

Client:	DEF Products, LLC
Contact:	Sharon Stegmuller
Address:	422 East Barioni Blvd Imperial, CA 02251
Email:	defproducts@gmail.com
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Analytic ID:	E1804021-001
Batch Number:	304032018
Sample ID:	DEF 32.8
Date Sampled:	4/3/2018
Date Received:	4/5/2018
Report Date:	4/10/2018

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241
Client ID: 32.8% DEF Batch# 304032018

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	32.6	SPT	4/10/2018	Pass
Density @ 20degC	g/cm ³	3675	1.0870-1.0930	1.0920	CLB	4/6/2018	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3829	SPT	4/6/2018	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	CLB	4/10/2018	Pass
Biuret	%	22241-2 Annex E	<0.3	<0.1	CLB	4/10/2018	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	CLB	4/9/2018	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	2.0	CLB	4/6/2018	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	CLB	4/6/2018	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.24	SPT	4/10/2018	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	4/10/2018	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	4/10/2018	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	4/10/2018	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	4/10/2018	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	4/10/2018	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	4/10/2018	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	4/10/2018	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	4/10/2018	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.07	SPT	4/10/2018	Pass

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

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



Certification Approval _____

Laboratory Director: Anthony J Scala

Analytic FDA Reg. Number: 02-636-0096

Date: 4/10/2018

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

Analytic ID:	E1804073-001
Batch Number	34252018
Sample ID	DEF 32.6
Date Sampled	4/25/2018
Date Received	4/30/2018
Report Date	5/9/2018

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.6% DEF Batch# 34252018**

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	32.1	SPT	5/3/2018	Pass
Density @ 20degC	g/cm ³	3675	1.0870-1.0930	1.0920	CLB	4/30/2018	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3823	CLB	5/3/2018	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	CLB	5/2/2018	Pass
Biuret	%	22241-2 Annex E	<0.3	0.26	CLB	5/2/2018	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	CLB	5/1/2018	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	2.0	CLB	4/30/2018	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	CLB	5/1/2018	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.30	BDK	5/9/2018	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	4/30/2018	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	4/30/2018	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	4/30/2018	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.07	BDK	4/30/2018	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.05	BDK	4/30/2018	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	4/30/2018	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	4/30/2018	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	4/30/2018	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	4/30/2018	Pass
Identity by FTIR (attached)	Spectra	22241-2 Annex J	Match	Reference Match	BDK	5/2/2018	Pass

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

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



Certification Approval _____

Laboratory Director: Anthony J Scala

Analytic FDA Reg. Number: 02-636-0096

Date: _____

5/3/2018