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29 July 1997

**Committee D16 on Engine Coolants  
Subcommittee D16.02 on Oxygenated Aromatics**

**Research Report D16-1021**

**Interlaboratory Study to Establish Precision Statements for ASTM  
D6142, Standard Test Method for Analysis of Phenol by Capillary Gas  
Chromatography**

ASTM International  
100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959

COMMITTEE D16 ON AROMATIC HYDROCARBONS  
AND RELATED CHEMICALS

RR: D16:

Interlaboratory Study for the Analysis of Phenol by Capillary Gas Chromatography (ASTM D6142)

Introduction: This study was performed in order to establish an ASTM Test Method for the analysis of phenol by capillary gas chromatography (in contrast to the packed column method, D4961). The method uses an internal standard to measure the level of impurities (mg/kg) commonly found in phenol.

Test Method: Included is a copy of the original information and draft test method sent to participating laboratories.

Participating Laboratories:

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Data and Summary: Included are the calculated values from each laboratory and the statistics using E691 software.

Submitted by,



J. Frank Tate  
Aristech Chemical Co.  
July, 1997

Dear

I am sending 3 phenol samples to you under separate cover as we have discussed. These samples are for ASTM D16.0C.01 Interlaboratory Study ("round-robin") for the capillary GC analysis of phenol. For each sample, please observe the following protocol:

1. Do not exceed 55-60°C when melting the sample.
2. For each analysis, do the complete sample preparation steps (rather than injecting the same preparation several times).
3. For each sample, do at least 3 analyses in the shortest practical time period. Different samples may be run on different days, but ASTM desires that any one sample be replicated as closely together as possible.
4. Please fill out the Instrument Parameters sheet as completely as possible.
5. Fill out the Data Sheet to the nearest 0.1 ppm for statistical purposes.
6. Please return both sheets, all chromatograms, and all raw data (including peak areas or heights) to me at the address indicated below.

If you can complete the analyses and return the data to me within 2 weeks of receipt of the samples, it will be greatly appreciated. That may give us enough time to present the statistical findings at the June 21 meeting of D16.0C in Indianapolis.