PT WILMAR NABATI INDONESIA

wilmar

DATE : 15 APRIL 2018

CERTIFICATE OF ANALYSIS

QUANTITY/COMMODITY : 20 MT (1 FLEXIBAG)
PALM METHYL ESTER

PACKING : IN FLEXIBAG

IEC NO. 0507026403
GSTN 07AAKFP3412B1ZP
EMAIL : ADITYA@OILBASEINDIA.COM

MANUFACTURING DATE : APRIL 12, 2018

BEST BEFORE : APRIL 12, 2019

VESSEL : SINAR SABANG V.489N/AGAMEMNON V.0016W

PI NO : 100218RK1230

CONTAINER / BATCH NO : GESU 1224592 (3FME180412-19081W)

A COMPOSITE SAMPLE WAS DRAWN FROM THE ABOVE-MENTIONED CONSIGNMENT FOR ANALYSIS. ON ANALYSIS THE FOLLOWING RESULTS WERE OBTAINED :

Parameter	Unit	Result	Specification	Test Method
Ester Content	%	98.7	96.5 min	DIN EN 14103 : 2003
Density at 15 °C	Kg/m3	875	860 - 900	EN ISO 12185 : 1996 (E)
Kinematik Viscosity at 40 °C	mm2/s	4.5	3.5 - 5.0	DIN EN ISO 3104 :1999 (E)
Flash Point, PMCC	°C	149	101 min	DIN EN ISO 3679 : 2004
Sulphur	mg/Kg	3.0	10 Max	EN ISO 20846
Sulfated Ash	%	0.01	0.02 Max	E.P. 8.0 : 2008 (2.2.14)
Water Content	mg/Kg	410	500 Max	DIN EN ISO 12937: 2002
Acid Value	mg KOH/g	0.3	0.5 Max	DIN EN 14104 : 2003
Iodine Value	$\%I_2$	58.5	120 Max	EN 14111 : 2003
Linolenic Acid Methyl Ester	%	0.1	12 Max	DIN EN 14103 : 2003
Polyunsaturated (>= 4 double bond) Methyl Ester	%	ND	1 Max	DIN EN 14103 : 2003
Methanol Content	%	0.04	0.2 Max	DIN EN 14110 : 2003
Total Glycerine Content	%	0.11	0.25 Max	DIN EN 14105 : 2003
Free Glycerine Content	%	0.01	0.02 Max	DIN EN 14105 : 2003
Monoglyceride Content	%	0.22	0.7 Max	DIN EN 14105 : 2003
Diglyceride Content	%	0.1	0.2 Max	DIN EN 14105 : 2003
Triglyceride Content	%	0.07	0.2 Max	DIN EN 14105 : 2003
Alkaline Metals (K+Na)	mg/kg	0.2	5 Max	EN 14538
Alkaline Metals (Mg+Ca)	mg/kg	ND	5 Max	EN 14538
Carbon Residue (10% Distillation Residue)	%	0.02	0.3 Max	EN 10370
Cetane Number		57	51 min	EN5165
Total Contaminant	mg/kg	18	20 Max	DIN EN 12662 : 1998
Copper Corrosion @50 °C for 3	Hours	1a	3 Max	DIN EN ISO 2160 : 1999
Oxidation Stability @110 °C (hour)	Hours	15.1	6 min	DIN EN 14112 : 2003
Phosphorous Content	mg/kg	0.7	4 Max	EN14107
Cold Filter Plugging Point	°C	9.0	13 Max	DIN EN 116 : 1998

Certified Correct,

PT WILMAR NABATI INDONESIA

Jusuf Gohanmin
QC Head

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