

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	1/22/2024

Analytic ID	E2401023-001
TANK #	14
Batch Number	301012024M
Tank #	1 & 2
Sample ID	DEF 32.5%
Date Sampled	1/15/2024
Date Received	1/17/2024
ISO 17025	

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF TANK # 14 Batch # 301012024M TANK # 1 & 2

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.3	SPT	1/22/2024	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3826	MDC	1/19/2024	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MFB	1/19/2024	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	MDC	1/18/2024	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/18/2024	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/18/2024	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/18/2024	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/18/2024	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.060	SPT	1/18/2024	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/18/2024	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/18/2024	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/18/2024	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/18/2024	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.31	SPT	1/18/2024	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.19	SPT	1/18/2024	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/18/2024	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/18/2024	Pass

Miscellaneous Secondary Unregulated Quality Standards


Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	1/19/2024	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0918	MFB	1/18/2024	---

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. 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: 1/22/2024

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	1/11/2024

Analytic ID	E2401012-001
TANK #	4 & 5
Batch Number	301052024L
Train	GATX224060
Sample ID	DEF 32.4%
Date Sampled	1/5/2024
Date Received	1/9/2024
ISO 17025	

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.4% DEF TANK # 4 & 5 Batch # 301052024L Train # GATX224060

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.1	SPT	1/11/2024	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	MDC	1/10/2024	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MFB	1/10/2024	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	1/10/2024	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	1/9/2024	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MDC	1/9/2024	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/9/2024	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/9/2024	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.040	SPT	1/9/2024	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/9/2024	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/9/2024	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/9/2024	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/9/2024	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.32	SPT	1/9/2024	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/9/2024	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/9/2024	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/9/2024	Pass

Miscellaneous Secondary Unregulated Quality Standards


Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MFB	1/10/2024	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0903	MFB	1/10/2024	---

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.

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Certification Approval 

Laboratory Director: Anthony J Scala

Date: 1/11/2024

6034 Corporate Dr. East Syracuse NY 13057
 Web Site: Enalytic.com Ph:315-437-0255

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	1/24/2024

Ealytic ID	E2401028-001
TANK #	8 SOLUTIONIZE
Batch Number	301182024P
Tank #	2
Sample ID	DEF 32.4%
Date Sampled	1/18/2024
Date Received	1/19/2024
ISO 17025	

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.4% DEF TANK # 8 SOLUTIONIZE Batch # 301182024P TANK # 2

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.1	SPT	1/24/2024	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	MDC	1/24/2024	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.09	MDC	1/24/2024	Pass
Biuret	%	22241-2 Annex E	<0.3	0.18	MDC	1/23/2024	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/23/2024	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/22/2024	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/22/2024	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.20	SPT	1/22/2024	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.058	SPT	1/22/2024	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/22/2024	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/22/2024	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/22/2024	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/22/2024	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.31	SPT	1/22/2024	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.11	SPT	1/22/2024	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/22/2024	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/22/2024	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MFB	1/24/2024	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0908	MFB	1/24/2024	---

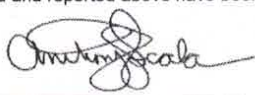
Note 1: All ISO standards are up to date with the latest revisions.

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.

Note 4: Report has been Amended to correct Tank # in box heading.

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. 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: 1/30/2024

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	1/29/2024

Analytic ID	E2401035-001
TANK #	1 & 2
Batch Number	301232024L
Train #	GATX220460
Sample ID	DEF 32.4%
Date Sampled	1/23/2024
Date Received	1/25/2024
ISO 17025	

Quality: Excellent

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.4% DEF TANK # 1 & 2 Batch # 301232024L Train # GATX220460

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.3	SPT	1/29/2024	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3827	SPT	1/29/2024	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MFB	1/26/2024	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	1/26/2024	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/25/2024	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/25/2024	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/25/2024	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/25/2024	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/25/2024	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/25/2024	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/25/2024	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/25/2024	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/25/2024	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.31	SPT	1/25/2024	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/25/2024	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	SPT	1/25/2024	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	SPT	1/25/2024	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	1/26/2024	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0908	MFB	1/29/2024	---

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.

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 1/29/2024

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	2/2/2024

Analytic ID	E2401045-001
TANK #	2
Batch Number	301292024L
Transport	Semi Truck
Sample ID	DEF 32.8%
Date Sampled	1/29/2024
Date Received	1/31/2024
ISO 17025	

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.8% DEF TANK # 2 Batch # 301292024L Semi Truck

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ^{2,4}	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.9	SPT	2/2/2024	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3836	MDC	1/31/2024	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.08	MFB	2/1/2024	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	1/31/2024	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/31/2024	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	2/1/2024	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	BDK	2/2/2024	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.46	BDK	2/2/2024	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	BDK	2/2/2024	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.14	BDK	2/2/2024	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	BDK	2/2/2024	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.10	BDK	2/2/2024	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	BDK	2/2/2024	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.31	BDK	2/2/2024	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	(<0.65)	0.50	BDK	2/2/2024	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.37	BDK	2/2/2024	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.04	BDK	2/2/2024	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	1/31/2024	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0928	MFB	1/31/2024	---


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.

Note 4: The ISO 22241 acceptable limit plus reproducibility for Potassium is shown in parentheses, and is less than or equal to the value shown.

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Certification Approval 
Laboratory Director: Anthony J Scala

Date: 2/2/2024