

Low ppm Level Sulfur Dioxide Analysis in Air Using the Agilent 490 Micro GC

Application Note

Micro Gas Chromatography, Environmental Analysis, Sulfur Analysis

Author

Remko van Loon,
Agilent Technologies,
Middelburg,
The Netherlands



Introduction

Sulfur dioxide is a toxic gas with a pungent, irritating, and rotten smell. It is a naturally occurring compound, and is found in the atmosphere in low ppb levels. However, sulfur dioxide is a major air pollutant, and has significant impacts upon human health. Sulfur dioxide is primarily produced from the combustion of elemental sulfur for the manufacturing of other chemicals such as sulfite salts, sulfuric acid, and sulfur dioxide. It could also be used as a preservative for dried fruits and as a reducing agent.

This application note demonstrates the low ppm-level analysis of sulfur dioxide (SO_2) in ambient air using the Agilent 490 Micro GC. Using a CP-Sil 19 CB column type, SO_2 is separated from the air matrix, which consists mainly of oxygen, nitrogen, carbon dioxide, and moisture.

The 490 Micro GC delivers lab-quality separations in an ultra-compact, portable instrument. The use of micro-machined parts (MEMS-based) results in fast analysis. The total analysis is done in 40 seconds. The 490 Micro GC generates more data in less time for faster and better business decisions.

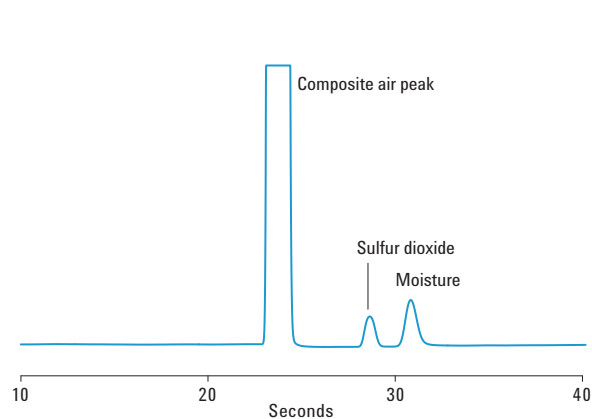


Agilent Technologies

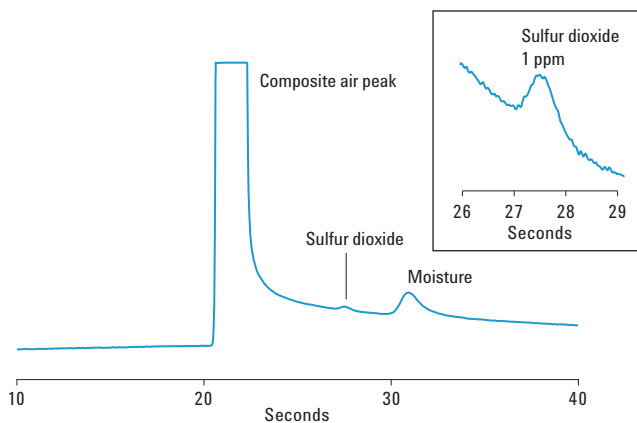
Instrumentation

Instrument	Agilent 490 Micro GC (G3581A)
Column channel	CP-Sil 19 CB, 6 meter
Column temperature	40 °C
Carrier gas	Helium, 100 kPa
Injection time	200 msec

Chromatogram – 150 ppm



Chromatogram – 1 ppm



For More Information

For more information on our products and services visit our Website at www.agilent.com/chem.

www.agilent.com/chem

For Research Use Only. Not for use in diagnostic procedures.

Agilent shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Information, descriptions, and specifications in this publication are subject to change without notice.

© Agilent Technologies, Inc., 2014, 2016
Published in the USA
May 23, 2016
5991-5171EN