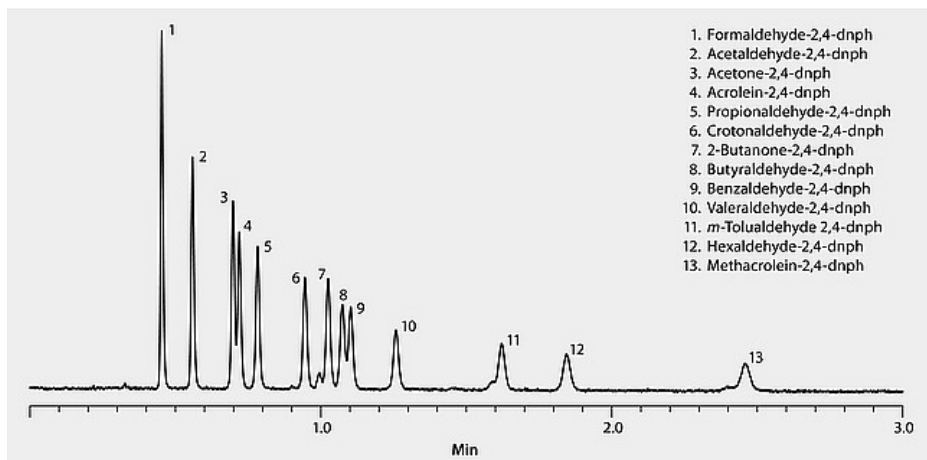


UHPLC Analysis of Aldehyde and Ketone DNPH Derivatives on Ascentis® Express C18



Conditions

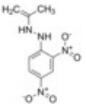
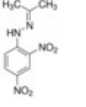






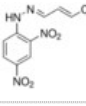





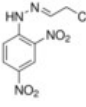
column	Ascentis Express C18, 10 cm x 2.1 mm I.D., 2.0 µm particles (50813-U)
column temp.	45 °C
mobile phase	[A] water; [B] acetonitrile; (40:60, A:B)
flow rate	0.8 mL/min
pressure	9520 psi (656 bar)
sample	CARB Method 1004 DNPH Mix 2 (47651-U) diluted 10:1 in 40:60, water:acetonitrile
injection	0.1 µL
detector	UV, 360 nm

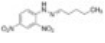
Description

Analysis Note	Environmental contaminants analyzed by this UHPLC separation are a standard mix of aldehydes and ketones as their DNPH derivatives. Formaldehyde is the target compound for US EPA Compendium Method TO-11A and Method 8315, but at least twelve other carbonyl compounds also can be detected and quantified.
Categories	Analytical Chromatography, Air Monitoring Applications, Aldehydes & Ketones
Featured Industry	Environmental Industrial Hygiene
Legal Information	Ascentis is a registered trademark of Sigma-Aldrich Co. LLC
suitability	application for UHPLC

Materials

Product #	Image	Description
442434		Acetaldehyde-2,4-DNPH analytical standard
CRM47340		Acetaldehyde-2,4-DNPH solution certified reference material, 1000 µg/mL acetonitrile, ampule of 1 mL
5.33001		Acetic acid 100% for LC-MS LiChropur™
CRM4M7341		Acetone-2,4-DNPH solution certified reference material, 1000 µg/mL in acetonitrile, ampule of 5 x 1 mL

Product #	Image	Description	Add to Cart
CRM47341		Acetone-2,4-DNPH solution certified reference material, 1000 µg/mL in acetonitrile, ampule of 1 mL	
442436		Acetone-2,4-DNPH analytical standard	
1.00029	CH ₃ CN	Acetonitrile hypergrade for LC-MS LiChrosolv®	
BCR548		Acrolein-2,4-dinitrophenylhydrazone BCR® certified Reference Material	
442441		Acrolein-2,4-DNPH analytical standard	
CRM47342		Acrolein-DNPH solution certified reference material, 1000 µg/mL in acetonitrile (as the aldehyde), ampule of 1 mL	
73594		Ammonium acetate for mass spectrometry, LiChropur™, eluent additive for LC-MS	
70221		Ammonium formate eluent additive for LC-MS, LiChropur™, ≥99.0%	
50813-U		Ascentis® Express C18, 2 µm UHPLC Column 2 µm particle size, L × I.D. 10 cm × 2.1 mm	
CRM47343		Benzaldehyde-DNPH solution certified reference material, 100 µg/mL in acetonitrile (as the aldehyde), ampule of 1 mL	
442339		2-Butanone-2,4-dinitrophenylhydrazone analytical standard	
442504		Butyraldehyde-2,4-DNPH analytical standard	
CRM47345		Butyraldehyde-DNPH solution certified reference material, 1000 µg/mL in acetonitrile (as the aldehyde), ampule of 1 mL	
429651		Crotonaldehyde-2,4-dinitrophenylhydrazone analytical standard, for environmental analysis	
442529		Crotonaldehyde-2,4-DNPH analytical standard	
CRM47175		Crotonaldehyde-DNPH solution certified reference material, TraceCERT®, 100 µg/mL in acetonitrile (as the aldehyde), ampule of 1 mL	
442597		Formaldehyde-2,4-DNPH analytical standard	
CRM47177		Formaldehyde-DNPH solution certified reference material, TraceCERT®, 100 µg/mL in acetonitrile (as aldehyde), ampule of 1 mL	
CRM4M7177		Formaldehyde-2,4-DNPH Solution certified reference material, TraceCERT®, 100 µg/mL in acetonitrile (as aldehyde), ampule of 5 × 1 mL	
5.33002		Formic acid 98% - 100% for LC-MS LiChropur™	
CRM47180		Methacrolein-2,4-DNPH Solution certified reference material, 100 µg/mL in acetonitrile, ampule of 1 mL	
1.06035	CH ₃ OH	Methanol hypergrade for LC-MS LiChrosolv®	
5.43841	KH ₂ PO ₄	Potassium dihydrogen phosphate anhydrous for HPLC LiChropur™	
442768		Propionaldehyde-2,4-DNPH analytical standard	
CRM47181		Propionaldehyde-DNPH solution 1000 µg/mL in acetonitrile (as the aldehyde), ampule of 1 mL	

Product #	Image	Description
69372		Triethylammonium acetate buffer for HPLC, 0.98-1.02 M
442834		Valeraldehyde-2,4-DNPH analytical standard
CRM47185		Valeraldehyde-DNPH solution certified reference material, 100 µg/mL in acetonitrile (as the aldehyde), ampule of 1 mL
1.15333	H ₂ O	Water for chromatography (LC-MS Grade) LiChrosolv®