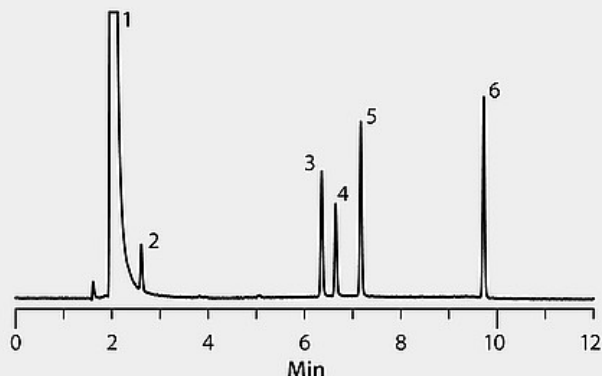


HPLC Analysis of Derivatized Diisocyanates on Ascentis® Express RP-Amide

1. 1-(2-Pyridyl)piperazine (1-2PP)
2. 1-(2-Pyridyl)piperazine (1-2PP)
3. *N,N'*-(2-Methyl-1,3-phenylene)bis(4-(2-pyridinyl)-1-piperazinecarboxamide) (derivative of 2,6-TDI)
4. *N,N'*-1,6-Hexanediybis(4-(2-pyridinyl)-1-piperazinecarboxamide) (derivative of 1,6-HDI)
5. *N,N'*-(4-Methyl-1,3-phenylene)bis(4-(2-pyridinyl)-1-piperazinecarboxamide) (derivative of 2,4-TDI)
6. *N,N'*-(Methylenediphenylene)bis(4-(2-pyridinyl)-1-piperazinecarboxamide) (derivative of 4,4'-MDI)



Conditions






column	Ascentis Express RP-AMIDE 15 cm x 4.6 mm, 2.7 µm particles (53931-U)
column temp.	26 °C
mobile phase	[A] 50mM Ammonium Acetate; [B] Acetonitrile
gradient	30% B held for 1.5 min; 30 to 60% B in 10 min; held at 60% B for 5 min
flow rate	0.8 mL/min for 1.5 min; 0.8 mL/min to 1.5 mL/min in 10 min.
sample	125 µg/mL 1-2PP + 10 µg/mL 2,6-TDIP + 10 µg/mL 1,6-HDIP + 10 µg/mL 2,4-TDIP + 10 µg/mL 4,4'-MDIP in 70:30 Water:ACN
injection	5 µL
detector	UV, 254 nm

Description

Analysis Note	This application shows the separation of four common derivatized diisocyanate compounds related to the use of ORBO80 filters on fused core technology.
Categories	Analytical Chromatography, Air Monitoring Applications, Isocyanates
Featured Industry	Environmental
Legal Information	Ascentis is a registered trademark of Sigma-Aldrich Co. LLC
suitability	application for HPLC

Materials

Product #	Image	Description
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Product #	Image	Description
5.33001		Acetic acid 100% for LC-MS LiChropur™
1.00029	CH_3CN	Acetonitrile hypergrade for LC-MS LiChrosolv®
73594		Ammonium acetate for mass spectrometry, LiChropur™, eluent additive for LC-MS
70221		Ammonium formate eluent additive for LC-MS, LiChropur™, ≥99.0%
53931-U		Ascentis® Express RP-Amide, 2.7 µm HPLC Column 2.7 µm particle size, L × I.D. 15 cm × 4.6 mm
5.33002		Formic acid 98% - 100% for LC-MS LiChropur™
1.06035	CH_3OH	Methanol hypergrade for LC-MS LiChrosolv®
48144		<i>N,N'</i> -(2-Methyl-1,3-phenylene)bis(4-(2-pyridinyl)-1-piperazinecarboxamide) (derivative of 2,6-TDIP) certified reference material
48145		<i>N,N'</i> -(4-Methyl-1,3-phenylene)bis(4-(2-pyridinyl)-1-piperazinecarboxamide) (derivative of 2,4-TDIP) certified reference material, 1000 µg/mL in DMSO (as the derivative)
5.43841	KH_2PO_4	Potassium dihydrogen phosphate anhydrous for HPLC LiChropur™
69372		Triethylammonium acetate buffer for HPLC, 0.98-1.02 M
1.15333	H_2O	Water for chromatography (LC-MS Grade) LiChrosolv®