

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

Analytic ID:	E1801021-001
Batch Number:	301062018
Sample ID:	DEF 32.7%
Date Sampled:	1/6/2018
Date Received:	1/15/2018
Report Date:	1/18/2018

Certificate of Analysis

Diesel Exhaust Fluid Analytical ISO-22241
 Client ID: 32.7% DEF Batch# 301062018

Test Parameter/Method	Units	Test Method (ISO)	Acceptable Limit	Results	Chemist	Analysis Date	Pass/Fail
Urea Content	wt%	22241-2 Annex C	31.8-33.2	32.4	SPT	1/18/2018	Pass
Density @ 20degC	g/cm ³	3675	1.0870-1.0930	1.0930	CLB	1/16/2018	Pass
Refractive Index @ 20degC	N _D ²⁰	22241-2 Annex C	1.3814-1.3843	1.3828	CLB	1/18/2018	Pass
Alkalinity as NH ₃	%	22241-2 Annex D	<0.2	<0.01	CLB	1/18/2018	Pass
Biuret	%	22241-2 Annex E	<0.3	0.26	CLB	1/18/2018	Pass
Aldehyde	mg/kg	22241-2 Annex F	<5	<1.0	CLB	1/16/2018	Pass
Insolubles	mg/kg	22241-2 Annex G	<20	<2.0	CLB	1/16/2018	Pass
Phosphate	mg/kg	22241-2 Annex H	<0.5	<0.25	CLB	1/18/2018	Pass
Calcium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	1/18/2018	Pass
Iron by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	1/18/2018	Pass
Copper by ICP-OES	mg/kg	22241-2 Annex I	<0.2	<0.02	BDK	1/18/2018	Pass
Zinc by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.03	BDK	1/18/2018	Pass
Chromium by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.07	BDK	1/18/2018	Pass
Nickel by ICP-OES	mg/kg	22241-2 Annex I	<0.2	0.06	BDK	1/18/2018	Pass
Aluminum by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	1/18/2018	Pass
Magnesium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	1/18/2018	Pass
Sodium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	<0.05	BDK	1/18/2018	Pass
Potassium by ICP-OES	mg/kg	22241-2 Annex I	<0.5	0.11	BDK	1/18/2018	Pass
Identity by FTIR (attached)	Spectra	22241-2 Annex J	Match	Reference Match	BDK	1/17/2018	Pass

