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**Committee D02 on Petroleum Products and Lubricants  
Subcommittee D02.03 on Elemental Analysis**

**Research Report D02-1615**

**Interlaboratory Study to Establish Precision Statements for ASTM  
D7318, Test Method for Total Inorganic Sulfate in Ethanol by  
Potentiometric Titration**

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**1. Introduction:**

Interlaboratory Study 100 was conducted to establish a precision statement for D7318, Test Method for Total Inorganic Sulfate in Ethanol by Potentiometric Titration.

**2. Test Method:**

The Test Method used for this ILS is D7318-07. To obtain a copy of D3718, go to ASTM's website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service by phone at **610-832-9585** (8:30 a.m. - 4:30 p.m. Eastern U.S. Standard Time, Monday through Friday) or by email at [service@astm.org](mailto:service@astm.org).

**3. Participating Laboratories:**

The following laboratories participated in this interlaboratory study and provided statistically acceptable data:

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#### 4. Description of Samples:

The denatured ethanol for all samples was supplied by Broin, Inc. Samples 1-7 were spiked with known amounts of tetrabutyl ammonium bisulfite to produce sulfate at 0-20 mg/kg levels by ConocoPhillips. Samples 8-10 contained naturally-occurring sulfate added semi-quantitatively by Broin.

<u>Sample Number</u>	<u>Estimated Sulfate Concentration, mg/kg</u>
1	0.0
2	0.1
3	0.5
4	1.5
5	4.0
6	5.0
7	20.0
8	0.5
9	1.0
10	4.1

The blank denatured ethanol was purchased from Fisher Scientific, Corp. and was denatured with a ketone. All other samples were denatured with 1-4.5% natural gasoline.

Samples were packaged and shipped by ConocoPhillips. 10 oz. portions were shipped to all titration testing labs.

#### 5. Interlaboratory Study Instructions

Laboratory participants were e-mailed the test program instructions. For a copy of the instructions, please see Appendix A.

#### 6. Description of Equipment/Apparatus<sup>1</sup>:

<sup>1</sup> The equipment listed was used to develop a precision statement for D7318-07. This listing is not an endorsement or certification by ASTM International.

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