

Client:	DEF Products, LLC
Contact	Sharon Stegmuller
Address	422 East Barioni Blvd Imperial, CA 02251
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Phone	760 355 7997
Report Date	8/4/2021

Enalytic ID	E2107052-001
Batch Number	307122021M
Train Number	TILX200532
Sample ID	DEF 32.4%
Date Sampled	7/12/2021
Date Received	7/29/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.4% DEF Batch# 307122021M Train# TILX200532

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results ⁴	Chemist	Analysis Date	Pass/Fail
Urea Content ³	wt%	22241-2 Annex C	31.8-33.4	32.3	SPT	8/2/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3826	SPT	8/2/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.14	ALB	8/2/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.18	MDC	8/2/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	8/3/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	8/3/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	(<0.54)	0.52	PEN	7/30/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	7/30/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0893	ALB	7/30/2021	---

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 ISO 22241 acceptable limit plus reproducibility for Phosphate is shown in parentheses and is less than or equal to the value shown.

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: 8/4/2021

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Report Date	8/4/2021

Enalytic ID	E2107052-002
Batch Number	307222021M
Train Number	UTLX647587
Sample ID	DEF 32.5%
Date Sampled	7/22/2021
Date Received	7/29/2021
ISO 17025	Certificate Number: AT-2956

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: **32.5% DEF** Batch# **307222021M** Train# **UTLX647587**

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	8/2/2021	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3829	SPT	8/2/2021	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.11	ALB	8/2/2021	Pass
Biuret	%	22241-2 Annex E	<0.3	0.19	MDC	8/2/2021	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5.0	<1.0	MDC	8/3/2021	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	MDC	8/3/2021	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.44	PEN	7/30/2021	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	PEN	7/30/2021	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	PEN	7/30/2021	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached) ³	Spectra	22241-2 Annex J	Control Match	Match	MDC	7/30/2021	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0898	ALB	7/30/2021	---

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