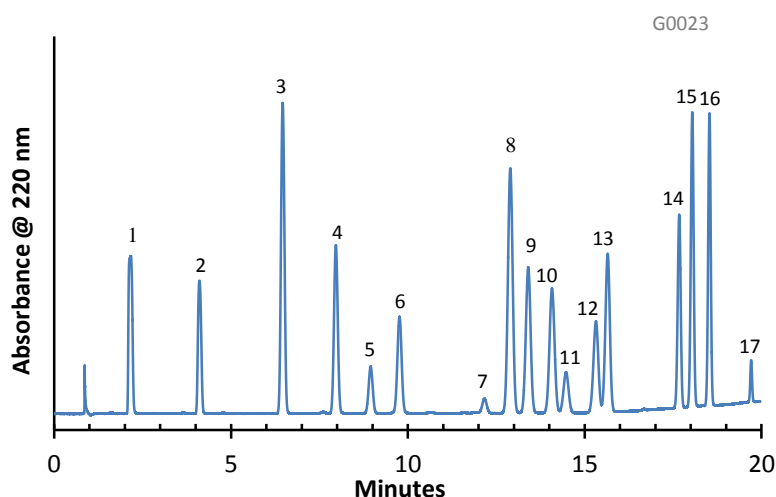


Separation of 17 Explosives on HALO C18, 2.7 µm Column



PEAK IDENTITIES:

1. HMX
2. RDX
3. 1,3,5-Trinitrobenzene
4. 1,3-Dinitrobenzene
5. 3,5-Dinitroaniline
6. Nitrobenzene
7. Nitroglycerin
8. Tetryl
9. 2,4,6-Trinitrotoluene
10. 2-Amino-4,6-Dinitrotoluene
11. 4-Amino-2,6-Dinitrotoluene
12. 2,4-Dinitrotoluene
13. 2,6-Dinitrotoluene
14. 2-Nitrotoluene
15. 4-Nitrotoluene
16. 3-Nitrotoluene
17. PETN (pentaerythritol tetranitrate)

TEST CONDITIONS:

Column: 4.6 x 150 mm, HALO C18, 2.7 µm

Part Number: 92814-702

Mobile Phase: A= water, B= Methanol

Gradient: Time	%B
0.0	25
14.0	35
20.0	62

Flow Rate: 1.5 mL/min.

Pressure: 366 bar to start, maximum: 405 bar

Temperature: 43°C

Detection: UV 220 nm, VWD

Injection Volume: 40 µL

Sample Solvent: 50/50: Water/methanol

Response Time: 0.02 sec.

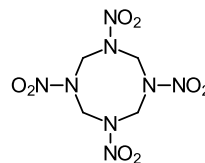
Data rate: 25 Hz

Flow Cell: 2.5 µL semi-micro

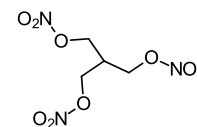
LC System: Shimadzu Prominence UFLC XR

ECV: ~14 µL

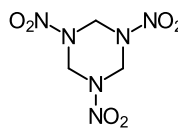
STRUCTURES:



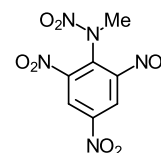
HMX



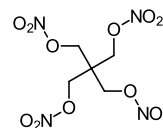
Nitroglycerin



RDX



Tetryl



Pentaerythritol Tetranitrate

The determination of explosives in the environment is outlined in EPA method 8330B and under the conditions recommended, requires two column phases to determine 17 compounds. However, all 17 explosive compounds can be separated on a HALO C18, 2.7 µm column in less than 20 minutes using a water/methanol gradient.