

Keywords

Benzene
Diesel
Gasoline
Model 5380
Natural Gas
Petrochemical
PFPD
Propane
Pulsed Flame Photometric
Detector
Sulfur
Thiophene

By L. Chambers and M.L. Duffy.
Reprinted with permission by
*Journal of Chromatographic
Science*, November 2003.

**Determination of Total and Speciated Sulfur
Content in Petrochemical Samples Using a
Pulsed Flame Photometric Detector**

Abstract

The pulsed flame photometric detector (PFPD) has the advantage of being able to measure the concentration of individual sulfur compounds and total sulfur content in a petrochemical sample in a single gas chromatography run. Because it is an equimolar response detector, the PFPD's sulfur response is independent of a compound's molecular structure, and this feature allows quantitation of the total and speciated sulfur content in complex samples using a single calibrant. This paper is a survey describing a variety of applications using the PFPD for sulfur quantitation in petrochemical matrices. Several different approaches to quantitation are described, and simple techniques for circumventing the quenching of the sulfur signal by coeluting hydrocarbon peaks are discussed. Examples from a range of real-world samples are presented.¹

¹*Journal of Chromatographic Science*, 2003, 41 (10), 528–534.

Request a reprint of this article by sending an e-mail to:
oimail@oico.com.

