

# Analysis of Acetone, n-Hexane, MIBK, MNBK, and MIBC Using the Agilent 490 Micro GC

# **Application Note**

Micro Gas Chromatography, Environmental Analysis

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## Introduction

This application note shows the analysis of Aceton, n-Hexane, Methyl iso-Butyl Ketone (MIBK), Methyl iso-Butyl Carbinol (MIBC), and Methyl n-Butyl Ketone (MNBK, 2-Hexanone) using the Agilent 490 Micro GC.

To decontaminate a polluted soil environment, steam is injected into the ground. The contaminants will evaporate from the soil and the steam is collected and cleaned. The 490 Micro GC is used to monitor this decontamination process.

The initial soil sample, including the contaminants, is collected and handled by a processing plant. This system, designed and build by Analytical Solutions and Products (ASaP) in the Netherlands, separates the gas from the soil sample. The final gas sample, containing the contaminations in ppm range, high concentration of ambient air, and some moisture vapor, is analyzed by the 490 Micro GC. The compounds of interest can be separated on both a CP-Sil 5 CB column channel and a CP-Wax 52 CB column channel.

The Agilent 490 Micro GC is a rugged, compact and portable lab-quality gas analysis platform. When the composition of gas mixtures is critical, count on this fifth-generation micro gas chromatography.



#### Instrumentation

For this analysis, an Agilent 490 Micro GC (p/n G3581A), equipped with a CP-Sil 5 CB and CP-Wax 52 CB, is used to analyze the compounds of interest.

		CP-Wax 52 CB, 10m
	CP-Sil 5 CB, 4m	(special)
Column temperature	60 °C	60 °C
Carrier gas	Helium, 200 kPa	Helium, 200 kPa
Injector temperature	60 °C	60 °C
Injection time	200 ms	200 ms
Sample line temperature	60 °C	60 °C

#### Sample information

Nitrogen/Oxygen (Air)	Matrix
Acetone	64 ppm
n-Hexane	15 ppm
Methyl iso-Butyl Ketone (MIBK)	250 ppm
Methyl iso-Butyl Carbinol (MIBC)	73 ppm
Methyl n-Butyl Ketone (MNBK)	20 ppm





CP-Wax 52 CB

#### **For More Information**

These data represent typical results. For more information on our products and services, visit our Web site at www.agilent.com/chem.

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