



ISO, CEN, and ASTM cooperative work in support of biofuel test methods

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1st Meeting of ISO/TC28/SC7 Rio de Janeiro, 29-30 January 2009
Resolution 7/2009

ISO/TC 28/SC 7 shall avoid duplicating standards of other standards organizations. SC 7 shall not start work in a technical area that is under development in another standards organization. If gaps in the standards portfolio are identified, SC 7 shall bring the gap to the attention of the existing international or regional standards organizations and shall consider independent action only when these existing organizations are unable or unwilling to address the gap.

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SC 7 shall prepare a template or questionnaire to ensure that all pertinent information from all test methods to be considered for study is obtained. The template shall be sent to the SC 7 Secretary for distribution to national member bodies for assistance in identifying analytical gaps in current test methods.



ASTM/D02 and CEN/TC19 already developed test methods to accomplish the requirements of the corresponding specifications for ethanol and biodiesel

Test methods developed according to:

- Specification requirements
- Limits
- Availability of instrumentations
- Technical expertise



Property	EN test method
Oxygenates	EN 15721 Gas chromatography
Involatiles	EN 15691 Gravimetry
Water	EN 15489 KF coulometry
	EN 15692 Potentiometry
Acidity	EN 15491 Titration



Contaminant	EN test method	Reference
Copper	EN 15488 GFAAS	IP 478
Phosphorus	EN 15487 Colorim.	ISO 6878
Sulfur	EN 15486 UVF	ISO 20846
	EN 15485 WDXRF	ISO 20884
Chloride	EN 15484 Potentiom.	ISO 6227
	EN 15492 Ion chrom.	-
Sulfate	EN 15492 Ion chrom.	-



ASTM/D02

CEN/TC19

D7318 Sulfate

Direct Potentiometric titration
with Pb-selective electrode

No equivalent

D7319-07 Sulfate&Chloride

Direct Ion Chromatography
(both potential&total sulfate, precision for each suppressor type)

No equivalent

D7328-07e1 Sulfate&Chloride

Aqueous Ion Chromatography
(both potential&total sulfate)

EN 15492

(sulfate only)



Possible interaction in method development/revision

Phosphorus, copper, and sulfur content by ICP OES

Method under development in D02/SC3
prEN 15387 on the way to formal vote in TC19

Chloride/sulfate by ion chromatography

Need of very low determination limits for EN 15376

Electrical conductivity prEN 15938



CEN work on ethanol blend E85

Adaptation of test method for ethanol to E85 blend

- Blend composition
alcohols
- Trace elements/species
sulfur, phosphorus, copper, chlorides, sulfates



CEN work based on product quality

- purity of biodiesel
 - revision of EN 14103 Ester content
 - revision of EN 14105 Glycerides and glycerol
- content of contaminants
 - revision of EN14107 Phosphorus content
- oxidation stability
 - development of test methods for diesel blends



ASTM D6751 Biodiesel Fuel Blend Stock (B100)

European standards reported in the specification

- | | |
|------------|--|
| EN 14112 | Oxidation stability |
| EN 14110 | Methanol content |
| EN 14538 * | Sodium + Potassium,
Calcium + Magnesium content |
| EN 14078 | FAME content (D7467 B6-B20 spec.) |

* New draft prepared by D02/SC3



Future CEN work (with possible interaction with ASTM)

- Sulfur content by ICP OES
- Oxidation stability (Petroxy method)
- Steryl glucosides content
- Total contamination
- Filterability
- Trace elements by ICP (as for diesel fuel)

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Thank you for your attention !