

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	760 427 4470

Analytic ID:	E1705030-001
Batch Number	Trace# 305082017
Sample ID	32.5% DEF
Date Sampled	5/9/2017
Date Received	5/11/2017
Report Date	5/18/2017

## Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241

Client ID: 32.5% DEF Trace# 305082017

Test Parameter/Method	Units	Test Method (ISO)	Acceptable Limit	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Ann C	31.8-33.2	32.5	SPT	5/15/2017	Pass
Density @ 20degC	g/cm <sup>3</sup>	3675/1285	1.0870-1.0930	1.0904	AVM	5/12/2017	Pass
Refractive Index @ 20degC	N <sub>D</sub> <sup>20</sup>	22241-2 Ann C	1.3814-1.3843	1.3827	AVM	5/12/2017	Pass
Alkalinity as NH <sub>3</sub>	%	22241-2 Ann D	<0.2	<0.2	SPT	5/17/2017	Pass
Biuret	%	22241-2 Ann E	<0.3	<0.3	SPT	5/15/2017	Pass
Aldehyde	mg/kg	22241-2 Ann F	<5	<5	SPT	5/18/2017	Pass
Insolubles	mg/kg	22241-2 Ann G	<20	6.5	SPT	5/15/2017	Pass
Phosphate	mg/kg	22241-2 Ann H	<0.5	<0.25	SPT	5/15/2017	Pass
Calcium by ICP-OES	mg/kg	22241-2 Ann I	<0.5	0.35	BDK	5/15/2017	Pass
Iron by ICP-OES	mg/kg	22241-2 Ann I	<0.5	<0.05	BDK	5/15/2017	Pass
Copper by ICP-OES	mg/kg	22241-2 Ann I	<0.2	<0.02	BDK	5/15/2017	Pass
Zinc by ICP-OES	mg/kg	22241-2 Ann I	<0.2	0.11	BDK	5/15/2017	Pass
Chromium by ICP-OES	mg/kg	22241-2 Ann I	<0.2	<0.02	BDK	5/15/2017	Pass
Nickel by ICP-OES	mg/kg	22241-2 Ann I	<0.2	<0.02	BDK	5/15/2017	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Ann I	<0.5	<0.05	BDK	5/15/2017	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Ann I	<0.5	0.062	BDK	5/15/2017	Pass
Sodium by ICP-OES	mg/kg	22241-2 Ann I	<0.5	<0.05	BDK	5/15/2017	Pass
Potassium by ICP-OES	mg/kg	22241-2 Ann I	<0.5	0.14	BDK	5/15/2017	Pass
Identity by FTIR (attached)	Spectra	22241-2 Ann J	Match	Reference Match	BDK	5/11/2017	Pass

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



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

Laboratory Director: Anthony J Scala

Analytic FDA Reg. Number: 02-636-0096

Date: 5/18/2017

# analytic

Analytical Testing Laboratories

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

# Chain of Custody Record

Quote Number:

Client: DEF Products, LLC		Project # Project Name		ISO 22241 DEF Testing										Remarks											
Client Contact: Sharon Stegmuller		Phone #	Location (City/State)	422 E. Barioni Blvd., Imperial CA										Product Testing Certificate of Analysis											
Sample ID	Date	Time	Matrix	Grab or Comp	Lab Internal Use Only	1		2		3		4		5		6		7		8		9		10	
Trace #305082017	5/9/2017	N/A	Liquid	Comp	E1705030	2		X		X		X		X		X		X		X		X		X	
Parameter and Method		Sample bottle:	Type	Size	Preservative	Number of Containers		Sampled by (Print)		Company:		Relinquished by:(sign)		Date		Time		Name of Courier		Received by: (sign)		Date		Time	
1	Urea Content		HDPE	500 ml	None	2				DEF Products, LLC								UPS 2 <sup>nd</sup> Day Air							
2	Refractive Index @ 20degC									DEF Products, LLC															
3	Density @ 20degC									DEF Products, LLC															
4	Alkalinity (as NH3)									DEF Products, LLC															
5	Biuret									DEF Products, LLC															
6	Aldehydes									DEF Products, LLC															
7	Insolubles									DEF Products, LLC															
8	Phosphate									DEF Products, LLC															
9	Total Metals: Al,Ca,Cr,Cu,Fe,K,Mg,Ni,Na,Zn.									DEF Products, LLC															
10	FTIR									DEF Products, LLC															
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Search results for: E1705030-001  
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Regions searched: 2600.00-450.00

