



**PTT GLOBAL CHEMICAL PUBLIC COMPANY LIMITED**

**LABORATORY OPERATION SERVICES, Laboratory Operations III**

Branch 6 : 8, I-8 Road, Map Ta Phut Industrial Estate, Map Ta Phut, Mueang Rayong, Rayong 21150

TEL : +66 (0) 3897-1111 , 1669 FAX : +66 (0) 3897-1083



NSC-TISI-TIS 17025

TESTING No. 0325

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<b>CERTIFICATE OF QUALITY</b>		<b>Report No. : COQ-RLB-2311-01625</b>	
<b>6203 BASE FUEL FOR HIGH SPEED DIESEL -THAPPLINE</b>		<b>Job No. : -</b>	
		<b>Replacement for Report No. :-</b>	
<b>Information from customers</b>			
<b>Customer / Requester :</b> <i>Movement and Dispatching Operations</i>		<b>For :</b> -	
<b>Address :</b> -			
<b>Telephone :</b>	<i>+66(0)3897-1000</i>	<b>Fax :</b>	<i>+66(0)3899-4111</i>
<b>Contact Name :</b>	-	<b>Email :</b>	-
<b>Sample Name :</b>	<i>6203 Base Fuel for High Speed Diesel -Thappline</i>	<b>Sampling Point :</b>	<i>T5264</i>
<b>Sampling Date/Time :</b>	<i>November 28, 2023 / 17:00</i>	<b>Sampling By :</b>	<i>Operation MO</i>
<b>Lot No./Batch No.:</b>	<i>6203/181</i>		
<b>Sample ID :</b> REF-RLB-F-2311048350			
<b>Received Date :</b>	<i>November 28, 2023 / 17:33</i>	<b>Test Date :</b>	<i>November 28, 2023</i>
<b>Sample Condition :</b> <i>Clear, pale yellowish-green Liquid</i>			
<b>Sampling By :</b> -			

Test Item	Test Method	Unit	Specification	Result	Note
Appearance	Visual	-	Pass	Pass	# 01
Ash	ASTM D482-19	mass %	0.01 max	<0.010	# 02
Carbon residue in 10% distillation bottoms	ASTM D4530-15 (Reapproved 2020)	% by mass	0.05 max	<0.05	# 02
Calculated Cetane Index	ASTM D976-21e1	-	50 min	52.3	#
Color of Sample	ASTM D1500-12	ASTM	2.0 max	L0.5	#
Color	Visual	-	Yellow	Yellow	#
Corrosion, Copper Strip 3 hr. at 50 °C	ASTM D130-19	number	1 max	1a	#
Density at 15 °C	ASTM D4052-18a	g/mL	0.81 - 0.87	0.8311	03
<b>Distillation, Automated method:</b>	ASTM D86-23				
90% Recovered		°C	357 max	351.1	#
Flash point, Procedure A (1 April - 30 November)	ASTM D93-20	°C	66 min	67.0	
Lubricity by HFRR	ASTM D6079-22	µm	460 max	Not Tested	# 04
Pour Point	ASTM D5950-14(Reapproved 2020)	°C	10 max	6	#
Sulfur Content	ASTM D5453-19a	mg/kg	45.0 max	5.7	#
Kinematic viscosity, at 40 °C	FT-NIR	mm <sup>2</sup> /s	1.8 - 4.1	2.7688	# 05
Water	ASTM D6304-20	mg/kg	250 max	85	#
Total Contaminate	EN 12662-14	mg/kg	24 max	5.5	# 02
Poly Aromatic Hydrocarbon	IP 391-07	% wt	11.0 max	<1	# 06
Electrical Conductivity at 35 °C	ASTM D2624-22	pS/m	Report	80	#

**Remark :**

- Reported results are as-received sample which is in good conditions, no contamination and shall be drawn using appropriate sampling procedure by non-laboratory staff except mentioned in the reference document.
- This test report is valid only when approved by authorized person and shall not be reproduced except in full, without written approval of PTT Global Chemical Public Company Limited authorized person.
- In this test report, the Italic font is to identify information provided by the customer, \* Indicates changed or additional result(s), \*\* indicates tested by outside, and (!) indicates Inhouse method.
- For purposed of determining conformance with these specifications, an observed of a calculated result shall be rounded, in accordance with the rounding method of ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.
- Opinions and Interpretations are not included in the Scope of ISO/IEC 17025 Accreditation except required by the test method
- # in this certificate are not included in the TISI Accreditation Scope.



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**Notes From Laboratory :**

- Flash point, Procedure A (1 April - 30 November) (67.0 +/- 1.1 ) °C, the reported uncertainty is an expanded uncertainty calculated using a coverage factor of 2.05 based on the t-distribution obtained from estimate the effective degrees of freedom,  $V_{eff} = 28$ , which give a level of confidence of 95%.

01 The product on visual inspection at ambient temperature shall be clear, bright and free from solid matter and dissolved water.

02 This test is performed on a 6-monthly basis.

ASTM D482-19; result of sample id 2311007717, dated : November 05, 2023, is <0.010 mass %

ASTM D4530-15 (Reapproved 2020); result of sample id 2311007717, dated : November 05, 2023, is <0.05 % by mass

EN 12662-14; result of sample id 2311007717, dated : November 05, 2023, is 5.5 mg/kg

03 Equivalent to Specific Gravity at 15.6/15.6 °C of 0.81 min. to 0.87 max.

05 ASTM D445 will be performed when viscosity is lower than 2.0 cSt or higher than 3.8 cSt.

06 This test is performed on a quarterly basis.

IP 391-07; result of sample id 2311007717, dated : November 05, 2023, is <1 % wt

This Test Report relates specifically to the samples tested which are in good conditions, no contamination and taken by requester according with Movement and Dispatching Operation Product Sampling Procedure.

**Notes From Customer :**

04 The waiver of lubricity higher than 460  $\mu\text{m}$  has been approved by Department of Energy Business, Ministry of Energy. Approval letter no. 124/2565 dated 29 December 2022 will be expired by 28 December 2025 and letter no. 61/2564 dated 2 August 2021 will be expired by 01 August 2024.

Manufacturer will report 'Not Tested' for this parameter as lubricity additive will be injected afterward by customer.

The waiver of the Methyl Ester of Fatty Acid less than 6.6 vol.% has been approved by Department of Energy Business, Ministry of Energy. Approval letter no. 124/2565 dated 29 December 2022 will be expired by 28 December 2025 and No.61/2564 dated 2 August 2021 will be expired by 01 August 2024.

**Reported By :**

(MissJeeraporn Charemrueen)  
(Laboratory Analyst)

**Issued Date :**

November 28, 2023

**Approved By :**

(MissThassawaree Asakhun)  
(Senior Laboratory Analyst)

**Approved Date :**

November 28, 2023

**Remark :**

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-End of Report-