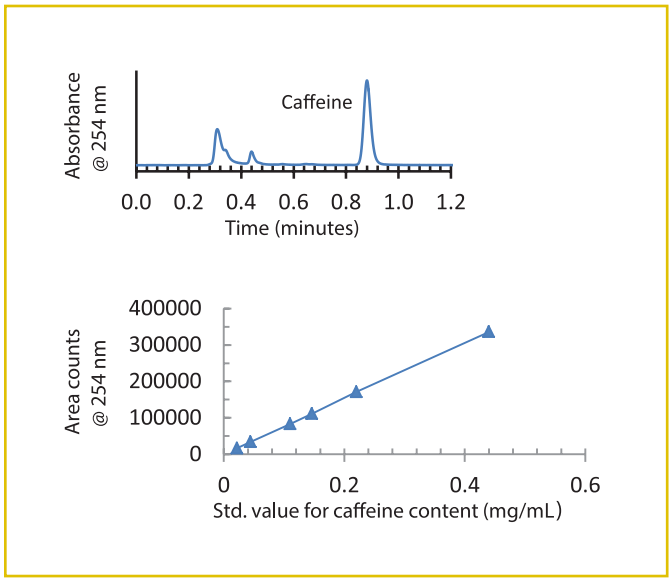
HALO®

FOOD / BEVERAGE

Determination of Caffeine in Soda Using HALO® C18, 5 µm

Application Note 145-F



Sample	Caffeine tested mg/(355 mL)	Can value mg/(355 mL)
Store brand cola 1	12	N/A
Cola 2	53	54
Cola 3	43	43
Cola 4	36	38
Cola 5	38	38
Store brand diet cola 1	12	N/A
Diet cola 2	45	46
Diet cola 3	34	34
Diet cola 4	36	35
Energy drink 1*	160	160
Energy drink 2**	79	80
Diet Energy drink**	79	80
Non-cola drink 1	53.3	54
Non-cola drink 2	22	22
Diet non-cola drink	43	41
Diet cola 1 non caffeinated	0	N/A
Diet cola 2 non-caffeinated	0	N/A
Diet cola 3 non-caffeinated	0	N/A

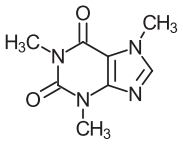
355 mL = 12 oz.
*amount in 16 oz. (473 mL) cans
**amount in 8.4 oz (248 mL) cans

Caffeine is a stimulant found at various levels in coffee, colas, and energy drinks. HPLC is a convenient way to determine the amount of caffeine present. Here, sodas were analyzed by direct injection onto a 5 µm HALO® C18 column after decarbonation. A guard column should be used in this application.

TEST CONDITIONS:

Column: HALO 90 Å C18, 5 µm, 3.0 x 50 mm, HALO 5 µm guard column
Part Numbers: 95813-402, 95813-102
Mobile Phase: 75/25 - A/B
A: 0.1% formic acid in water
B: Methanol
Flow Rate: 0.8 mL/min
Pressure: 120 bar
Temperature: 30 °C
Detection: UV 254 nm, VWD
Injection Volume: 1.0 µL
Sample Solvent: (Caffeine std.) mobile phase
Response Time: 0.02 sec
Data Rate: 25 Hz
Flow Cell: 2.5 µL semi-micro
LC System: Shimadzu Prominence UFLC XR
Extra Column Volume: ~14 µL

STRUCTURE:



Caffeine