

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	7/10/2023

Enalytic ID	E2307006-001
TANK	# 1 & 2
Batch Number	307052023P
Train	UTLX647890
Sample ID	DEF 32.8%
Date Sampled	7/5/2023
Date Received	7/6/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.8% DEF TANK # 1 & 2 Batch # 307052023P Train UTLX647890

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.5	SPT	7/7/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	1.3829	MDC	7/6/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	0.09	MDC	7/10/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.17	MDC	7/7/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	7/7/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	7/6/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/6/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.13	NAB	7/6/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/6/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/6/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/6/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/6/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/6/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.32	NAB	7/6/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/6/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/6/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/6/2023	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	Match	MDC	7/10/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	1.0903	MFB	7/6/2023	---

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 loner which does not fall under our certification criteria.

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Certification Approval \_\_\_\_\_

Laboratory Director: Anthony J Scala

Date: 7/10/2023

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	7/11/2023

Enalytic ID	E2307010-001
TANK	10 & 12 SOLUTIONIZE
Batch Number	307062023L
TANK	#3 & 4
Sample ID	DEF 32.8%
Date Sampled	7/6/2023
Date Received	7/7/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.8% DEF TANK 10 & 12 SOLUTIONIZE Batch # 307062023L TANK #3 & 4

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	<b>32.3</b>	SPT	7/11/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	<b>1.3826</b>	MDC	7/11/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	<b>0.08</b>	MDC	7/10/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	<b>0.15</b>	MDC	7/10/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<b>&lt;1.0</b>	MFB	7/11/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<b>&lt;2.5</b>	MFB	7/10/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/11/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/11/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>0.056</b>	NAB	7/11/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/11/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/11/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/11/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/11/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.25</b>	NAB	7/11/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/11/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/11/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/11/2023	Pass

### Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	<b>Match</b>	MDC	7/11/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	<b>1.0888</b>	MDC	7/11/2023	---

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 loner which does not fall under our certification criteria.

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Certification Approval \_\_\_\_\_

Laboratory Director: Anthony J Scala

Date: 7/11/2023

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	7/17/2023

Enalytic ID	E2307020-001
TANK	1 & 2
Batch Number	307122023L
Train	GBRX716295
Sample ID	DEF 32.6%
Date Sampled	7/12/2023
Date Received	7/13/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.6% DEF TANK 1 & 2 Batch # 307122023L Train # GBRX716295

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	<b>32.4</b>	SPT	7/17/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	<b>1.3828</b>	MDC	7/17/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	<b>0.09</b>	MDC	7/14/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	<b>0.16</b>	MDC	7/13/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<b>&lt;1.0</b>	MFB	7/13/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<b>&lt;2.5</b>	MFB	7/13/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/13/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/13/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/13/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/13/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/13/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/13/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/13/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>0.27</b>	NAB	7/13/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/13/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/13/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/13/2023	Pass
<b>Miscellaneous Secondary Unregulated Quality Standards</b>							
Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	<b>Match</b>	MDC	7/17/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	<b>1.0891</b>	MFB	7/14/2023	---

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 loner which does not fall under our certification criteria.

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Certification Approval \_\_\_\_\_

Laboratory Director: Anthony J Scala

Date: 7/17/2023

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	7/24/2023

Enalytic ID	E2307032-001
Batch Number	307182023M
Train	GBRX709368
Sample ID	DEF 32.5%
Date Sampled	7/18/2023
Date Received	7/19/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **307182023M** Train # **GBRX709368**

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	<b>32.1</b>	SPT	7/24/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	<b>1.3823</b>	MDC	7/21/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	<b>0.06</b>	MDC	7/19/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	<b>0.14</b>	MDC	7/19/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<b>&lt;1.0</b>	MFB	7/21/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<b>&lt;2.5</b>	MFB	7/19/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>0.046</b>	SPT	7/24/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	SPT	7/24/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	SPT	7/24/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.25</b>	SPT	7/24/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	SPT	7/24/2023	Pass
<b>Miscellaneous Secondary Unregulated Quality Standards</b>							
Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	<b>Match</b>	ADM	7/21/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	<b>1.0883</b>	MDC	7/21/2023	---

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Note 3: ISO 17025 accreditation not applied for.

