

PETER CREMER

SINGAPORE

(S) G M B H



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NEXSOL BIODIESEL SPECIFICATION

PROPERTY	UNITS	MIN	MAX	TEST METHOD
Ester content	% (m/m)	96.5	-	prEN 14103
Density at 15°C	kg/m ³	860	900	EN ISO 3675 OR EN ISO 12185
Viscosity at 40°C	mm ² /s	3,5	5,0	EN ISO 3104
Flash point	°C	120	-	ISO / CD 3679
Cold Filter Plugging Point	°C	-	12	IP 309 OR EN116
Sulphur content	mg/kg	-	10	-
Carbon residue (on 10% distillation residue)	% (m/m)	-	0,3	EN ISO 10370
Cetane number	-	51,0	-	EN ISO 5165
Ash content	% (m/m)	-	0,02	ISO 3987
Water Content	mg/kg	-	500	EN ISO 12937
Total contamination	mg/kg	-	24	EN 12662
Copper strip corrosion (3h at 50°C)	rating	Class 1	Class 1	EN ISO 2160
Oxidation stability, 110°C	hours	6	-	prEN 14112
Acid value	mg KOH/g	-	0,5	prEN 14104
Iodine value	-	-	120	prEN 14111
Polyunsaturated (>=4 double bonds) methyl esters	% (m/m)	-	1	-
Methanol content	% (m/m)	-	0,2	prEN 14110
Monoglyceride content	% (m/m)	-	0,8	prEN 14105
Diglyceride content	% (m/m)	-	0,2	prEN 14105
Triglyceride content	% (m/m)	-	0,2	prEN 14105
Free glycerol	% (m/m)	-	0,02	prEN 14105 OR prEN 14106
Total glycerol	% (m/m)	-	0,25	prEN 14105
Alkaline metals (Na+K)	mg/kg	-	5	prEN 14108 OR prEN 14109
Alkaline metals (Ca+Mg)	mg/kg	-	5	prEN 14108 OR prEN 14109
Phosphorus content	mg/kg	-	10	prEN 14107



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PARAMETER	STANDARD	TEST METHOD	DATE OF EFFECT
Sulfur	50 mg/kg (max) 10 mg/kg (max)	ASTM D5453	18 Sep 2003 1 Feb 2006
Density	860 to 890 kg/m ³	ASTM D1298 OR EN ISO 3675	18 Sep 2003
Distillation T90	360C (max)	ASTM D1160	18 Sep 2003
Sulfated ash	0.020% mass (max)	ASTM D874	18 Sep 2003
Viscosity	3.5 to 5.0 mm ² /s @ 40°C	ASTM D445	18 Sep 2003
Flashpoint	120.0°C (min)	ASTM D93	18 Sep 2003
Carbon residue (10% distillation residue) (100% distillation sample)	0.30 % mass (max) OR 0.050 % mass (max)	EN ISO 10370 ASTM D4530	18 Sep 2003
Water and sediment	0.050 % vol (max)	ASTM D2709	18 Sep 2003
Ester content	96.5 % (m/m) (min)	prEN 14103	18 Sep 2003
Phosphorus	10 mg/kg (max)	ASTM D4951	18 Sep 2003
Acid value	0.80 mg KOH/g (max)	ASTM D664	18 Sep 2003
Total contamination	24 mg/kg (max)	EN 12662 OR ASTM D5452	18 Sep 2004
Free glycerol	0.020 % mass (max)	ASTM D6584	18 Sep 2004
Total glycerol	0.250 % mass (max)	ASTM D6584	18 Sep 2004
Oxidation stability	6 hours @ 110°C (min)	prEN 14112 OR ASTM D2274 (as relevant for biodiesel)	18 Sep 2004
Metals	≤ 5mg/kg Group I (Na, K) ≤ 5mg/kg Group II (Ca, Mg)	prEN 14108, prEN 14109 (Group I) prEN 14538 (Group II)	18 Sep 2004
Methanol Content	< 0.20% (m/m)	prEN 14110	18 Dec 2004
Copper strip corrosion (3 hrs @50°C)	if the biodiesel contains no more than 10 mg/kg of sulfur – Class 1 (max) if the biodiesel contains more than 10 mg/kg of sulfur - No. 3 (max)	EN ISO 2160 ASTM D130 ASTM D130	18 Dec 2004
Cetane number	51.0 (min)	EN ISO 5165 ASTM D613 ASTM D6890 IP 498/03	18 Sep 2005