



# SAYBOLT - GASOLINA 10 PPM

*Diésel – 22 de Octubre del 2018*



En Octubre del 2018, el laboratorio independiente y acreditado en Singapur Saybolt, analizó una muestra de aceite diésel de carretera tratado con la **Tecnología Enzimática para combustibles XBEE**.

El análisis demostró que dicho combustible, también conocido como Gasoil, sigue cumpliendo con la norma de 10 PPM.

Análisis	Métodos	Sin XBEE	Con XBEE	Unidades	Límites
Aspecto a 20°C	Visual	Claro y brillante	Claro y brillante	-	Claro y brillante
Densidad a 15°C	ASTM D 4052	844.80	844.90	kg/L	820 – 845
Número de cetano	ASTM D 613	54.60	54.90	% vol	51.00 mins.
Índice de cetano	ASTM D 4737	55.70	55.70	% vol	46.00 mins.
Viscosidad a 40°C	ASTM D 445	3.92	3.92	cSt	2.00 – 4.50
Punto de inflamación	ASTM D 93	79.0	80.0	°C	66.0 mins.
Corrosión del cobre	ASTM D 130	1a	1a		n°1
Materia particulada	EN 12662	1.4	1.5	mg/kg	24 máx.
Estabilidad de oxidación	ASTM D 2274	3.3	3.3	mg/L	25 máx.
Contenido de azufre	ASTM D 5453	6.0	6.2	mg/kg	10.00 máx.
Residuo de carbón	ASTM D 4530	<0.1	<0.1	% wt	0.20 máx.
Contenido de cenizas	ASTM D 482	<0.001	<0.001	% wt	0.001 máx.
Destilación · % (v/v) recuperado a 250°C · % (v/v) recuperado a 350°C · 95% (v/v) recuperado	ASTM D 86	14.20 93.20 354.20	14.60 93.30 354.70	°C	65% máx. 85% máx. 360°C máx.
... Siguiendo página					

# Análisis del diésel canadiense por SGS

Análisis	Métodos	Sin XBEE	Con XBEE	Unidades	Límites
Lubricidad a 60°C	ASTM D 6079	260	260	µm	460 máx.
Conductividad a 20°C	ASTM D 2624	81	79	pS/m	150 mins.
Hidrocarburos poliaromáticos (HAP)	IP 391	1.7	1.8	% wt	11.0 máx.
Contenido de agua	EN ISO 12937	46	43	mg/kg	200.00 máx.
Agua y sedimentos	ASTM D 2709	<0.01	<0.01	% vol	0.05 máx.
Éster metílico de ácidos grasos (FAME)	ASTM D 7371	Nulo	Nulo	% vol	Nulo
Punto nube	ASTM D 2500	-4	-4	°C	-1 máx.
Punto de obstrucción del filtro de frío (CFPP)	IP 309	-5	-5	°C	-5 máx.
Número de acidez, total	ASTM D 664	0.02	0.02	mgKOH/g	0.3 máx.
Color	ASTM D 1500	<0.5	<0.5	-	2 máx.
Tendencia al bloqueo del filtro	IP 387	1.00	1.00	-	2 máx.

# Anexos

Informes originales

**TO WHOM IT MAY CONCERN**



Report Number 18803/0731/18  
 Report Date 10-Oct-18  
 Lab Number L/0547/18  
 Date of Analysis 10-Oct-18  
 Date of Sampling 10-Oct-18  
 Date Received 10-Oct-18  
 Vessel N/A  
 Product Gasoil 10PPM  
 Source Ex Smart Energy  
 Location Mandai Link  
 Sample Type Before doped XBEE Additives  
 Sample ID 7249153

