

## CERTIFICATE OF ANALYSIS

### CEC EXPERIMENTATION FUEL DF-92-02 (for HFRR Test)

#### HIGH LUBRICITY REFERENCE FUEL

**Batch-No.:** OC13513A14      **Tank:** Drum      **GMID:** 220279      **Date of Analysis:** 13.03.2000

Feature	Units	Result	Limits		Method
			Minimum	Maximum	
Density at 15°C	kg/m <sup>3</sup>	839,7	830	850	ISO 12185
Distillation					ISO 3405
I.B.P.	°C	185,2		Report	
- 10 % v/v	°C	214,7		Report	
- 50 % v/v	°C	267,9		Report	
- 90 % v/v	°C	334,4		Report	
F.B.P.	°C	365		370	
Flash Point	°C	71	61		ISO 2719
Aromatics	% v/v	27,2		Report	IP 391
Viscosity 40 °C	mm <sup>2</sup> /s	2,734		Report	EN ISO 3104
Sulfur Content	% m/m	0,277	0,25	0,3	EN 24260
Conradson Carbon	% m/m	<0,03		0,2	EN ISO 10370
Residue ( 10 % DR )					
Ash Content (tested by subcontractor)	% m/m	0,005		0,01	ISO 6245
Water Content	% m/m	0,006		0,05	ISO 12937
Oxidation Stability	mg/100ml	0,3		2,5	ISO 12205

**Parameters according to CEC-F-06-A-96 results of Round Robin Test:**

HCF	12	µm/kPa
WS1.4	420 +/- 36	µm

The lubricity reference fuel has to be approved in a round robin test of the CEC Working Group SG-F-006. The value and the limits for the wear scar and the humidity correction factor are estimated in the round robin.

Haltermann Products, Werk Hamburg,  
 Zweigniederlassung der DOW Olefinverbund GmbH  
 - Labor - Quality Manager  
 Christine Behrens



**This Certificate of Analysis applies to:**      **Date of Printing**      **26.02.2009**

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Date: <u>24.04.2009</u>	Signature: <u>K. Jacobi</u>

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