

Client:	DEF Products, LLC
Contact	Joe Servin, General Manager
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997

Enalytic ID	E1906034-001
Batch Number	306072019
Train Number	TILX265040
Sample ID	DEF 32.5%
Date Sampled	6/7/2019
Date Received	6/11/2019
Report Date	6/14/2019

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Batch# 306072019 Train# TILX265040

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.9	SPT	6/14/2019	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3834	CLB	6/11/2019	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	BDK	6/12/2019	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	CND	6/13/2019	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	BDK	6/13/2019	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	BDK	6/12/2019	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	BDK	6/14/2019	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/12/2019	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/12/2019	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/12/2019	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/12/2019	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/12/2019	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/12/2019	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/12/2019	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/12/2019	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/12/2019	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/12/2019	Pass

Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached)	Spectra	22241-2 Annex J	Control Match	Match	CLB	6/14/2019	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0925	BDK	6/12/2019	---

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.

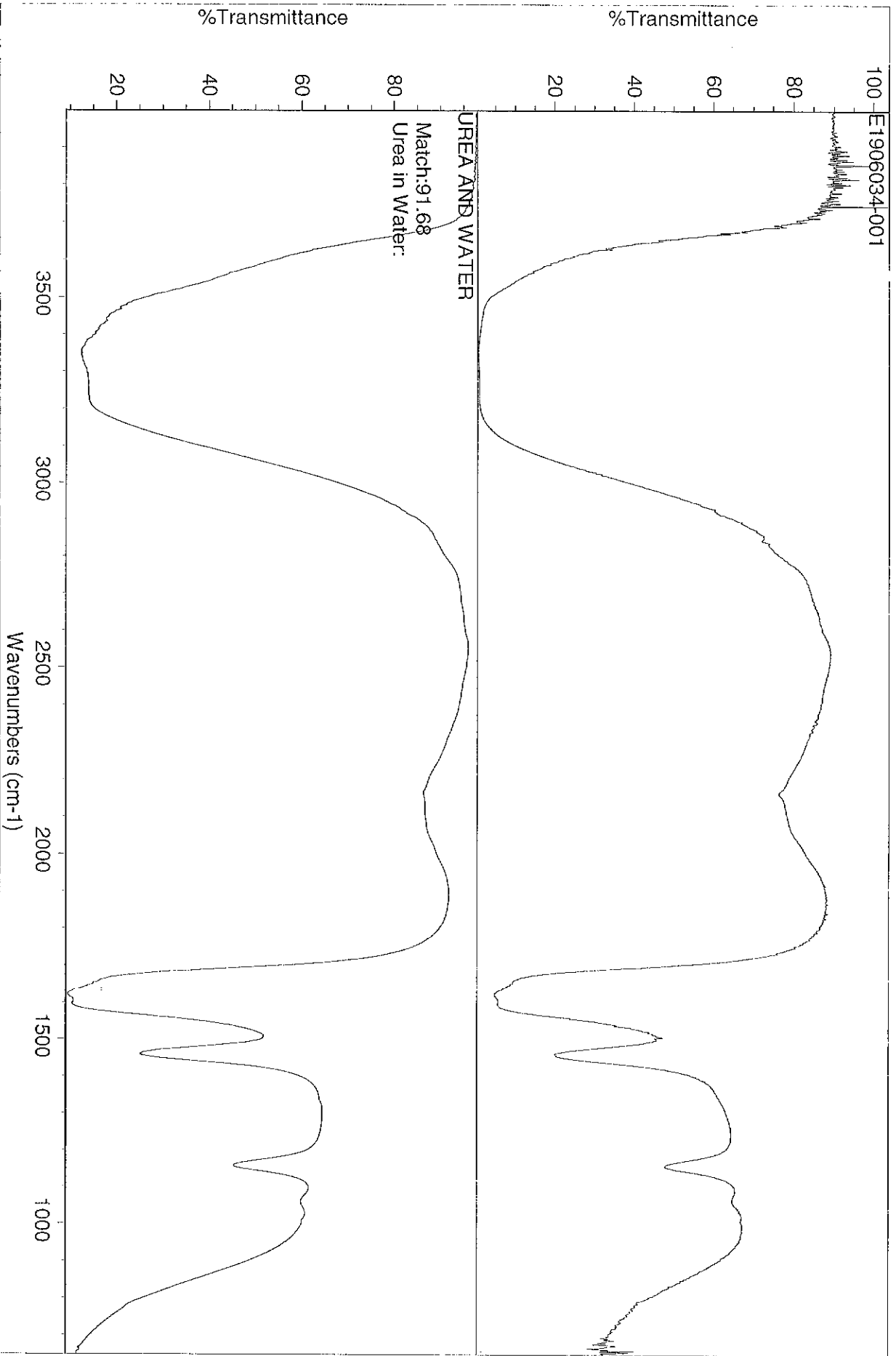
"The undersigned certifies that the value(s) reported have met the highest analytical quality control standards."

