

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	1/16/2023

Enalytic ID	E2301014-001
Batch Number	301052023M
Train Number	GATX222492
Sample ID	DEF 32.5%
Date Sampled	1/5/2023
Date Received	1/11/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **301052023M** Train # **GATX222492**

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	32.3	SPT	1/16/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3827	MDC	1/12/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	MDC	1/11/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	1/12/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/11/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/12/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/13/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/13/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.057	DSD	1/13/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	1/13/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/13/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/13/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	1/13/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	1/13/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/13/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/13/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	1/13/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	NAB	1/12/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0908	MFB	1/12/2023	---

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: 1/16/2023

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	1/19/2023

Enalytic ID	E2301027-001
Batch Number	301122023M
Train Number	GBRX711569
Sample ID	DEF 32.5%
Date Sampled	1/12/2023
Date Received	1/17/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Batch # 301122023M Train # GBRX711569

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	1/19/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	MDC	1/17/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	MDC	1/19/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	1/18/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/19/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/17/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.073	DSD	1/17/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.062	DSD	1/17/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.031	DSD	1/17/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	1/17/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.11	DSD	1/17/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	1/17/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	1/17/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0908	MDC	1/17/2023	---

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Date: 1/19/2023

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Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997
Report Date	1/19/2023

Enalytic ID	E2301027-002
Batch Number	301132023P
Train Number	UTLX647904
Sample ID	DEF 32.5%
Date Sampled	1/13/2023
Date Received	1/17/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **301132023P** Train # **UTLX647904**

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	1/19/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3829	MDC	1/17/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MDC	1/19/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	1/18/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/19/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/17/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.040	DSD	1/17/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.084	DSD	1/17/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	1/17/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.025	DSD	1/17/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	1/17/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.16	DSD	1/17/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.069	DSD	1/17/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	1/17/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	1/17/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	MDC	1/19/2023	---

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Date: 1/19/2023

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	2/2/2023

Analytic ID	E2301054-001
Batch Number	301242023M
Train Number	GATX235250
Sample ID	DEF 32.5%
Date Sampled	1/24/2023
Date Received	1/31/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Batch # 301242023M Train # GATX235250

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	32.3	SPT	2/2/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3827	MDC	2/1/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	MDC	1/31/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	MDC	1/31/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/31/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/31/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	2/2/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.11	SPT	2/2/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.079	SPT	2/2/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.074	SPT	2/2/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	2/2/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	2/2/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.030	SPT	2/2/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	2/2/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.23	SPT	2/2/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.18	SPT	2/2/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	2/2/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MLB	1/31/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	MDC	2/1/2023	---

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