NEWS BRIEF:

PHASE TECHNOLOGY

ASTM Biodiesel Specification Update

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Key Points:

- ASTM D5773 and D7397 (as used in Phase Technology 70X and CPA-T30 analyzers) are the only automatic methods for determining cloud point allowed in ASTM D6751, the specification used to control pure biodiesel (B100) quality prior to blending with conventional diesel type fuels.
- ASTM D5773 and D7397 (as used in Phase Technology 70X and CPA-T30 analyzers) are included as methods for determining cloud point in ASTM D7467, the specification that covers finished fuel blends of between six (B6) and twenty (B20) percent biodiesel for on- and off-road diesel engine use.

Market Implications:

Phase Technology's 70X and CPA-T30 are the world's only automatic analyzers which can be used to test cloud point in the production of biodiesel fuel blend stock, B100.

The CPA-T30 is the least expensive automatic cloud point analyzer available on the market. It offers convenience, ease-of-use, and quick, precise test results – all in a small, portable package. For biodiesel blenders, an onscreen "blends" function calculates approximate volume ratio of B100 and petroleum diesel fuel to obtain a desired target cloud point.

Phase Technology's 70X is a full-featured alternative for biodiesel and blends in circumstances wherein greater versatility is needed. The 70X is well-suited to higher volume situations, those wanting in-depth data and phase plot analysis, or labs that test a wider variety of biodiesel and petroleum fuels. The 70X can also be equipped to test other cold flow properties such as pour point or freezing point, making it the most versatile all-in-one cold flow analyzer available on the market today.

Background:

ASTM D6751 details quality specifications that pure biodiesel (B100) must meet before being blended with petroleum diesel fuels. It is generally comparable to the European standard EN 14214.

ASTM International has updated specification D6751 to include ASTM D7397, joining ASTM D5773 and ASTM 2500 (manual method) as allowed techniques for cloud point testing of biodiesel. Cloud point is the only cold flow property required before B100 can be released as a blending component.

The cloud point of biodiesel is the temperature at which it begins to gel due to the formation of wax crystals. For B100, cloud point varies significantly and depends upon the mix of feedstock used to produce the biodiesel.

Generally, B100 is not used to power motor vehicles; it is blended with other fuels. ASTM D6751 is critically important for biodiesel producers and blenders, but less of a consideration for downstream operations.

ASTM D7467 is a relatively new specification that applies to biodiesel/diesel blends of between six (B6) and twenty (B20) percent. These grades are suitable for various types of motorized diesel engines.

Under ASTM D7467, the biodiesel component must meet the requirements of ASTM D6751. The final blended product may also be tested for various properties, including cloud point. Since D7467 applies to product that is marketed to end users, it is believed that there will be new interest in biodiesel from vehicle manufacturers and consumers as they gain confidence in the adherence to accepted standards.