



Volatile Organic Compounds (VOC) in Whole Blood GC-MS Analysis Kit

Volatile organic compounds (VOCs) are chemicals that are widely used in industrial processes and are important due to their risks to human health. VOCs, which pose potential safety and environmental problems, are generally emitted through the air from volatile compounds or products containing them. The presence of VOCs in the blood at levels above the exposure limit is extremely harmful to health. Due to its toxic effects, exposure assessment is required. Detection of volatile organic compounds in the blood sample is very important to determine the exposure level.

Highlights of the Analysis Kit



Simple sample preparation without SPE or evaporation



Total run time is 12.0 min.



Long life span of GC column

Parameters

VOCs; methanol, ethanol, acetone, isopropanol

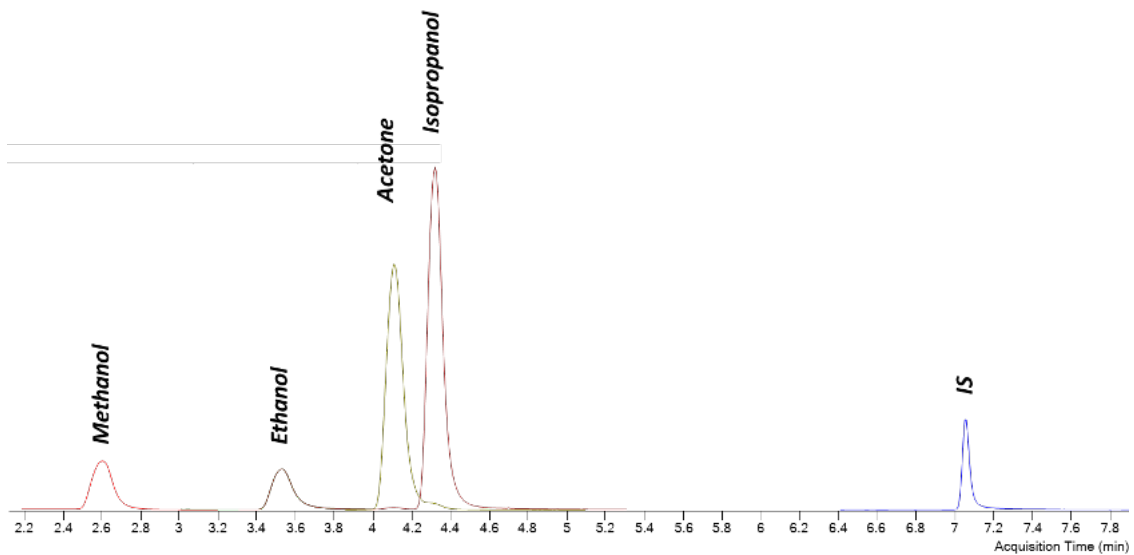
Sample Type

Whole blood

Sample Preparation

1	Take 200 µl whole blood/calibrators/controls sample into a headspace vial
2	Add 400 µl Reagent-1 and immediately cap the headspace vial
3	Inject to GC system.

Example Chromatogram



Example chromatogram of VOCs

Method Performance

All results were obtained using Agilent 8890B GC 5977B MSD instrument

Analytes	LOQ (mg/L)	Linearity (mg/L)	Recovery		Repeatability			
			LLQC* (%)	HLQC** (%)	intra-day		inter-day	
					LLQC (%CV)	HLQC (%CV)	LLQC (%CV)	HLQC (%CV)
Methanol	0.65	1.93 – 1975.52	99	101	2.1	1.8	1.36	0.79
Ethanol	1.01	1.92 – 1968.56	103	98	2.5	2.6	4.11	1.64
Acetone	1.05	1.93 – 1973.55	105	101	3.3	1.7	3.85	1.35
Isopropanol	1.03	1.91 – 1952.69	98	99	3.2	1.3	1.28	1.95

* LLQC: Low-level quality control

**HLQC: High-level quality control



Altium International Laboratuvar Cihazları A.Ş.
Barbaros Mah. Temmuz Sk. No:6 Altium Plaza Ataşehir, İstanbul
T: +90 216 571 02 00 F: +90 216 571 02 02

www.jasem.com.tr