

Amalgamated Laboratories, Inc.
2965 West Osborn
Phoenix, AZ 85017
Phone: 602-252-0280 Fax: 602-252-0282 E-mail info@amalgatech.com

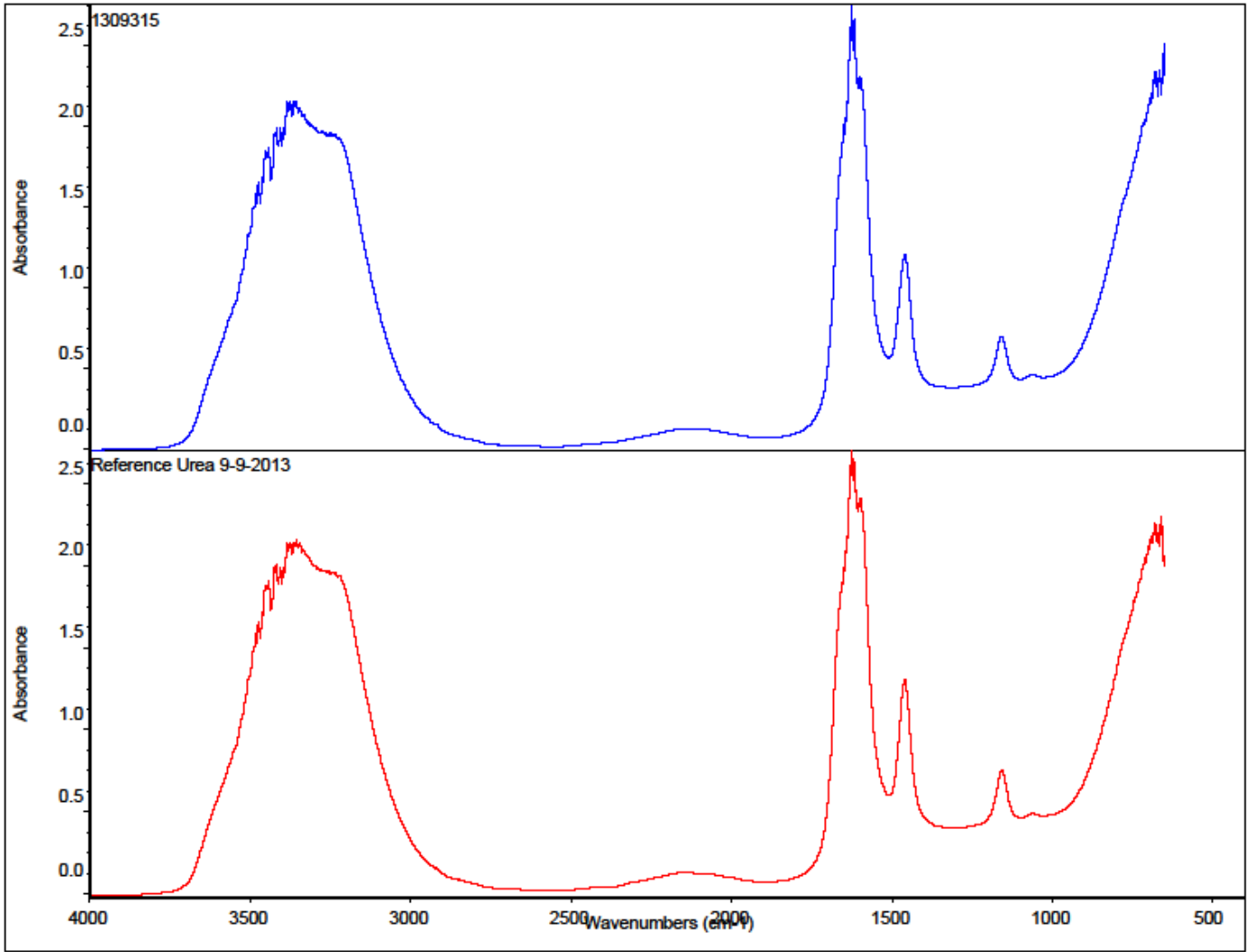
Contact:	Sharon Stegmuller	Sample ID	Lot #00025
Company:	DEF Products LLC	Batch #	32.5 DEF
Address:	422 W Barioni Blvd	Date sampled	9/16/2013
City, ST, Zip	Imperial, 92251 92251	Date Received	9/18/2013
E-Mail	Raymond14@gmail.com, sharonstegmuller@gmail.com	Date Promised	9/21/2013
Phone / Fax	760 355-7997 / 760 355-4588	Amalgatech ID	1309315
		Report Date	9/20/2013

