analysis:

After elution Q.S. to 10 mL with ethanol before injection

Inject: 0 µL on HPLC Electrospray Mass Spec (ESMS) @ 0.0000000000 (ambient)

#### ANALYTES:

|                  | Spiked Conc.<br>(ng/mL) | Log P | pKa | % Rec | %RSC<br>(n=0) |
|------------------|-------------------------|-------|-----|-------|---------------|
| 1 Formaldehyde   | 250                     |       |     |       |               |
| 2 Acetaldehyde   | 250                     |       |     |       |               |
| 3 Propanal       | 250                     |       |     |       |               |
| 4 Crotonaldehyde | 250                     |       |     |       |               |
| 5 Butanal        | 250                     |       |     |       |               |
| 6 Cyclohexanone  | 250                     |       |     |       |               |
| 7 Pentanal       | 250                     |       |     |       |               |
| 8 Hexanal        | 250                     |       |     |       |               |
| 9 Heptanal       | 250                     |       |     |       |               |
| 10 Octanal       | 250                     |       |     |       |               |
| 11 Nonanal       | 250                     |       |     |       |               |
| 12 Decanal       | 250                     |       |     |       |               |

**Note:** This method is designed as a convenient starting point for further investigation and can be tailored to meet your extraction goals.  
Call your local Phenomenex Representative for assistance in method development and optimization techniques.

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