

# Separation of Metformin and Related Impurities

## ZIC®-HILIC

### Chromatographic Conditions

Column: SeQuant® ZIC®-HILIC 250×4.6 mm, 5.0 μM, 200 Å 1.51458.0001  
 Injection: 10 μL  
 Detection: Shimadzu LC-10, UV 218 nm  
 Cell: 10 μl  
 Flow Rate: 1.5 mL/min

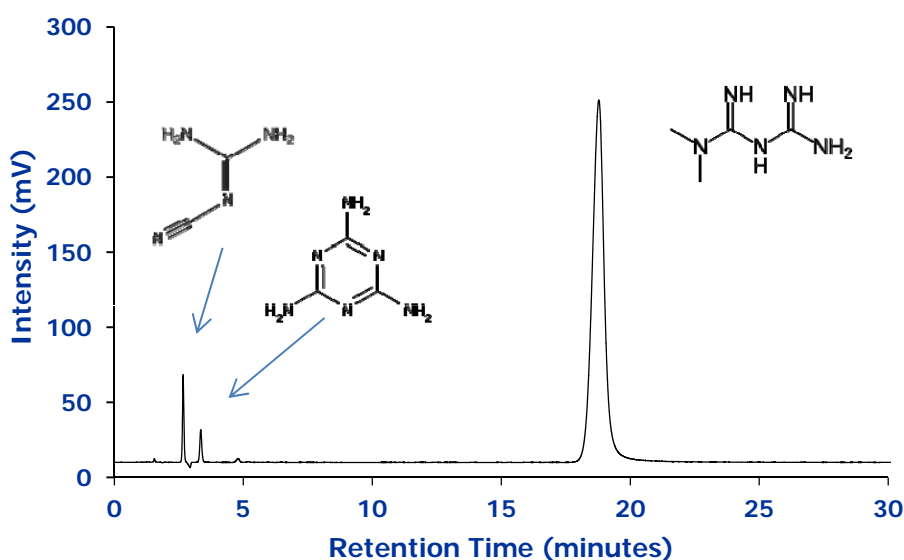
Mobile Phase: Buffer: Dissolve 0.77 g of ammonium acetate in 1000 ml water (10 mM).  
 Mix Acetonitrile and Buffer 85:15 (v/v)

Temperature: 30 °C

Diluent: Mobile phase

Sample: 500 ppm metformin and 4 ppm of each impurity in mobile phase

Pressure Drop: 63 bar (913 psi)



### Chromatographic Data

No.	Compound	Time	Theoretical Plates	Tailing Factor
1	Cyanoguanidine	2.7	11209	1.1
2	Melamine	3.3	8937	1.1
3	Metformin	18.8	8042	1.0