

Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997
Report Date	11/10/2022

Analytic ID	E2211014-001
Batch Number	311022022M
Train Number	TANK 12&11
Sample ID	DEF 32.3%
Date Sampled	11/2/2022
Date Received	11/8/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.3% DEF Batch # 311022022M Train # TANK 12&11

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.4	32.5	SPT	11/10/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	MDC	11/8/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	MDC	11/9/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.11	MDC	11/8/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	11/8/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MFB	11/8/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/9/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/9/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.061	DSD	11/9/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/9/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/9/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/9/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/9/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	11/9/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/9/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/9/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/9/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	11/10/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0908	MFB	11/10/2022	---

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.

Note 3: ISO 17025 accreditation not applied for.

All procedures were conducted in accordance with Enalytic's Quality Control manual in its most current form and/or related procedures. The information contained in the analytical report represents only the materials tested and may not be reproduced except in full and without the written approval of the Technical Director of Enalytic Labs. Enalytic maintains a quality system in compliance with ISO17025:2017 with accreditations through ANAB certificate #AT-2956. All testing will be conducted in good faith by trained personnel equipped with the proper equipment and methodologies. Our liability will be limited to the cost of the services, including third-party charges. All test samples will be retained for a minimum of 3 months and/or extension by request. Fraudulent, false or statements of fiction are punishable by Federal Law. All samples received and reported above have been received in proper condition or as noted on the report.

Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 11/10/2022

Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997
Report Date	11/14/2022

Analytic ID	E2211020-001
Batch Number	311072022P
Train Number	TANK 9&8
Sample ID	DEF 32.3%
Date Sampled	11/7/2022
Date Received	11/10/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.3% DEF Batch # 311072022P Train # TANK 9&8

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.4	32.2	SPT	11/14/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	MDC	11/10/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.06	MDC	11/14/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.13	MDC	11/10/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	11/11/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MFB	11/10/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/14/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/14/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/14/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.18	DSD	11/14/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/14/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/14/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.067	DSD	11/14/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	11/14/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.30	DSD	11/14/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.15	DSD	11/14/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/14/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	11/10/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0908	MFB	11/10/2022	---

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Laboratory Director: Anthony J Scala

Date: 11/14/2022

Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997
Report Date	11/30/2022

Enalytic ID	E2211047-001
Batch Number	311192022P
Train Number	TANK #7
Sample ID	DEF 32.7%
Date Sampled	11/19/2022
Date Received	11/28/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.7% DEF Batch # 311192022P Train # TANK #7

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.4	32.4	SPT	11/30/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3829	MFB	11/29/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	MDC	11/29/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.18	MDC	11/28/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	11/28/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MFB	11/28/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/29/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/29/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/29/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.035	DSD	11/29/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/29/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/29/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.020	DSD	11/29/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.28	DSD	11/29/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.12	DSD	11/29/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.10	DSD	11/29/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/29/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	11/30/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0918	MFB	11/29/2022	---

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Date: 11/30/2022

Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997
Report Date	12/7/2022

Enalytic ID	E2212003-001
Batch Number	311302022P
Train Number	TANK 7 & 8
Sample ID	DEF 32.7%
Date Sampled	11/30/2022
Date Received	12/5/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.7% DEF Batch # 311302022P Train # TANK 7 & 8

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.4	32.5	SPT	12/7/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3830	MFB	12/7/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.06	MDC	12/5/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.19	MDC	12/7/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	12/6/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	6.8	MDC	12/6/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	12/6/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	12/6/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	12/6/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	12/6/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	12/6/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	12/6/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	12/6/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	12/6/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	12/6/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	12/6/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	12/6/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MFB	12/7/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0913	MFB	12/7/2022	---

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Certification Approval 

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Date: 12/7/2022