Certification Approval _____

Laboratory Director: Anthony J Scala

Date: 6/14/2019

Search results for: E1906034-001
Date: Fri Jun 14 08:34:51 2019 (GMT-04:00)
Search algorithm: Search Expert
Regions searched: 2600.00-450.00



Chain of Custody Record

6034 Corporate Drive, East Syracuse, NY 13057
 Phone: 315.437.0255 Fax: 315.437.1209

Quote Number:



Client: DEF Products, LLC		Phone #:	Project #/Project Name		ISO 22241 DEF Testing	
Client Contact: Sharon Stegmuller		(760) 355-7997	Location (City/State): 422 E. Barton Blvd., Imperial CA			
Sample ID	Date	Time	Matrix	Grab or Comp	Lab Internal Use Only	Number of Containers 1 2 3 4 5 6 7 8 9 10 Product Testing Certificate of Analysis
Batch # 306072019	6/7/2019	N/A	Liquid	Comp	E1906034	
Train # TILX265040					001	
PERCENT DEF 32.5%						
Parameter and Method	Sample bottle:	Type	Size	Preservative	Relinquished by: (sign) _____ Date _____ Time _____ Relinquished by: (sign) _____ Date _____ Time _____ Relinquished by: (sign) _____ Date _____ Time _____ Relinquished by: (sign) _____ Date _____ Time _____	
1 Urea Content		HDPE	500 ml	None	Company: DEF Products, LLC Name of Courier: UPS 2 nd Day Air AM	
2 Refractive Index @ 20degC					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
3 Density @ 20degC					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
4 Alkalinity (as NH3)					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
5 Buret					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
6 Aldehydes					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
7 Insolubles					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
8 Phosphate					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
9 Total Metals: Al, Ca, Cr, Cu, Fe, K, Mg, Ni, Na, Zn.					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	
10 FTIR					Relinquished by: (sign) _____ Date _____ Time _____ Received by: (sign) _____	

Date: 6/11/19 Time: 9:43 am
 Rec'd for Lab by: C. Scobee

Client:	DEF Products, LLC
Contact	Joe Servin, General Manager
Address	422 East Barioni Blvd Imperial, CA 02251
Email	defproducts@gmail.com
Phone	760 355 7997

Enalytic ID	E1906088-001
Batch Number	306242019
Train Number	UTLX647675
Sample ID	DEF 32.5%
Date Sampled	6/24/2019
Date Received	6/25/2019
Report Date	6/28/2019

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Batch# 306242019 Train# UTLX647675

Test Parameter/Method	Units	Test Method (ISO) ¹	Acceptable Limit ²	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.8	SPT	6/27/2019	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3832	CND	6/27/2019	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	0.07	CND	6/27/2019	Pass
Biuret	%	22241-2 Annex E	<0.3	0.15	BDK	6/26/2019	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	BDK	6/27/2019	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	BDK	6/27/2019	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	BDK	6/27/2019	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/25/2019	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/25/2019	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/25/2019	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/25/2019	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/25/2019	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	CLB	6/25/2019	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/25/2019	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/25/2019	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/25/2019	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	CLB	6/25/2019	Pass


Miscellaneous Secondary Unregulated Quality Standards

Identify by FTIR (attached)	Spectra	22241-2 Annex J	Control Match	Match	BDK	6/25/2019	---
Density @ 20degC	g/cm ³	3675	Not Applicable	1.0910	BDK	6/26/2019	---

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.

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

Certification Approval 
 Laboratory Director: Anthony J Scala

Date: 6/28/2019

Search results for: E1906088-001
Date: Tue Jun 25 14:57:53 2019 (GMT-04:00)
Search algorithm: Search Expert
Regions searched: 2600.00-450.00