Diesel Exhaust Fluid per ISO 22241*¹

Characteristics	Unit	Test Methods	Limits		Acceptance Range ²		Results
			min.	max.	min.	max.	
Urea content	% (m/m)	ISO 22241-2 Annex A ISO 22241-2 Annex B	31.8	33.2	30.8	34.2	32.2
Density at 20°C	kg/m ³	ISO 3675 or ISO 12185	1087.0	1093.0	1086.5	1093.5	1089.0
Refractive index at 20°C	---	ISO 22241-2 Annex C	1.3814	1.3843	1.3804	1.3853	1.3824
Alkalinity as NH ₃	%m/m	ISO 22241-2 Annex D	---	0.2	---	0.24	0.03
Biuret	%m/m	ISO 22241-2 Annex E	---	0.3	---	0.34	0.096
Aldehydes	mg/kg	ISO 22241-2 Annex F	---	5.0	---	7.4	0.6
Insoluble matter	mg/kg	ISO 22241-2 Annex G	---	20	---	27.6	3.4
Phosphate (PO ₄)	mg/kg	ISO 22241-2 Annex H	---	0.5	---	0.53	0.02
Calcium	mg/kg	ISO 22241-2 Annex I	---	0.5	---	0.55	0.43
Iron	mg/kg	ISO 22241-2 Annex I	---	0.5	---	0.65	0.03
Copper	mg/kg	ISO 22241-2 Annex I	---	0.2	---	0.24	0.00
Zinc	mg/kg	ISO 22241-2 Annex I	---	0.2	---	0.26	0.00
Chromium	mg/kg	ISO 22241-2 Annex I	---	0.2	---	0.26	0.00
Nickel	mg/kg	ISO 22241-2 Annex I	---	0.2	---	0.26	0.00
Aluminum	mg/kg	ISO 22241-2 Annex I	---	0.5	---	0.65	0.00
Magnesium	mg/kg	ISO 22241-2 Annex I	---	0.5	---	0.65	0.04
Sodium	mg/kg	ISO 22241-2 Annex I	---	0.5	---	0.75	0.00
Potassium	mg/kg	ISO 22241-2 Annex I	---	0.5	---	0.75	0.00
Identity	---	ISO 22241-2 Annex J	Identical to reference		Identical to reference		Identical to reference
Comments by Amalgatech:							

² Acceptance Range = Limit adjusted for reproducibility per Annex B

Supporting Graph:



Important note: [Amalgatech is accredited by A2LA to ISO/IEC 17025:2005](#) (CHEMICAL TESTING, Cert 2168.01). Amalgatech receives samples that are identified by the customer/sender and takes these identifications in good faith, reporting data to the customer using the customer's identification. Our laboratory services are not intended for marketing and are not product certifications. We are accredited to perform most ASTM coolant tests. Any test performed for which Amalgatech is not accredited is identified with an asterisk (*). This report is © Amalgatech division, Amalgamated Laboratories, Inc. 2011. It may not be reproduced, altered, copied or disseminated except in whole. Use of the report is permitted, including copying, as long as the entire report, including this information section, is always provided in its entirety.

NOTE ¹ Amalgatech has performed the test in accordance with the revision of the standard in place at the time the test was performed. Amalgatech uses only active standards.

Respectfully submitted,

AMALGATECH DIVISION
AMALGAMATED LABORATORIES, INC.

Ed Eaton
Chief Engineer