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Certification Approval \_\_\_\_\_

Laboratory Director: Anthony J Scala

Date: 7/24/2023



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	7/25/2023

Enalytic ID	E2307040-001
Batch Number	307202023M
Train	PNWX703041
Sample ID	DEF 32.2%
Date Sampled	7/20/2023
Date Received	7/21/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.2% DEF** Batch # **307202023M** Train # **PNWX703041**

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	<b>32.1</b>	SPT	7/25/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	<b>1.3822</b>	MFB	7/24/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	<b>0.10</b>	MDC	7/21/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	<b>0.13</b>	MDC	7/24/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<b>&lt;1.0</b>	MFB	7/25/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<b>&lt;2.5</b>	MFB	7/24/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>0.083</b>	SPT	7/24/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	SPT	7/24/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>0.034</b>	SPT	7/24/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.25</b>	SPT	7/24/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	SPT	7/24/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	SPT	7/24/2023	Pass

### Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	<b>Match</b>	MDC	7/25/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	<b>1.0893</b>	MFB	7/24/2023	---

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Certification Approval \_\_\_\_\_

Laboratory Director: Anthony J Scala

Date: 7/25/2023

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	7/31/2023

Enalytic ID	E2307056-001
TANK	5 & 4
Batch Number	307262023M
Train	UTLX647792
Sample ID	DEF 32.6%
Date Sampled	7/26/2023
Date Received	7/27/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.6% DEF TANK 5 & 4 Batch # 307262023M Train # UTLX647792

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	31.9	MFB	7/31/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	1.3820	MDC	7/31/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	0.09	MDC	7/28/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	0.12	MDC	7/28/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MFB	7/28/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.5	MFB	7/27/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/28/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/28/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/28/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/28/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/28/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/28/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/28/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.25	NAB	7/28/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/28/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	NAB	7/28/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	NAB	7/28/2023	Pass

### Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	Match	MDC	7/31/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	1.0888	MFB	7/27/2023	---

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.

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 extended on 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: 7/31/2023

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	8/2/2023

Internal Rating:  
**A+**

Enalytic ID	E2307064-001
Batch Number	307282023M
Train	GATX224047
Sample ID	DEF 32.5%
Date Sampled	7/28/2023
Date Received	7/31/2023
ISO 17025	Certificate Number: AT-2956

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch # **307282023M** Train # **GATX224047**

Test Parameter/Method	Units	Test Method (ISO) <sup>1</sup>	Acceptable Limit <sup>2</sup>	Results <sup>4</sup>	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	<b>31.9</b>	SPT	8/2/2023	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Annex C	1.3814-1.3843	<b>1.3820</b>	MLB	8/1/2023	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Annex D	<0.2	<b>0.09</b>	MDC	8/2/2023	Pass
Biuret	%	22241-2 Annex E	<0.3	<b>0.14</b>	MDC	8/1/2023	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<b>&lt;1.0</b>	MFB	8/1/2023	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<b>&lt;2.5</b>	MFB	8/1/2023	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/31/2023	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>0.079</b>	NAB	7/31/2023	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/31/2023	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/31/2023	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/31/2023	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/31/2023	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/31/2023	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.25</b>	NAB	7/31/2023	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/31/2023	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<b>&lt;0.05</b>	NAB	7/31/2023	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<b>&lt;0.02</b>	NAB	7/31/2023	Pass

### Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) <sup>3</sup>	Spectra	22241-2 Annex J	Control Match	<b>Match</b>	MDC	8/2/2023	---
Density @ 20degC	g/cm <sup>3</sup>	3675	Not Applicable	<b>1.0923</b>	MLB	8/1/2023	---

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: 8/2/2023