

## Quality specification of FAME

### Standard quality of FAME according EN14214:2012 for WINTER period

Characteristic-Properties	Units	Specified values	Method of analysis
Content of polyunsaturated fatty acid ( $\geq 4$ double bonds)	%(m/m)	< 1	EN 15779
Fatty acid methyl ester content	%( m/m)	> 96,5	EN 14103
Density at 15°C	kg/m <sup>3</sup>	860-900	EN ISO 3675
Kinematic viscosity , at 40°C	mm <sup>2</sup> /s	3,50 - 5,0	EN ISO 3104
Flash point	°C	> 101	EN ISO 2719
Water content (Karl Fischer-coulometric)	mg/kg	< 500	EN ISO 12937
Total contamination	mg/kg	< 24	EN 12662
Oxidation stability na 110°C	hours	> 8,0	EN 14112
Acid number	mg KOH/g	< 0,50	EN 14104
Iodine number	g I/100 g	< 120	EN 14214 / EN 14111
Linolenic acid methyl ester	%( m/m)	< 12,0	EN 14103
Methanol content	%( m/m)	< 0,20	EN 14110
Monoglyceride content	%( m/m)	< 0,70	EN 14105
Diglyceride content	%( m/m)	< 0,20	EN 14105
Triglyceride content	%( m/m)	< 0,20	EN 14105
Free glycerol	%( m/m)	< 0,02	EN 14105
Total glycerol	%( m/m)	< 0,25	EN 14105
Group I metals (Na+K)	mg/kg	< 5,0	EN 14538
Group II metals (Ca+Mg)	mg/kg	< 5,0	EN 14538
Phosphor content	mg/kg	< 4,0	EN 14107
Cold Filter Plug Point CFPP	(°C)	< - 15	EN 116
Pour Point	(°C)	< - 15	HRN ISO 3016 / EN 116

\*Product may contain additives : Baynox, Lanxess GmbH Germany (oxidative stability),  
 Viscoplex 10-608 Evonik GmbH, Germany (CFPP)



Ivan Corn  
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Number of ISCC certificate: EU- ISCC-Cert-DE100-20141279

Product is sustainable according EU Directive 2009/28/ES. It were used total default values.

Composition of FAME (origin and % content): 100% rapeseed oil

GHG savings are 38 % or/and GHG emissions are 52 ekv. g CO<sub>2</sub> / MJ, 1268,69 ekv.g CO<sub>2</sub>/kg.

The quality of biodiesel confirmed in international accredited laboratory: report 1323/2013 AMEI, LAB, Budaors, Hungary  
 Report 1323/2013 AMEI- verified in ZIK d.o.o. Sisak according to HRN EN ISO/IEC 17025:2005