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

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



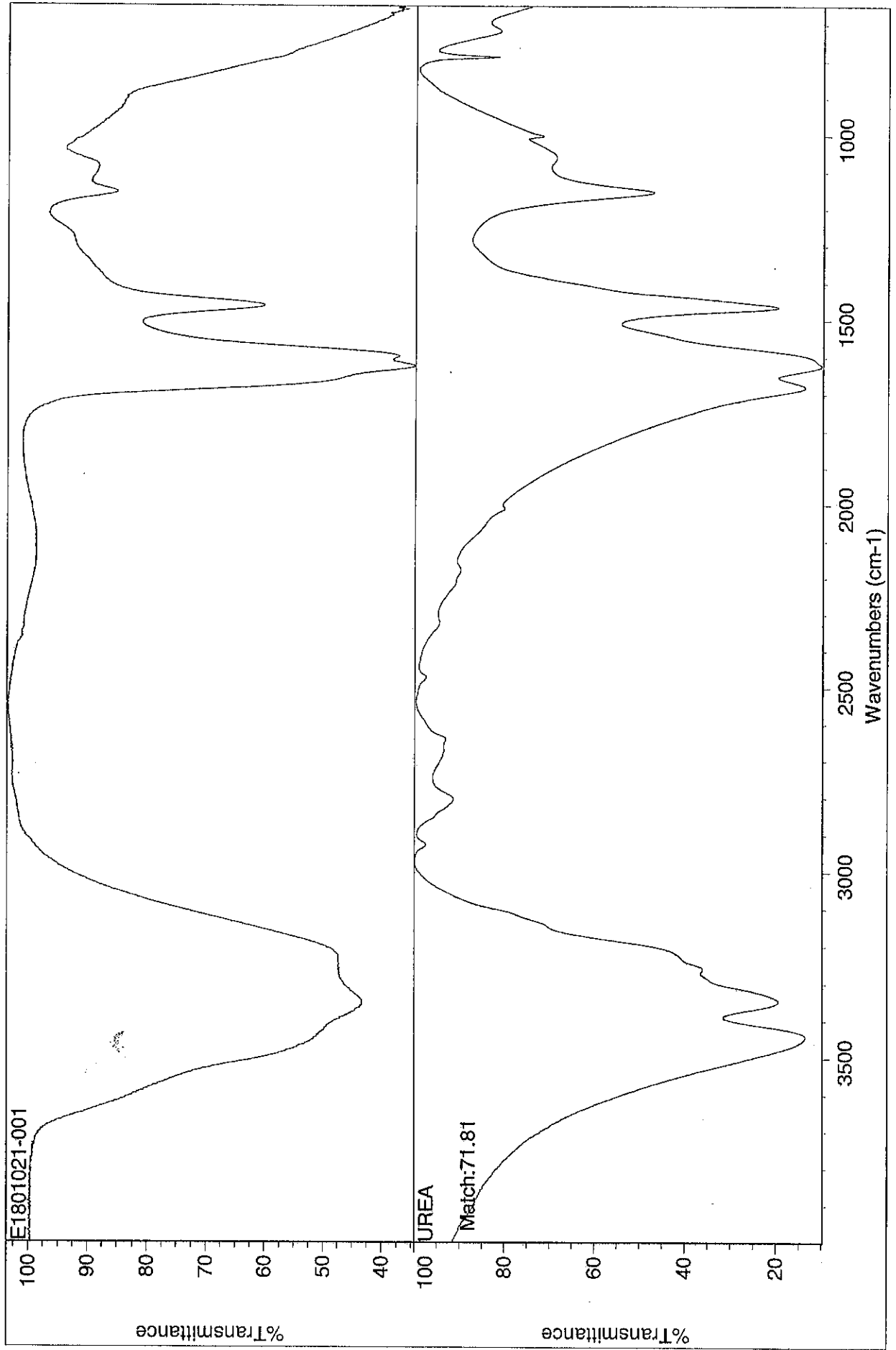
Certification Approval _____

Laboratory Director: Anthony J Scala

Analytic FDA Reg. Number: 02-636-0096

Date: 1/18/2018 _____

Search results for: E1801021-001
Date: Wed Jan 17 14:06:10 2018 (GMT-05:00)
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
Client Contact: Sharon Stegmuller
Phone #: (760) 355-7997
Project Name: ISO 22241 DEF Testing
Location (City/State): 422 E. Barioni Blvd., Imperial CA

Sample ID: Batch # 301062018
Date: 1/6/2018
Matrix: Liquid
Grab or Comp: Comp
Lab Internal Use Only: E1801021

PERCENT DEF 32.7 %

Number of Containers	1	2	3	4	5	6	7	8	9	10	Remarks
1	X	X	X	X	X	X	X	X	X	X	Product Testing Certificate of Analysis

Parameter and Method	Sample bottle:	Type	Size	Preservative	Relinquished by:	Date	Time
1 Urea Content	HDPE	500 ml	None	DEF Products, LLC	1/15/18	11:59 am	
2 Refractive Index @ 20degC							
3 Density @ 20degC							
4 Alkalinity (as NH3)							
5 Biuret							
6 Aldehydes							
7 Insolubles							
8 Phosphate							
9 Total Metals: Al,Ca,Cr,Cu,Fe,K,Mg,Na,Zn.							
10 FTIR							

Name of Courier: UPS Ground
Received by: (sign)
C. Scala