

Client:	DEF Products, LLC
Contact	Joe Servin, General Manager
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997

Enalytic ID	E1811044-001
Batch Number	311132018
Train Number	264980
Sample ID	DEF 32.9
Date Sampled	11/13/2018
Date Received	11/16/2018
Report Date	11/21/2018

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.9% DEF Batch# 311132018 Train# 264980

Test Parameter/Method	Units	Test Method (ISO)	Acceptable Limit	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.5	SPT	11/20/2018	Pass
Density @ 20degC	g/cm ³	3675	1.0870-1.0930	1.0915	CND	11/19/2018	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	CND	11/19/2018	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.01	CND	11/20/2018	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	CLB	11/19/2018	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	CLB	11/16/2018	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	CLB	11/21/2018	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	CLB	11/19/2018	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.14	BDK	11/21/2018	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.03	BDK	11/21/2018	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/21/2018	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/21/2018	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/21/2018	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Identity by FTIR (attached)	Spectra	22241-2 Annex J	Match	Reference Match	CND	11/16/2018	Pass

Note 1: All ISO standards are up to date with the latest revisions.

Note 2: The acceptable values are based on the standard 32.5% unless otherwise stated, and are less than or equal to the values shown.

"The undersigned certifies that the value(s) reported have met the highest analytical quality control standards."



Certification Approval _____

Laboratory Director: Anthony J Scala

Enalytic FDA Reg. Number: 02-636-0096

Date: 11/21/2018

Client:	DEF Products, LLC
Contact	Joe Servin, General Manager
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997

Analytic ID	E1811033-001
Batch Number	311122018
Train Number	TILX264995
Sample ID	DEF 32.8
Date Sampled	11/12/2018
Date Received	11/14/2018
Report Date	11/19/2018

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241


Client ID: 32.8% DEF Batch# 311122018 Train# TILX264995

Test Parameter/Method	Units	Test Method (ISO)	Acceptable Limit	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.7	SPT	11/15/2018	Pass
Density @ 20degC	g/cm ³	3675	1.0870-1.0930	1.0920	CND	11/15/2018	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3831	CND	11/15/2018	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	CLB	11/16/2018	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	CLB	11/15/2018	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	CLB	11/14/2018	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	CND	11/19/2018	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	CLB	11/15/2018	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.25	BDK	11/20/2018	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/20/2018	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.07	BDK	11/20/2018	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/20/2018	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.05	BDK	11/20/2018	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.03	BDK	11/20/2018	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.14	BDK	11/20/2018	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/20/2018	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.08	BDK	11/20/2018	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.15	BDK	11/20/2018	Pass
Identity by FTIR (attached)	Spectra	22241-2 Annex J	Match	Reference Match	CLB	11/15/2018	Pass

Note 1: All ISO standards are up to date with the latest revisions.

