

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	9/9/2021

Enalytic ID	E2109012-002
Batch Number	309012021P
Train Number	GATX228460
Sample ID	DEF 32.5%
Date Sampled	8/27/2021
Date Received	9/7/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **309012021P** Train# **GATX228460**

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	9/9/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3832	ALB	9/9/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	MDC	9/8/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	9/9/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	9/8/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	3.0	ALB	9/7/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.35	SPT	9/7/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/7/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/7/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/7/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/7/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/7/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/7/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/7/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/7/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/7/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/7/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	9/7/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0903	ALB	9/9/2021	---

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: 9/9/2021

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	9/14/2021

Enalytic ID	E2109014-001
Batch Number	309032021M
Train Number	GATX200967
Sample ID	DEF 32.4%
Date Sampled	9/3/2021
Date Received	9/9/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.4% DEF** Batch# 309032021M Train# GATX200967

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	32.5	SPT	9/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3830	ALB	9/10/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MDC	9/10/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.14	MDC	9/13/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	9/10/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	9/10/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	9/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/13/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	9/10/2021	---

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Laboratory Director: Anthony J Scala

Date: 9/14/2021

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	9/14/2021

Enalytic ID	E2109014-002
Batch Number	309072021L
Train Number	GATX222492
Sample ID	DEF 32.5%
Date Sampled	9/7/2021
Date Received	9/9/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **309072021L** Train# **GATX222492**

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	32.3	SPT	9/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3826	ALB	9/10/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.02	MDC	9/10/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.10	MDC	9/13/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	9/10/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	9/10/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	9/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/13/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	9/10/2021	---

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Laboratory Director: Anthony J Scala

Date: 9/14/2021

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	9/15/2021

Enalytic ID	E2109015-001
Batch Number	309092021M
Train Number	SHPX200930
Sample ID	DEF 32.5%
Date Sampled	9/9/2021
Date Received	9/10/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# 309092021M Train# SHPX200930

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	32.5	SPT	9/14/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3829	ALB	9/10/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.09	MDC	9/14/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	9/13/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	9/10/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	9/10/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	9/13/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/13/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/13/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/13/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	9/10/2021	---

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

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Laboratory Director: Anthony J Scala

Date: 9/15/2021

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	9/17/2021

Enalytic ID	E2109023-001
Batch Number	309102021M
Train Number	GATX222477
Sample ID	DEF 32.1%
Date Sampled	9/10/2021
Date Received	9/13/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.1% DEF** Batch# **309102021M** Train# **GATX222477**

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	32.2	SPT	9/16/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3825	ALB	9/13/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	MDC	9/15/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.14	ALB	9/15/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	9/15/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	ALB	9/14/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	9/17/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/13/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0899	ALB	9/13/2021	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 9/17/2021

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	9/17/2021

Enalytic ID	E2109024-001
Batch Number	309102021M2
Train Number	TILX265222
Sample ID	DEF 32.0%
Date Sampled	9/10/2021
Date Received	9/13/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.0% DEF Batch# 309102021M2 Train# TILX265222

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	9/16/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	ALB	9/13/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	MDC	9/15/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.14	ALB	9/15/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	9/16/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	ALB	9/14/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	9/17/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	9/17/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	9/17/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/13/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0904	ALB	9/13/2021	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 9/17/2021

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	10/8/2021

Enalytic ID	E2110003-001
Batch Number	309232021M
Train Number	UTLX647950
Sample ID	DEF 32.4%
Date Sampled	9/23/2021
Date Received	9/30/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.4% DEF** Batch# **309232021M** Train# **UTLX647950**

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	32.8	SPT	10/8/2021	Pass
Refractive Index @ 20degC ⁴	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	ALB	9/28/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.10	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	ALB	10/6/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.37	SPT	10/5/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.11	SPT	10/5/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/5/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/5/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/5/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/5/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/5/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/5/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/5/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.08	SPT	10/5/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.09	SPT	10/5/2021	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	1.0908	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.

Note 4: The Refractive Index result was taken from report E2109041-001, which has the same ID.

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Certification Approval 

Laboratory Director: Anthony J Scala

Date: 10/8/2021

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	10/4/2021

Enalytic ID	E2109046-001
Batch Number	309272021M
Train Number	UTLX647886
Sample ID	DEF 32.4%
Date Sampled	9/27/2021
Date Received	9/29/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.4% DEF** Batch# **309272021M** Train# **UTLX647886**

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	32.5	SPT	10/4/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3829	ALB	9/29/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.11	ALB	9/29/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.13	MDC	9/30/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	ALB	9/29/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	ALB	9/29/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/1/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/29/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	9/29/2021	---

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: 10/4/2021

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	10/4/2021

Enalytic ID	E2109050-001
Batch Number	309292021L
Train Number	TILX265184
Sample ID	DEF 32.5%
Date Sampled	9/29/2021
Date Received	9/30/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **309292021L** Train# **TILX265184**

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	32.2	SPT	10/4/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	ALB	9/30/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.03	ALB	10/1/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.14	ALB	10/1/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	9/30/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	ALB	9/30/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	SPT	10/1/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.12	SPT	10/1/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.02	SPT	10/1/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	SPT	10/1/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	SPT	10/1/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/30/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	9/30/2021	---

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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 10/4/2021