SINGAPORE LABORATORY ACCREDITATION SCHEME

Accredited Laboratory SAC-SINGLAS

Schedule

Eurofins Mechem Pte. Ltd.
127 Woodlands Industrial Park E5
Woodlands e-Terrace
Singapore 757500

Certificate No. : LA-2017-0642-A

Issue No. : 13

Date : 8 May 2026

Expiry of Certificate : 24 May 2030

ACCREDITATION STANDARD: ISO/IEC 17025:2017
FIELD OF TESTING : Chemical and Biological Testing

MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
A PETROLEUM I GENERAL PETROLEUM a. Fuel Oil & Blends b. Diesel Oil & Gas Oil	1. Aluminum + Silicon	ASTM D5184-22 ISO 10478:1994(E) IP501-05
	2. Ash	ASTM D482-25 ISO 6245:2001(E)
	3. Ash @ 550°C	EMC-TP-3924
	4. Calculated Carbon Aromaticity Index (CCAI)	ISO 8217:2005 (E) ISO 8217:2010(E) ISO 8217:2012 (E) ISO 8217:2017 (E) ISO 8217:2024 (E)
	5. Density at 15°C	ASTM D1298-24 ISO 3675:1998 (E)
	6. Density, Relative Density and API Gravity of Liquids by digital density meter	ASTM D4052-22 ISO 12185-1996 (E)
	7. Determination of Water Content – Coulometric Karl Fischer Titration method	ASTM D6304-25 ISO 12937:2000 (E)
	8. Determination of Lead, Potassium and Magnesium	EMC-TP-5467

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MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
	9. Determination of Fatty Acid Methyl Ester (FAME) content in middle distillate – Infrared Spectrometry Method	EN 14078-2014 / IP 579/14
	10. Determination of Metals: Al, Si, V, Ni, Fe, Na, Ca, Zn, P by Ashing, Fusion & ICP	IP 501-05
	11. Determination of Chemical Species by Multidimensional GCMS	ASTM D7845-20
	12. Determination of Chlorinated Chemical Species by GCMS	GCMS/EMC-TP-5175
	13. Determination of Determination of 4-Cumyl Phenol & DH-DCPD by Multidimensional GCMS	GCMS/EMC-TP-5173
	14. Distillation of Petroleum Products	ASTM D86-23ae1 ISO 3405:2019
	15. Flash Point, PMCC	ASTM D93-26 ISO 2719:2016 / AMD 1:2021
	16. Gross Specific Energy	ISO 8217: 2005 (E) ISO 8217: 2010 (E) ISO 8217: 2012 (E) ISO 8217: 2017 (E) ISO 8217:2024 (E)
	17. Hydrogen Sulfide	ASTM D7621-16 (2021), IP 570-15 UOP 163-10
	18. Kinematic Viscosity	ASTM D445-24 ISO 3104: 2023
	19. Mercaptan Sulfur	UOP 163-10
	20. Micro Carbon Residue	ASTM D4530-25 ISO 10370:2014 (E)

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	21. Net Specific Energy	ISO 8217: 2005 (E) ISO 8217: 2010 (E) ISO 8217: 2012 (E) ISO 8217: 2017 (E) ISO 8217:2024 (E)
	22. P - Value	SMS 1600
	23. Pour Point	ASTM D97-17b (2022) ISO 3016: 2019
	24. Salinity Test	EMC-TP-5477
	25. Sediment by Extraction	ASTM D473-22 ISO 3735:1999 (E)
	26. Strong Acid Number	ASTM D664-18e2
	27. Sulphur	ASTM D4294-24 ISO 8754:2025
	28. Total Acid Number	ASTM D664-18e2
	29. Vanadium	IP501-05
	30. Water by Distillation	ASTM D95-23e1 ISO 3733:1999 (E)
	31. Xylene equivalent	BP 230-75
	32. Flash Point by Continuously Closed Cup (CCCFP) Tester	ASTM D6450-16a(2021)
	33. Flash Point by Modified Continuously Closed Cup (MCCCFP) Tester	ASTM D7094- 25
	34. Kinematic Viscosity by Stabinger type viscometer	ASTM D7042-25
	35. Water in Crude oil by Distillation	ASTM D4006 - 22

MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES		STANDARD METHODS / TECHNIQUES / EQUIPMENT
	36.	Determination of Biodiesel (Fatty Acid Methyl Esters) Content in Diesel Fuel oil using Mid Infrared Spectroscopy (FTIR-ATR-PLS) Method	ASTM D7371 – 14(2022)
	37.	Gross Calorific Value of Coal and Coke	ASTM D5865/D5865M-19
	38.	Heat of Combustion of Liquid Hydrocardon Fuels by Bomb Calorimeter	ASTM D240-25
	39.	Determination of Organic Halogen content – Oxidative Microcoulometric Method	EN 14077:2003
	40.	Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, And Nitrogen	ASTM D5291-21
	41.	Standard Test Method for Determination Of Contamination Level of Fatty Acid Methyl Esters Using Flow Analysis By Fourier Transform Infrared Spectroscopy	ASTMD7963-22
	42.	Determination of Free water and Particulate Contamination in Distillate Fuels by Visual Inspection	ASTM D4176-22e1
c Fuel Oil Only	1.	Asphaltenes	IP143-04, ASTM D6560-22
	2.	Compatibility and Cleanliness by Spot Test	ASTM D4740-24
	3.	Net Heat of Combustion (Lower Calorific Value, LCV)	ASTM D4868-25
	4.	Polymers in Fuel Oil	EMC-TP-6022
	5.	Total Sediment, Existent	ASTM D4870-22 ISO 10307-1:2009 (E)
	6.	Total Sediment, Potential	ASTM D4870-22 ISO 10307-2:2009 (E)

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	7. Total Sediment, Accelerated	ASTM D4870-22 ISO 10307-2:2009 (E)
	8. Water & Sediments	ASTM D1796–22
d. Diesel Oil and Gas Oil Only	1. ASTM Color Test	ASTM D1500-12 (2017)
	2. Cetane Index	ASTM D4737-21 ISO 4264:2018
	3. Cloud Point	ASTM D2500-23 ISO 3015: 2019
	4. Cold Filter Plugging Point (CFPP)	ASTM D6371-17a / IP309-16
	5. Copper Corrosion Test	ASTM D130-19
	6. Lubricity	ASTM D6079-24 ISO 12156-1:2023
	7. Micro Carbon Residue (10% Distillation Bottom)	ASTM D4530-25 ISO 10370-2014 (E)
	8. Oxidation Stability	ASTM D2274-14 (R2019) ISO 12205:1995 (E)
	9. Cold Filter Plugging Point (CFPP)	EN 116:2015
	10. Flash Point	EN ISO 3679:2022
	11. Sulphated Ash	ISO 3987:2010
	12. Copper Corrosion Test	ISO 2160:1998
	13. Appearance	Visual Test
e. Petroleum Microbiology (Diesel / Gas / Fuel /Jet Oil) Only	1. Aerobic Plate Count	IP 385 – 2019
	2. Yeast & Mould	IP 385 – 2019

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f. Biofuel/ Organic oil	1. Free fatty acids	ISO 660:2020
	2. Iodine value (Wijs)	ISO 3961:2018 EN14111
	3. Insoluble Impurities	ISO 663:2017 (E) AOCS Ca 3a-46
	4. Moisture and Impurities	ISO 662:2016 (E) / ISO 663:2017 (E)
	5. Moisture and Volatile Matters	ISO 662:2016 (E)/ AOCS Ca 2C-25, 2009
	6. Peroxide value	ISO 3960:2017 (E) AOCS Cd 8b-90
	7. Density at 15°C	ASTM D1298-24 ISO 3675:1998 (E)
	8. Density, Relative Density and API Gravity of Liquids by digital density meter	ASTM D4052-22 ISO 12185-1996 (E)
	9. Kinematic Viscosity	ASTM D445-24 ISO 3104: 2023
	10. Flash Point, PMCC	ISO 2719:2016 / AMD 1:2021 ASTM D93-26
	11. Flash Point	ASTM D3828-16a (2021)
	12. Micro Carbon Residue	ISO 10370:2014 ASTM D4530-25
	13. Standard Test Method for Determination of contamination Level of Fatty Acid Methyl Esters Using Flow Analysis by Fourier Transform Infrared Spectroscopy	ASTM D7963-22

