

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	9/7/2023

Enalytic ID	E2309005-001
TANK	3 & 4
Batch Number	309012023M
Train	GBRX716587
Sample ID	DEF 32.7%
Date Sampled	9/1/2023
Date Received	9/5/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.7% DEF TANK # 3 & 4 Batch # 309012023M Train # GBRX716587

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results ⁴	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.3	SPT	9/7/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3826	MFB	9/5/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.13	MDC	9/6/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	9/5/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	9/6/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	9/5/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/5/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.14	NAB	9/5/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/5/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/5/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/5/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/5/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/5/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	NAB	9/5/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/5/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/5/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/5/2023	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	9/5/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0909	MFB	9/5/2023	---

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: We currently are waiting for our refractometer to be recalibrated at Misco. Until such time that we receive the meter back, we will be using a loaner which does not fall under our certification criteria.

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Certification Approval 

Laboratory Director: Anthony J Scala

Date: 9/7/2023

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	9/8/2023

Enalytic ID	E2309009-001
TANK	17 & 12
Batch Number	309052023M
Train	TILX220104
Sample ID	DEF 32.3%
Date Sampled	9/5/2023
Date Received	9/6/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.3% DEF TANK # 17 & 12 Batch # 309052023M Train # TILX220104

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results ⁴	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.2	SPT	9/8/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	MLB	9/7/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.17	MDC	9/6/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	MDC	9/7/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	9/6/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	9/6/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/7/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/7/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.083	NAB	9/7/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.12	NAB	9/7/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/7/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/7/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.031	NAB	9/7/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	NAB	9/7/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.14	NAB	9/7/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.057	NAB	9/7/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/7/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	9/8/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0904	MFB	9/6/2023	---

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

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Note 3: ISO 17025 accreditation not applied for.

Note 4: We currently are waiting for our refractometer to be recalibrated at Misco. Until such time that we receive the meter back, we will be using a loaner which does not fall under our certification criteria.

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Certification Approval 

Laboratory Director: Anthony J Scala

Date: 9/8/2023

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	9/15/2023

Enalytic ID	E2309017-001
Batch Number	309092023P
Train	GATX224043
Sample ID	DEF 32.7%
Date Sampled	9/9/2023
Date Received	9/12/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.7% DEF Batch # 309092023P Train # GATX224043

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results ⁴	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	31.9	SPT	9/14/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3820	MFB	9/14/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.08	MDC	9/12/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.16	MDC	9/13/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	9/12/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	9/13/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/12/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/12/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/12/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.031	NAB	9/12/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/12/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/12/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/12/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	NAB	9/12/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/12/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/12/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.046	NAB	9/12/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MFB	9/14/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	MFB	9/14/2023	---

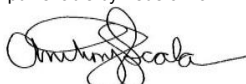
Note 1: All ISO standards are up to date with the latest revisions.

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: We currently are waiting for our refractometer to be recalibrated at Misco. Until such time that we receive the meter back, we will be using a loaner which does not fall under our certification criteria.

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Certification Approval _____
Laboratory Director: Anthony J Scala

Date: 9/15/2023

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	9/20/2023

Purity: Excellent

Enalytic ID	E2309037-001
TANK	3 & 4
Batch Number	309152023M
Train	UTLX647661
Sample ID	DEF 32.6%
Date Sampled	9/15/2023
Date Received	9/18/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.6% DEF TANK 3 & 4 Batch # 309152023M Train # UTLX647661

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results ⁴	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.2	SPT	9/20/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3824	MFB	9/18/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.06	MDC	9/19/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	9/18/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	9/19/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	9/19/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/19/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/19/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/19/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/19/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/19/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/19/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/19/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	NAB	9/19/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/19/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/19/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/19/2023	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	9/19/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	MFB	9/18/2023	---

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: 9/20/2023

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	10/2/2023

Enalytic ID	E2309056-001
TANK	1 & 2
Batch Number	309272023L
Train	GBRX716310
Sample ID	DEF 32.9%
Date Sampled	9/27/2023
Date Received	9/28/2023
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.9% DEF TANK 1 & 2 Batch # 309272023L Train # GBRX716310

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results ⁴	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	31.9	SPT	10/2/2023	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3820	MDC	9/29/2023	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	MFB	9/29/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	9/28/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	9/28/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	9/28/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/29/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.13	NAB	9/29/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/29/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/29/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/29/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/29/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/29/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.31	NAB	9/29/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/29/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	9/29/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	9/29/2023	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MFB	10/2/2023	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0883	MDC	9/29/2023	---

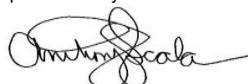
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Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 10/2/2023