

Client:	DEF Products, LLC
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Enalytic ID	E2009032-003
Batch Number	309102020L
Train Number	GATX223426
Sample ID	DEF 40.3%
Date Sampled	9/10/2020
Date Received	9/11/2020
Report Date	9/15/2020

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241


Client ID: 40.3% DEF Batch# 309102020L Train # GATX223426

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	39.1-40.8	40.8	BDK	9/11/2020	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3917-1.3982	1.3957	BDK	9/11/2020	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.4	<0.01	BDK	9/10/2020	Pass
Biuret	%	22241-2 Annex E	<0.4	0.21	BDK	9/11/2020	Pass
Aldehyde	mg/kg	22241-2 Annex F	<6	<1.0	ALB	9/10/2020	Pass
Insolubles	mg/kg	22241-2 Annex G	<25	5.5	BDK	9/10/2020	Pass
Phosphate by ICP-OES	mg/kg	22241-2 Annex I	<0.6	<0.25	CLB	9/11/2020	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.6	0.28	CLB	9/11/2020	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.6	<0.05	CLB	9/11/2020	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.3	<0.02	CLB	9/11/2020	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.3	<0.02	CLB	9/11/2020	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.3	0.08	CLB	9/11/2020	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.3	<0.02	CLB	9/11/2020	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.6	<0.05	CLB	9/11/2020	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.6	<0.05	CLB	9/11/2020	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.6	<0.05	CLB	9/11/2020	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.6	<0.05	CLB	9/11/2020	Pass
Miscellaneous Secondary Unregulated Quality Standards							
Identify by FTIR (attached)	Spectra	22241-2 Annex J	Control Match	Match	ALB	9/15/2020	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.1112	ALB	9/14/2020	---

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

Note 2: The acceptable values are based on the standard 40.0% unless otherwise stated, and are less than or equal to the values shown.

"The undersigned certifies that the value(s) reported have met the highest analytical quality control standards."

Certification Approval 
 Laboratory Director: Anthony J Scala

Date: 9/15/2020