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MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES		STANDARD METHODS / TECHNIQUES / EQUIPMENT
	14.	Micro Carbon Residue (10% Distillation Bottom)	ISO 10370:2014 ASTM D4530-25
	15.	Copper Corrosion Test	ASTM D130-19
	16.	Total Acid Number	ASTM D664-18e2
	17.	Strong Acid Number	ASTM D664-18e2
	18.	Cloud Point	ASTM D2500-23 ISO 3015: 2019
	19.	Flash Point by Continuously Closed Cup (CCCFP) Tester	ASTM D6450-16a(2021)
	20.	Flash Point by Modified Continuously Closed Cup (MCCCFP) Tester	ASTM D7094-25
	21.	Kinematic Viscosity by Stabinger type viscometer	ASTM D7042-25
	22.	Cold Filter Plugging Point (CFPP)	EN 116:2015
	23.	Flash Point	EN ISO 3679:2022
	24.	Sulphated Ash	ISO 3987:2010
	25.	Copper Corrosion Test	ISO 2160:1998
	26.	Determination of Oxidation Stability by Accelerated Oxidation Method	EN 15751:2014
	27.	Determination of Oxidation Stability by Accelerated Oxidation Method	EN 14112:2021
	28.	Determination of Biodiesel (Fatty Acid Methyl Esters) Content in Diesel Fuel oil using Mid Infrared Spectroscopy (FTIR-ATR-PLS) Method	ASTM D7371 – 14(2022)

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MATERIALS / PRODUCTS TESTED		TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
II	LUBRICANTS/ LUBRICATING OIL	1. ASTM Color Test	ASTM D1500-12 (2017)
		2. Ash @ 550°C	EMC-TP-3924
		3. Crackle test	Visual test
		4. Determination of water content – Coulometric Karl Fischer Titration method	ASTM D6304-25 ISO 12937:2000 (E)
		5. Determination of Lead, Potassium, Magnesium	EMC-TP-5467
		6. Elemental analysis – Silver (Ag) – Aluminium (Al) – Boron (B) – Barium (Ba) – Calcium (Ca) – Cadmium (Cd) – Chromium (Cr) – Copper (Cu) – Iron (Fe) – Magnesium (Mg) – Manganese (Mn) – Molybdenum (Mo) – Sodium (Na) – Nickel (Ni) – Phosphorus (P) – Lead (Pb) – Silicon (Si) – Tin (Sn) – Titanium (Ti) – Vanadium (V) – Zinc (Zn)	ASTM D5185-18
		7. Flash point	ASTM D93-26 ASTM D3828-16a (2021)
		8. Kinematic Viscosity at 40°C	ASTM D445-24 ISO 3104: 2023
		9. Kinematic Viscosity at 100°C	ASTM D445-24 ISO 3104: 2023
		10. Total Acid Number	ASTM D664-18e2
		11. Total Base Number	ASTM D2896-21 ISO 3771:2011 (E)
		12. Flash Point by Continuously Closed Cup (CCCFP) Tester	ASTM D6450-16a(2021)

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MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
III. COAL, COKE, and OTHERS	13. Flash Point by Modified Continuously Closed Cup (MCCCFP) Tester	ASTM D7094 -25
	14. Kinematic Viscosity by Stabinger type viscometer	ASTM D7042-25
	15. Sulphated Ash	ISO 3987:2010
	16 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen and Nitrogen	ASTM D5291-21
	Standard Test Methods for Determination of Carbon, Hydrogen, and Nitrogen in Analysis Samples	ASTM D5373-21

Approved Signatories

1.	Mr Licerio Oligo III	-	For all Chemistry Tests only (Tests 1 to 6 in the Biofuels/Organic Oil material group)
2.	Ms Peggy Kwan Dict Shan	-	For all Petroleum Tests except section e
3.	Ms May Me Lin	-	For all Petroleum Tests except section e
4.	Mr Mohamed Fairus Tempal	-	For all Petroleum Tests except section e
5.	Mr Benjamin Tan	-	For all Petroleum Tests except section e
6.	Ms Wanying Chia	-	For all Petroleum Tests except section e
7.	Mr Kulothungan	-	For all Petroleum Tests except section e
8.	Mr Ayyam Perumal Velmurugan	-	For all Petroleum Tests except section e
9.	Ms Heng Wen Li	-	For all Petroleum Tests except section e
10.	Mr Muhammad Syahirul Ikhwan Bin Ab Aziz	-	For all Petroleum Tests except section e
11.	Mr Lim Fook Chin	-	For all Petroleum Tests except section e
12	Mr Nitya Shankaran Mogan	-	For all Microbiology Tests
13	Ms Dhasnah V. Unnikrishnan	-	For all Microbiology Tests

Note:
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025. A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and **management system requirements** that are necessary for it to consistently deliver technically valid test results. The **management system requirements** in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001.