



PRODUCT SPECIFICATION SHEET

FATTY ACID METHYLESTERS (FAME)



1. PRODUCT DETAILS

Product:	FAME
Applicable Standards:	BS EN 14214:2012+A2:2019
Use:	For use as a blend component in diesel fuel
Notes:	a See 5.5.1 of EN 14214:2012+A2:2019
	b Density may be measured over a range of temperature from 20°C to 60°C. Temperature correction shall be made according to the formula given in Annex B of EN 14214:2012+A2:2019
	c See 5.5.2 of EN 14214:2012+A2:2019
	d If CFPP is -20°C or lower, the viscosity shall be measured at -20°C. The measured value shall not exceed 48 mm ² /s. In this case, the standard test methods are applicable without the precision data owing to non-Newtonian behaviour in a two-phase system
	g A 2ml sample and apparatus with a thermal detection device shall be used. See also 5.5.2 of EN 14214:2012+A2:2019
	h The determination of derived cetane number for FAME is not included in the precision determinations of some test methods
	j For use as an extender to diesel fuel Table 3 of EN 14214:2012+A2:2019 applies
	k A lower limit may come into force after validation by work on the measurement standard precision
	l A lower limit of 2.5mg/kg may come into force after validation work on the measurement standard and on engine oil impacts
	m See 5.5.2 of EN 14214:2012+A2:2019. EN 15195 is applicable to the quantitative determination of the ignition characteristics of FAME, however the correlation data available were inconclusive about the precision of the equation
	n EN 12662 is under revision for pure FAME. EN 12662:1998 [8] may be used as an alternative

2. SPECIFICATION

PROPERTY	UNIT	LIMITS		TEST METHOD ^a
		MINIMUM	MAXIMUM	
FAME content	% (m/m)	96.5	-	EN 14103
Density at 15°C ^b	kg/m ³	860	900	EN ISO 3675 ^c EN ISO 12185
Viscosity at 40°C ^d	mm ² /s	3.50	5.00	EN ISO 3104 EN 16896
Flash Point	°C	101	-	EN ISO 2719 ^c EN ISO 3679 ^g
Cetane Number ^h	-	51.0	-	EN ISO 5165 EN 15195 ^m EN 16715 EN 17155
Copper Corrosion (3h at 50°C)	Rating	Class 1		EN ISO 2160
Oxidation Stability (at 110°C)	H	8.0	-	EN 14112 ^c EN 15751
Acid value	mg KOH/g	-	0.50	EN 14104
Iodine value	g iodine/100g	-	120	EN 14111 ^c EN 16300
Linolenic Acid Methyl ester	% (m/m)	-	12.0	EN 14103
Polyunsaturated (>4 double bonds) methyl esters	% (m/m)	-	1.00	EN 15779
Methanol Content	% (m/m)	-	0.20	EN 14110
Monoglyceride Content	% (m/m)	-	0.70 ^j	EN 14105

PROPERTY	UNIT	LIMITS		TEST METHOD ^a
		MINIMUM	MAXIMUM	
Diglyceride Content	% (m/m)	-	0.20	EN 14105
Triglyceride Content	% (m/m)	-	0.20	EN 14105
Free Glycerol	% (m/m)	-	0.02	EN 14105 ^c EN 14106
Total Glycerol	% (m/m)	-	0.25	EN 14105
Water Content	% (m/m)	-	0.050	EN ISO 12937
Total Contamination	mg/kg	-	24	EN 12662 ⁿ
Sulfated Ash Content	% (m/m)	-	0.02	ISO 3987
Sulfur Content	mg/kg	-	10.0	EN ISO 20846 EN ISO 20884 EN ISO 13032
Group I Metals (Na+K)	mg/kg	-	5.0 ^k	EN 14108 ^c EN 14109 EN 14538
Group II Metals (Ca+Mg)	mg/kg	-	5.0	EN 14538
Phosphorus Content	mg/kg	-	4.0 ^l	EN 14107 ^c EN 16294