



ISO/IEC 17025:2017
18-LAB-006

Bureau Veritas Corporation
Proyecto Caribe
Vía 40 No 85-999, Parque Logístico Logika
bodegas B11, B12 y B13
Barranquilla, Colombia
hidrocarburos.labcaribe@bureauveritas.com

Certificate of Analysis

Number:COBAQ-25-0067920250123211502

Vessel / Tank	---	Date Sampled	16-Dec-2024
Product	Biodiesel	Dated Received	13-Jan-2025
Client	Manuelita	Date Analyzed	15-Jan-2025 - 23-Jan-2025
Client Address	Av 40 16 B-159 L-5, Villavicencio, Meta, Colombia	Date Reported	23-Jan-2025
Submitted by	Manuelita S.A	Job Number	03-15574-1

BD903B2412162130 Submitted Sample				
COBAQ-25-00679-001				Specification (Resolucion 40444,30-06-23)
Test	Method	Unit	Result	Min/Max
Density at 15°C	ASTM D4052-22	kg/m ³	875.5	860 kg/m ³ - 900 kg/m ³
Cetane Number**	ASTM D613-24 ²	--	66.0	51 -- Min
Kinematic Viscosity at 40°C	ASTM D445-24	mm ² /s	4.498	3.50 mm ² /s - 5.00 mm ² /s
Water Content	ASTM E203-24	mg/kg	290	350 mg/kg Max
Water Content	ASTM E203-24	% (m/m)	0.029	---
Particulate Contaminant	EN 12662:2008	mg/kg	19.5	24 mg/kg Max
Test Volume Filtered after 30 min	EN 12662:2008	mL	800	---
Corrected Flash Point	ASTM D93C-20	°C	141.0	120 °C Min
Corrosion Copper Strip - 3h at 50°C (122°F)	ASTM D130-19	--	1a	1b -- Max
Oxidation Stability**	EN 14112:2020	Hours	>12	8 Hours Min
Sulfated Ash	ASTM D874-23	% (m/m)	<0.005	0.02 % (m/m) Max
Phosphorus	EN 14107:2003	mg/kg	<4	4.0 mg/kg Max
Endpoint Type	ASTM D664-24	--	Inflection End Point (IEP)	---
Total Acid Number	ASTM D664-24	mg KOH/g	0.29	0.5 mg KOH/g Max
Chloroform Used as Solvent	ASTM D664-24	--	No	---
Cloud Point	ASTM D2500-23	°C	12	---
Calcium	EN 14538:2006	mg/kg	<1	---
Magnesium	EN 14538:2006	mg/kg	<1	---
Calcium + Magnesium	EN 14538:2006	mg/kg	<2	5.0 mg/kg Max
Sodium	EN 14538:2006	mg/kg	<1	---
Potassium	EN 14538:2006	mg/kg	<1	---
Sodium + Potassium	EN 14538:2006	mg/kg	<2	5.0 mg/kg Max
Monoglycerides	ASTM D6584-21	% (m/m)	0.361	0.40 % (m/m) Max
Diglycerides	ASTM D6584-21	% (m/m)	0.130	0.2 % (m/m) Max
Triglycerides	ASTM D6584-21	% (m/m)	<0.05	0.2 % (m/m) Max
Free Glycerin	ASTM D6584-21	% (m/m)	0.006	0.02 % (m/m) Max
Total Glycerin	ASTM D6584-21	% (m/m)	0.122	---
Ester Content**	EN 14103:2020	% (m/m)	>99.0	96.5 % (m/m) Min
C18:3/Linolenic Acid**	EN 14103:2020	% (m/m)	<1	12 % (m/m) Max
Methanol	UNE-EN 14110:2020	% (m/m)	0.06	0.2 % (m/m) Max
Iodine Value	EN 14111:2022	g iodine/100g	56	120 g iodine/100g Max
Cold Soak Filtration Time**	ASTM D7501-22	Seconds	116	360 Seconds Max
filtered volume**	ASTM D7501-22	mL	300	---
MCRT on 10% Distillation Residue	ASTM D4530-15(2020)	% (m/m)	<0.10	0.05 % (m/m) Max

** Test(s) marked as (**) is/are not in the scope of 18-LAB-006 certificate issued by ONAC

This report use decimal point (.) as decimal separator

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BD903B2412162130 Submitted Sample

COBAQ-25-00679-001

Specification
(Resolucion 40444,30-06-23)

Test	Method	Unit	Result	Min/Max
MCRT on 10% Distillation Residue**	ASTM D4530-15(2020)	% (m/m)	0.00	0.05 % (m/m) Max

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Comments:

¹ The specification has been supplied by the client. « Tabla 3A, resolución 40444, Junio 30 2023 »

² Analysis performed by contracted laboratory

Marilyn Muñoz , Laboratory Supervisor

End of Report

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