

### Biodiesel Certificate of Analysis, ASTM D 6751 - 20

**Customer Name:** Plasma Blue, LLC  
**Customer Address:** 151 St Andrews Ct  
 Mankato, MN 56001  
**Customer's Sample ID:** PBS150123020  
**Sample Type:** B100

<b>Sample ID:</b>	0105211
<b>Customer ID:</b>	Plasma Blue
<b>Received on:</b>	1/5/2021
<b>Completed:</b>	1/7/2021

Test	Method	Result	Unit	ASTM limit	Pass/Fail
Calcium & Magnesium	EN 14538	0.0	ppm	5, max	P
Flash point, closed cup	D 93 (Proc. C)	160.5	°C	93, min	P
Alcohol Control:					
Option 1: Methanol	EN 14110 (Proc. B)		mass %	0.2, max	
Option 2: Flash Point	D 93 (Proc. C)	160.5	°C	130, min	P
Water and Sediment	D 2709	< 0.010	% volume	0.050, max	P
Kinematic Viscosity cSt@40°C	D 445	4.050	mm <sup>2</sup> /sec.	1.9-6.0	P
Sulfated Ash	D 874	< 0.005	% mass	0.020, max	P
Sulfur	D 5453	0.4	ppm	15, max	P
Copper Corrosion at 50°C	D 130	1A	n/a	No. 3, max	P
Cetane Number	D 613 <sup>A</sup>		n/a	47, min	
Cloud Point	D 2500	0	°C	Report	Report
Carbon Residue	D 4530	0.000	% mass	0.050, max	P
Total Acid Number	D 664 (Method B)	0.32	mg KOH/g	0.50, max	P
Cold Soak Filterability	D7501	96	seconds	360, max <sup>B</sup>	Report
Free Glycerin	D 6584	0.002	% mass	0.020, max	P
<b>Total Glycerin:</b>	<b>D 6584</b>	<b>0.031</b>	% mass	0.240, max	P
<b>Monoglycerides</b>	<b>D 6584</b>	<b>0.096</b>	% mass	n/a	
Diglycerides	D 6584	0.025	% mass	n/a	
Triglycerides	D 6584	0.010	% mass	n/a	
Phosphorus	D 4951	0.000068	% mass	0.001, max	P
Distillation at 90% rec., ATE	D 1160	352	°C	360, max	P
Sodium & Potassium	EN 14538	0.1	ppm	5, max	P
Oxidation Stability	EN 15751	2.8	hours	3, min	See Note <sup>D</sup>
<b>Other Tests:</b>					
Visual Inspection	D 4176 (Proc. 2)	1	haze	Report <sup>C</sup>	Report

<sup>A</sup>Test performed by an outsourced laboratory.

<sup>B</sup>360 max for Grade 2B. 200 max for Grade 1B, with max 0.400 for monoglycerides.

<sup>C</sup>BQ-9000 requires a value of 2 maximum.

<sup>D</sup>The Client is advised to refer to ASTM E29 for guidance on rounding when making a Pass/Fail determination in accordance with the stated level of precision for the accompanying Standard.

**Approval:** 

**Title:** QMR or designee

**Date:** January 7, 2021