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1 October 2020

**Committee D16 on Aromatic Hydrocarbons and Related Chemicals
Subcommittee D16.02 on Oxygenated Aromatics**

Research Report: D16-1076

**Interlaboratory Study to Establish Precision Statements for ASTM
D7881, Determination of 4-Carboxybenzaldehyde and p-Toluic
Acid in Purified Terephthalic Acid by Capillary Electrophoresis
with Reverse Voltage Mode**

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1. Introduction/ Background:

This test method covers the determination of 4-carboxybenzaldehyde (4-CBA) and p-toluic acid (p-TOL) in purified terephthalic acid (PTA) by capillary electrophoresis (CE) with reverse voltage mode and UV detection. It is applicable for 4-CBA from 3 to 400 mg/kg and for p-TOL from 8 to 400 mg/kg, respectively.

2. Test Method:

2.1 The Test Method used for this ILS is D7881-19. To obtain a copy of D7823, go to ASTM's website, www.astm.org, or contact ASTM Customer Service by phone at 610-832-9585 (8:30 a.m. - 6:00 p.m. Eastern U.S. Standard Time, Monday through Friday) or by email at service@astm.org.

2.2 A PTA sample is dissolved in ammonium hydroxide. The 4-CBA, p-TOL and PTA dissociate and become homologous ions under basic conditions. A fixed amount of this solution is introduced into the capillary using hydrodynamic sampling or electrokinetic sampling. A voltage is applied to the capillary to separate the impurities, 4-CBA and p-TOL, from PTA. External standard calibration is used for quantification.

3. Participating Laboratories:

The following laboratories participated in this interlaboratory study:

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