

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	2/9/2022

Enalytic ID	E2202007-001
Batch Number	302012022P
Train Number	UTLX647904
Sample ID	DEF 32.5%
Date Sampled	2/1/2022
Date Received	2/7/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Batch # 302012022P 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	32.2	SPT	2/9/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3825	ALB	2/8/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.09	MDC	2/7/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.14	ALB	2/9/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	2/8/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	2/8/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.035	DSD	2/9/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/9/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.084	DSD	2/9/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/8/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	2/8/2022	---

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.

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 2/9/2022

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	2/9/2022

Enalytic ID	E2202007-002
Batch Number	302022022P
Train Number	UTLX647681
Sample ID	DEF 32.5%
Date Sampled	2/2/2022
Date Received	2/7/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Batch # 302022022P Train # UTLX647681

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	32.1	SPT	2/9/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3823	ALB	2/8/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.09	MDC	2/7/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	ALB	2/9/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	2/8/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	2/8/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/9/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/9/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/9/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/8/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	2/8/2022	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 2/9/2022

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	2/14/2022

Enalytic ID	E2202015-001
Batch Number	302082022L
Train Number	UTLX680516
Sample ID	DEF 32.5%
Date Sampled	2/8/2022
Date Received	2/10/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **302082022L** Train # **UTLX680516**

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	2/11/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3825	ALB	2/11/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.05	MDC	2/11/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	ALB	2/11/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	2/11/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	2/11/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/14/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.24	DSD	2/14/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/14/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/14/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/14/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/14/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/14/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/14/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/14/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/14/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/14/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/11/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0903	ALB	2/11/2022	---

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Laboratory Director: Anthony J Scala

Date: 2/14/2022

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	2/22/2022

Enalytic ID	E2202030-001
Batch Number	302152022M
Train Number	TILX265535
Sample ID	DEF 32.5%
Date Sampled	2/15/2022
Date Received	2/17/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **302152022M** Train # **TILX265535**

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	2/21/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	ALB	2/17/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.01	MDC	2/21/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	MDC	2/21/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	2/18/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	SPT	2/17/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.065	DSD	2/18/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/18/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/18/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/18/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/18/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/17/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	2/17/2022	---

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

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Laboratory Director: Anthony J Scala

Date: 2/22/2022

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	2/22/2022

Enalytic ID	E2202030-002
Batch Number	302162022M
Train Number	KLRX243013
Sample ID	DEF 32.5%
Date Sampled	2/16/2022
Date Received	2/17/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **302162022M** Train # **KLRX243013**

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	32.1	SPT	2/21/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3823	ALB	2/17/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.01	MDC	2/21/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	MDC	2/21/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	2/18/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	SPT	2/17/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.074	DSD	2/18/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/18/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/18/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/18/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/18/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/18/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/17/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0888	ALB	2/17/2022	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 2/22/2022

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	2/23/2022

Enalytic ID	E2202033-001
Batch Number	302172022M
Train Number	TILX265564
Sample ID	DEF 32.5%
Date Sampled	2/17/2022
Date Received	2/21/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **302172022M** Train # **TILX265564**

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	2/23/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	ALB	2/22/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	ALB	2/22/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.11	MDC	2/22/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	2/23/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	2/22/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/23/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.11	DSD	2/23/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.060	DSD	2/23/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/23/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/23/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/23/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/23/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/23/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/23/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/23/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/23/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/22/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	2/22/2022	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 2/23/2022

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	2/28/2022

Enalytic ID	E2202040-001
Batch Number	302232022M
Train Number	TILX265229
Sample ID	DEF 32.5%
Date Sampled	2/23/2022
Date Received	2/24/2022
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **302232022M** Train # **TILX265229**

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	ALB	2/28/2022	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3827	ALB	2/24/2022	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	ALB	2/24/2022	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	MDC	2/25/2022	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	2/25/2022	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	2/24/2022	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/28/2022	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/28/2022	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.074	DSD	2/28/2022	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/28/2022	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/28/2022	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/28/2022	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/28/2022	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	DSD	2/28/2022	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/28/2022	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	DSD	2/28/2022	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	DSD	2/28/2022	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	2/24/2022	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0910	ALB	2/24/2022	---

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: 2/28/2022