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16 February 1996

**Committee D02 on Petroleum Products and Lubricants
Subcommittee D02.04 on Hydrocarbon Analysis**

Research Report D02-1382

**Interlaboratory Study to Establish Precision Statements for ASTM
D5769, Standard Test Method for Determination of Benzene, Toluene,
and Total Aromatics in Finished Gasolines by Gas
Chromatography/Mass Spectrometry**

ASTM International
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TITLE:

Committee D-02 on Petroleum

RR: D-02 xxxx

Interlaboratory Test Study for the Determination of Oxygenates, Benzene, Toluene, C6-C12 Aromatics in Finished Gasoline By Gas Chromatography/Fourier Transform Spectroscopy

INTRODUCTION:

The objective of this round robin was to develop precision data for the above components. The method potentially can be used as a specification for gasolines to meet regulatory, such as EPA and CARB (California), testing. The advantage of this method is that one instrument can analyze for three gasoline specifications: benzene, total aromatics and oxygenate additives (MTBE etc.) in gasolines. The round robin was coordinated by F. P. DiSanzo of Mobil Research who also acted as the ASTM study group chairman.

TEST METHOD:

A copy of the original method used for the round robin is attached (Draft #1).

RR PARTICIPANTS:

The following labs participated in the round robin. Data from all of the labs was used for the statistics:

<i>LAB</i>	<i>PARTICIPANT CONTACT</i>
Hewlett-Packard, Little Falls, DE	Vince Giarrocco
California Air Resource Board (CARB), El Monte, CA	Paul Rieger
Mobil Research, Paulsboro, NJ	F.P. Di Sanzo
USEPA, Ann Arbor, MI	Bruce Kolowich
Mobil Torrance Refinery, Torrance, CA	Phil Talavera
Texaco Research, Beacon, NY	Jim McCann

RR INSTRUCTIONS:

Instruction sent out to the participants is attached in this report. Modification to the instrument operation were made after sending out the first draft of the method but before initiating sample testing. The modifications (attached) were faxed to the individuals. Instructions were also sent out on a reference materials (RF-A) for setting up the aromatics portion of the method. Individuals were given the concentration of 38 +/-2 mass % total aromatics for RF-A and had to meet the specification prior to the analyses of samples. Reference materials for oxygenates were also provided with the instructions (attached)

RR DATA:

All of the round robin data is attached to this report.

STATISTICS:

Precision calculations were performed by Dave Lawery. All finished calculations are attached in this report.

F. P. Di Sanzo
Paulsboro, NJ 1/16/96