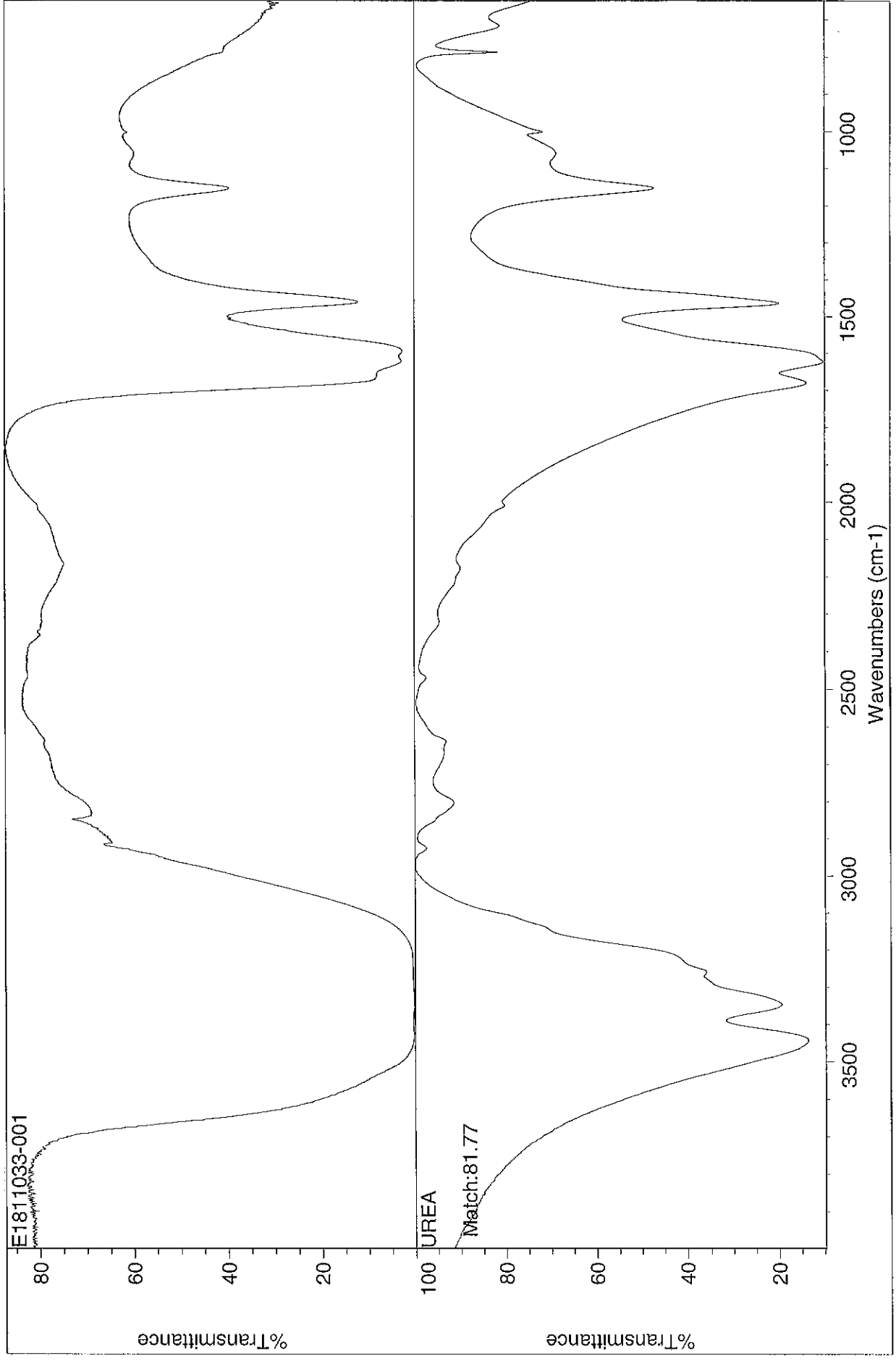
Note 2: The acceptable values are based on the standard 32.5% unless otherwise stated, and are less than or equal to the values shown.

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Certification Approval 
 Laboratory Director: Anthony J Scala
 Enalytic FDA Reg. Number: 02-636-0096

Date: 11/20/2018

Search results for: E1811033-001
Date: Thu Nov 15 08:56:54 2018 (GMT-05:00)
Search algorithm: Search Expert
Regions searched: 2600.00-450.00



Client:	DEF Products, LLC
Contact	Joe Servin, General Manager
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997

Enalytic ID	E1811044-002
Batch Number	311152018
Train Number	264987
Sample ID	DEF 32.9
Date Sampled	11/15/2018
Date Received	11/16/2018
Report Date	11/21/2018

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.9% DEF Batch# 311152018 Train# 264987

Test Parameter/Method	Units	Test Method (ISO)	Acceptable Limit	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.9	SPT	11/20/2018	Pass
Density @ 20degC	g/cm ³	3675	1.0870-1.0930	1.0925	CND	11/19/2018	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3834	CND	11/19/2018	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	CND	11/20/2018	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	CLB	11/19/2018	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	CLB	11/16/2018	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	CLB	11/21/2018	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	CLB	11/19/2018	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.03	BDK	11/21/2018	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/21/2018	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/21/2018	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	11/21/2018	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	11/21/2018	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.06	BDK	11/21/2018	Pass
Identity by FTIR (attached)	Spectra	22241-2 Annex J	Match	Reference Match	CND	11/16/2018	Pass

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