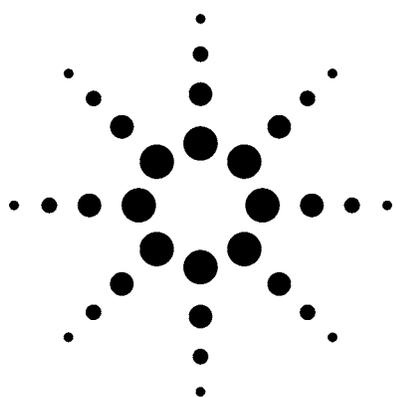


# Agilent Model 355 Sulfur Chemiluminescence Detector (SCD): Sulfur Dioxide in Beer



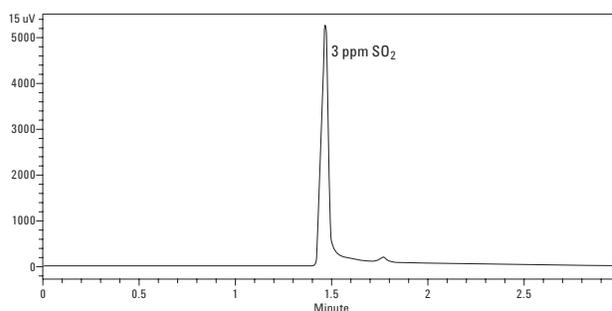
## Technical Overview

### Introduction

Sulfur dioxide (SO<sub>2</sub>) is important in the brewing process. The detection of SO<sub>2</sub> in beer can be performed rapidly using headspace gas chromatography and sulfur chemiluminescence detection.

SO<sub>2</sub> is produced in small amounts during the brewing process, usually at concentrations of < 10 ppm. These small concentrations of SO<sub>2</sub> are desirable to help retard oxidative changes that can impair fresh beer flavor and shorten the shelf life. Because this naturally occurring SO<sub>2</sub> can be lost during the brewing process, some brewers will add sulfite to increase the SO<sub>2</sub> concentration. A concentration of > 20 ppm, however, will produce a sharp biting sulfurous odor, and if the concentration of SO<sub>2</sub> exceeds 10 ppm at the time of packaging the brewer must declare the sulfite content on the label. By using headspace gas chromatography and the Agilent 355 Sulfur Chemiluminescence Detector (SCD), a rapid analysis and quantification of SO<sub>2</sub> can be performed. The technique provides the sensitivity, selectivity, and linear response required to analyze SO<sub>2</sub> successfully.

**Note:** Sulfur dioxide plays a similar role in wine production, hence the SCD can be used for this analysis as well.



### Chromatographic Conditions

Injector temperature:	120 °C
Initial temperature:	150 °C (isothermal)
Injection type:	Splitless
Injection volume:	1 mL headspace
Column flow:	1.0 mL/minute
Column type:	Supelco SPB-1
Column length:	30 m
Internal diameter:	0.32 mm
Film thickness:	4 µm

### For More Information

For more information on our products and services, visit our Web site at [www.agilent.com/chem](http://www.agilent.com/chem).



Agilent Technologies

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. 2007

Printed in the USA  
July 10, 2007  
5989-6780EN