

## FAME EN 14214:2012+A1:2014

PROPERTY	UNITS	LIMITS		TEST METHOD *(SEE CLAUSE 2)	
		MIN	MAX		
FAME content	% (m/m)	96.5		EN 14103	
Desity at 15 °C <sup>b</sup>	kg/m <sup>3</sup>	860	900	EN ISO 3675 <sup>c</sup>	
				EN ISO 12185	
Viscosity at 40 °C <sup>d</sup>	mm <sup>2</sup> /s	3,50	5,00	EN ISO 3104	
Flash point <sup>e</sup>	°C	101	-	EN ISO 2719	
				EN ISO 3679	
Cetane number <sup>e, h</sup>	-	51,0	-	EN ISO 5165	
Copper strip corrosion (3 <sup>h</sup> at 50 °C)	Rating	class 1		EN ISO 2160	
Oxidation stability (at 110 °C)	h	8,0	-	EN 14112 <sup>c</sup> , en 15751	
Acid value	mg KOH/g	-	0,50	EN 14104	
Iodine value	g/iodine/100	-	120.0	EN 14111	
	g	-		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 <sup>j</sup>	EN 14105	
	Diglyceride content	% (m/m)	-	0,20	EN 14105
	Triglyceride content	% (m/m)	-	0,20	EF 14105
Free glycerol	% (m/m)	-	0,02	EN 14105 <sup>c</sup>	
Water content	mg/kg	-	500	EN ISO 12937	
	Total contamination	mg/kg	-	24	EN 12662
	Sulfated ash content	% (m/m)	-	0,02	ISO 3987
Sulfur content				EN 14108 <sup>c</sup>	
	mg/kg	-	10,00	EN 14109	
				EN 14538	
Group I metals (Na+K) e				EN 14108 <sup>c</sup>	
	mg/kg	-	5,0	EN 14109	
Group II metals (Ca+Mg)				EN 14538	
	mg/kg	-	5,0	EN 14538	
				EN 14107 <sup>c</sup>	
Phosphorus content	mg/kg	-	4,0	EN 16294	

## FAME EN 14214:2012+A1:2014

### Notes

- a. See 5.5.1 in EN 14214:2012+A1:2014
- b. Density may be measured over a range of temperatures from 20 °C to 60°C. Temperature correction shall be made according to the formula given in Annex B in EN 14214:2012+A1:2014
- c. See 5.5.2. in EN 14214:2012+A1:2014
- d. If CFPP is -20 °C or lower, the viscosity shall be measured at -20 °C. The measured value shall not exceed 48 mm<sup>2</sup>/s. In this case, EN ISO 3104 is applicable without the precision data owing to non-Newtonian behaviour in a two-phase system.
- e. See Annex A for precision data in EN 14214:2012+a1:2014
- f. Procedure A shall be applied. Only a flash point test apparatus equipped with a suitable detection device (thermal or ionisation detection) shall be used.
- g. A 2 ml sample and apparatus equipped with a thermal detection device shall be used. See also 5.5.2. in EN 14214:2012+A1:2014
- h. See 5.5.3. in EN 14214:2012+A1:2014
- i. An additional determination method has been developed by CEN, but first needs to be assessed for actual field performance prediction [3].
- j. For use as an extender to diesel fuel Table 3 applies in EN 14214:2012+A1:2014
- k. A lower limit may come into force after validation by work on the measurement standard precision.
- l. A lower limit of 22,5 mg/kg may come into force after validation work on the measurement standard and on engine oil impacts.