**CERTIFICATE OF QUALITY**

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TEST	UNIT	METHOD	SPEC		RESULT
			MIN	MAX	
Acid Number, Total	mgKOH/g	ASTM D664		0.3	0.02
Appearance	-	ASTM D4176 (Proc. 1)	Clear & Bright, without undissolved sediment or free water		Clear & Bright, without undissolved sediment or free water
Ash Content	% wt	ASTM D482		0.01	Less Than 0.001
Cetane Index	% vol	ASTM D4737 (Proc.A)	46		55.7
Cetane Number	% vol	ATSM D613	51		54.6
Conradson Carbon Residue, (on 10% distillation Residue)	% wt	ASTM D4530		0.2	Less Than 0.10
CFPP (Cold Filter Plugging Point)	°C	IP 309		Minus 5	Minus 5
Cloud Point	°C	ASTM D2500		Minus 1	Minus 4
Colour	-	ASTM D1500		2	Less Than 0.5
Conductivity @ 20°C	pS/m	ASTM D2624	150		81(+)
Copper Corrosion, 3hrs at 100 °C	-	ASTM D130		1	1A
Density @ 15°C	kg/L	ASTM D4052	0.820	0.845	0.8448
Distillation T95 (95% Recovered)	°C	ASTM D86		360	354.2
Distillation Volume Recovered @ 250°C	% vol	ASTM D86		65	14.2
Distillation Volume Recovered @ 350°C	% vol	ASTM D86	85		93.2
Filter Blocking Tendency	-	IP 387		2	1.00
Flash Point	°C	ASTM D93 (Proc.A)	66.0		79.0
Fatty Acid Methyl Ester (FAME)	% vol	ASTM D7371		Nil	Nil
Kinematic Viscosity @ 40°C	cSt	ASTM D445	2.0	4.5	3.920
Lubricity (HFRR) (WSD 1,4) @ 60 °C	um	ASTM D6079		460	260
Odour	-	Report	Merchantable		Merchantable
Oxidation Stability	mg/L	ASTM D2274		25	3.3
Particulate Matter	mg/kg	EN12662		24	1.4
Polyaromatic Hydrocarbons (PAHs)	% wt	IP391		11	1.7
Sulfur Content	mg/kg	ASTM D5453		10	6.0
Water Content	mg/kg	EN ISO 12937		200	46
Water and Sediment	% vol	ASTM D2709		0.05	Less Than 0.01

Remarks;

(+) Off-specification

Authorized Signature(s)

1. Uncertainties, available on request, apply in the evaluation of the test results. Where available and for convenience purposes, the tested sample has been checked for compliance with supplied specifications, without accepting any liability. In case of dispute or uncertainty, we refer to the interpretation of test results as defined in ASTM D3244, IP 367 or ISO 4259.  
 2. The test results relate only to the items tested.  
 3. This report shall not be reproduced except in full, without the written approval of the laboratory.

TO WHOM IT MAY CONCERN



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 Report Date 22-Oct-18  
 Lab Number L/0548/18  
 Date of Analysis 22-Oct-18  
 Date of Sampling 10-Oct-18  
 Date Received 10-Oct-18  
 Vessel N/A  
 Product Gasoil 10PPM  
 Source Ex Smart Energy  
 Location Mandai Link  
 Sample Type After doped XBEE Additives  
 Sample ID 7249154

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Cloud Point	°C	ASTM D2500		Minus 1	Minus 4
Colour	-	ASTM D1500		2	Less Than 0.5
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Filter Blocking Tendency	-	IP 387		2	1.00
Flash Point	°C	ASTM D93 (Proc.A)	66.0		80.0
Fatty Acid Methyl Ester (FAME)	% vol	ASTM D7371		Nil	Nil
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Oxidation Stability	mg/L	ASTM D2274		25	3.3
Particulate Matter	mg/kg	EN12662		24	1.5
Polyaromatic Hydrocarbons (PAHs)	% wt	IP391		11	1.8
Sulfur Content	mg/kg	ASTM D5453		10	6.2
Water Content	mg/kg	EN ISO 12937		200	43
Water and Sediment	% vol	ASTM D2709		0.05	Less Than 0.01

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