

Application Note

Environmental

Analysis of low ppm levels of ethylene, propylene and methanol in water using direct injection

The process unit requires the analyses of the cooling water samples for ethylene and propylene every week to check for leaks in the cooling towers. The polyethylene unit injects methanol into one of the hydrocarbon streams, which is removed by water. The methanol level of this water has to be analyzed daily before it can be put into the drainage system.



Conditions	
Technique	GC FID
Column	SCION-PLOT Q, 0.53 mm x 25 m, df = 20 µm (Part no. SC35102)
Temperature	35 °C (5 min) → 75 °C, 10 °C/min; 75 °C → 200 °C, 25 °C/min
Carrier Gas	He, 7 mL/min
Injector	Direct T = 100 °C
Detector	FID T = 250 °C
Sample Size	0.3 µL, plunger in needle syringe
Concentration Range	8 - 27 ppm

Peak Identification		
1	ethylene	8.8 ppm
2	propylene	5.4 ppm
3	methanol	27.1 ppm

