



Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	<a href="mailto:defproducts@gmail.com">defproducts@gmail.com</a>
Phone	760 355 7997
Report Date	1/10/2025

Enalytic ID	E2501013-001
TRAIN #	KLRX243054
TRC #	301062025T
T #	4&5
Sample ID	DEF 32.7%
Date Sampled	1/6/2025
Date Received	1/8/2025
ISO 17025	Certificate Number: L24-103

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.7% DEF TRAIN # KLRX243054 T # 4&5 TRC # 301062025T

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.1	SPT	1/10/2025	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	1.3823	MFB	1/9/2025	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	0.02	MDC	1/9/2025	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	NAC	1/8/2025	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	1/10/2025	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	1/9/2025	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/10/2025	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/10/2025	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/10/2025	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/10/2025	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/10/2025	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/10/2025	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/10/2025	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.46	BDK	1/10/2025	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/10/2025	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/10/2025	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/10/2025	Pass

### Miscellaneous Secondary Unregulated Quality Standards

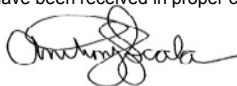
Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	---	---	---	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	1.0883	MFB	1/9/2025	---

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 Perry Johnson certificate #L24-103. 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: 1/10/2025



Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	<a href="mailto:defproducts@gmail.com">defproducts@gmail.com</a>
Phone	760 355 7997
Report Date	1/20/2025

Enalytic ID	E2501039-001
TRAIN #	TILX265536
TRC #	301112025T
T #	17&1
Sample ID	DEF 32.6%
Date Sampled	1/11/2025
Date Received	1/15/2025
ISO 17025	Certificate Number: L24-103

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.6% DEF TRAIN # TILX265536 T # 17&1 TRC # 301112025T

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.1	SPT	1/20/2025	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	1.3824	MFB	1/17/2025	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	0.02	MDC	1/17/2025	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	NAC	1/20/2025	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/16/2025	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	9.6	MFB	1/16/2025	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/16/2025	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.43	BDK	1/16/2025	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/16/2025	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.075	BDK	1/16/2025	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/16/2025	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/16/2025	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.090	BDK	1/16/2025	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.46	BDK	1/16/2025	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.24	BDK	1/16/2025	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/16/2025	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/16/2025	Pass

### Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	---	---	---	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	1.0879	MFB	1/17/2025	---

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 Perry Johnson certificate #L24-103. 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: 1/20/2025



Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	<a href="mailto:defproducts@gmail.com">defproducts@gmail.com</a>
Phone	760 355 7997
Report Date	1/31/2025

Enalytic ID	E2501063-001
TRAIN	GATX235289
TRC #	301242025T
T #	4&5
Sample ID	DEF 32.4%
Date Sampled	1/24/2025
Date Received	1/28/2025
ISO 17025	Certificate Number: L24-103

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.4% DEF GATX235289 T # 4&5 TRC # 301242025T

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.0	SPT	1/31/2025	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	1.3821	MDC	1/31/2025	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	0.02	MDC	1/29/2025	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	NAC	1/29/2026	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	1/30/2025	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	4.1	MFB	1/30/2025	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/30/2025	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/30/2025	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/30/2025	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.089	BDK	1/30/2025	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/30/2025	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.15	BDK	1/30/2025	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.12	BDK	1/30/2025	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.46	BDK	1/30/2025	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.49	BDK	1/30/2025	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.33	BDK	1/30/2025	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.06	BDK	1/30/2025	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	---	---	---	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	1.0880	MFB	1/31/2025	---

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 Perry Johnson certificate #L24-103. 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: 1/31/2025

# analytic

## Analytical Testing Laboratories

# Chain of Custody Record

6034 Corporate Drive, East Syracuse, NY 13057

Phone: 315.437.0255

Client: DEF Products

Project #/Project Name: ISO 222241 DEF Testing

Location (City/State):

Client Contact: Sharon Stegmuller (760) 355-7997 422 E. Barioni Blvd., Imperial CA

### Remarks

Product Testing  
Certificate of Analysis

Parameter and Method	Sample bottle:	Type	Size	Preservative	Number of Containers	Number of Containers										Name of Courier FedEx Express			
						1	2	3	4	5	6	7	8	9	10				
1 Urea Content		Plastic	500 ml	None															
2 Refractive Index @ 20degC					Company: DEF Products														
3 Density @ 20degC					Relinquished by: (sign)														
4 Alkalinity (as NH3)					DEF Products														
5 Biuret					Relinquished by: (sign)														
6 Aldehydes					Date														
7 Isolubies					Time														
8 Phosphate					Relinquished by: (sign)														
9 Total Metals: Al, Ca, Cr, Cu, Fe, K, Mg, Ni, Na, Zn.					Date														
10 FTIR					Time														
Sampled by: (Print)					Relinquished by: (sign)										Rec'd for Lab by:				
															<i>Carole A. Swalla</i>				

Date: 1-28-2025  
Time: 3:26 pm  
Rec'd for Lab by: *Carole A. Swalla*



Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
Email	<a href="mailto:defproducts@gmail.com">defproducts@gmail.com</a>
Phone	760 355 7997
Report Date	2/5/2025

Enalytic ID	E2501072-001
TRAIN	TIMX400155
TRC #	301292025L
T #	2&5
Sample ID	DEF 32.5%
Date Sampled <sup>4</sup>	1/29/2025
Date Received	1/31/2025
ISO 17025	Certificate Number: L24-103

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF TRAIN # TIMX400155 T # 2&5 TRC # 301292025L

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	<b>32.3</b>	SPT	2/4/2025	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	<b>1.3827</b>	NAC	2/4/2025	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	<b>0.02</b>	MDC	2/3/2025	Pass
Biuret	%	22241-2 Annex E	<0.3	<b>0.19</b>	NAC	2/3/2025	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<b>&lt;1.0</b>	MFB	2/3/2025	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<b>&lt;2.5</b>	MFB	2/3/2025	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.15</b>	BDK	2/4/2025	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.15</b>	BDK	2/4/2025	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.06</b>	BDK	2/4/2025	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.06</b>	BDK	2/4/2025	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.15</b>	BDK	2/4/2025	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.15</b>	BDK	2/4/2025	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.06</b>	BDK	2/4/2025	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.46</b>	BDK	2/4/2025	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.15</b>	BDK	2/4/2025	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.15</b>	BDK	2/4/2025	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.06</b>	BDK	2/4/2025	Pass

### Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	---	---	---	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	<b>1.0894</b>	MFB	1/31/2025	---

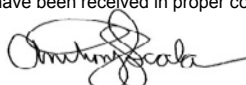
Note 1: All ISO standards are up to date with the latest revisions.

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 Report was Amended to correct the Date Sampled.

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 Perry Johnson certificate #L24-103. 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: 2/5/2025