

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	10/12/2021

Enalytic ID	E2110014-001
Batch Number	310012021M
Train Number	UTLX647923
Sample ID	DEF 32.5%
Date Sampled	10/1/2021
Date Received	10/5/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **310012021M** Train# **UTLX647923**

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.6	SPT	10/12/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3831	ALB	10/12/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.11	ALB	10/6/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	10/7/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	10/6/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	10/6/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/11/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/11/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/11/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/11/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/11/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.04	SPT	10/11/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/11/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/11/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/11/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/11/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/11/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	10/6/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0903	ALB	10/6/2021	---

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: 10/12/2021

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	10/14/2021

Enalytic ID	E2110021-001
Batch Number	310052021M2
Train Number	TILX265223
Sample ID	DEF 32.5%
Date Sampled	10/5/2021
Date Received	10/7/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **310052021M2** Train# **TILX265223**

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.6	SPT	10/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3831	ALB	10/12/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	MDC	10/12/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	MDC	10/8/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	10/8/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	4.4	MDC	10/8/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.05	SPT	10/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	10/8/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0899	ALB	10/7/2021	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 10/14/2021

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	10/14/2021

Enalytic ID	E2110024-001
Batch Number	310072021M
Train Number	GATX220495
Sample ID	DEF 32.6%
Date Sampled	10/7/2021
Date Received	10/8/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.6% DEF** Batch# 310072021M Train# GATX220495

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.7	SPT	10/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3832	ALB	10/12/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.10	MDC	10/12/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	10/11/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	10/12/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	10/8/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.06	SPT	10/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.04	SPT	10/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.02	SPT	10/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.08	SPT	10/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.15	SPT	10/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	10/8/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	10/12/2021	---

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Laboratory Director: Anthony J Scala

Date: 10/14/2021

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	10/14/2021

Enalytic ID	E2110024-002
Batch Number	310072021P
Train Number	GATX229955
Sample ID	DEF 32.4%
Date Sampled	10/7/2021
Date Received	10/8/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.4% DEF** Batch# **310072021P** Train# **GATX229955**

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.6	SPT	10/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3831	ALB	10/12/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.09	MDC	10/12/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	10/11/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	10/12/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	2.5	MDC	10/8/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.02	SPT	10/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	10/8/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	10/12/2021	---

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Laboratory Director: Anthony J Scala

Date: 10/14/2021

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	10/15/2021

Enalytic ID	E2110028-001
Batch Number	310082021M
Train Number	UTLX647898
Sample ID	DEF 32.4%
Date Sampled	10/8/2021
Date Received	10/11/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.4% DEF** Batch# **310082021M** Train# **UTLX647898**

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.6	SPT	10/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3831	ALB	10/12/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MDC	10/15/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.14	MDC	10/11/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	10/12/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	10/13/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.03	SPT	10/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	10/14/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	10/12/2021	---

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

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 10/15/2021

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	10/15/2021

Enalytic ID	E2110027-001
Batch Number	310082021M2
Train Number	TILX265538
Sample ID	DEF 32.5%
Date Sampled	10/8/2021
Date Received	10/11/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# 310082021M2 Train# TILX265538

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.4	SPT	10/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3827	ALB	10/12/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	MDC	10/15/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	MDC	10/11/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	10/12/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	10/13/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.08	SPT	10/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.07	SPT	10/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.04	SPT	10/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.10	SPT	10/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.18	SPT	10/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	10/14/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	10/12/2021	---

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Laboratory Director: Anthony J Scala

Date: 10/15/2021

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	11/4/2021

Enalytic ID	E2111004-001
Batch Number	310292021L
Train Number	GATX232627
Sample ID	DEF 32.5%
Date Sampled	10/29/2021
Date Received	11/1/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **310292021L** Train# **GATX232627**

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.6	SPT	11/3/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3830	MDC	11/2/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	MDC	11/3/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.11	MDC	11/2/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	11/4/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	11/2/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	11/2/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.09	DSD	11/2/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/2/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/2/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/2/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.09	DSD	11/2/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	11/2/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/2/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/2/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	11/2/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.06	DSD	11/2/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	11/2/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0913	MDC	11/3/2021	---

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: 11/4/2021