EUROPEAN
COMMISSION

Brussels, XXX
[…](2022) XXX draft

ANNEX

ANNEX

to the

Commission Regulation

amending Regulation (EU) No 582/2011 as regards the emissions type-approval of heavy duty vehicles using pure biodiesel

ANNEX

(1) Annex I is amended as follows:

(a) In point 1.1.2 the introductory sentenced is replaced by the following:

(2) ‘1.1.2. If the manufacturer permits the engine family to run on market fuels that do not comply either with Directive 98/70/EC of the European Parliament and of the Council*, or with CEN standard EN 228:2012 in the case of unleaded petrol or CEN standard EN 590:2013 in the case of diesel or CEN standard EN 14214:2012+A2:2019 in the case of FAME B100, such as paraffinic fuel (CEN standard EN 15940) or others, the manufacturer shall, in addition to the requirements in point 1.1.1, comply with the following requirements’;

*Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC (OJ L 350, 28.12.1998, p. 58).’;

(a) after point 1.3. following point is added:

‘1.4. Requirements on type-approval of biofuel fuelled engines

1.4.1. The type approval of a B100 family with a parent engine tested on FAME B100 shall be extended to all family members and biofuel blends, without further testing. If the approval authority determines that the submitted application is not fully representative, biodiesel blends other than FAME B100 may be selected by the approval authority and tested.’;

(b) the following point 3.2.1.7. is inserted:

‘3.2.1.7. In the case of an engine being approved and calibrated for B100, the approval mark shall contain ‘B100’ after the national symbol.’;

(c) In Appendix 4 PART 1 point 3.2.2.2 is replaced by the following:

‘3.2.2.2. Heavy duty vehicles Diesel/Petrol/LPG/NG-H/NG-L/NG-HL/Ethanol (ED95)/Ethanol (E85)/LNG/LNG_{20}/B100 ([1]) ([6])’;

(d) In the Addendum to Appendix 5 point 1.1.5 is replaced by the following:

‘1.1.5. Category of engine: Diesel/Petrol/LPG/NG-H/NG-L/NG-HL/Ethanol (ED95)/Ethanol (E85)/LNG/LNG20/B100 ([1])’;

(e) In the Addendum to Appendix 7 point 1.1.5 is replaced by the following:

‘1.1.5. Category of engine: Diesel/Petrol/LPG/NG-H/NG-L/NG-HL/Ethanol (ED95)/Ethanol (E85)/LNG/LNG20/B100 ([1])’;

(3) In Annex IX, under the heading ‘Technical data on fuels for testing compression ignition and dual-fuel engines’, the following table is inserted after the table ‘Type: Diesel (B7)’:

(4) ‘**Type: pure Biodiesel (B100)** for compression ignition engines

Parameter	Unit	Limits		Test method
		Minimum	Maximum	

FAME content	% (m/m)	96,5	–	EN 14103
Density at 15 °C	kg/m$_3$	860	900	EN ISO 3675 EN ISO 12185
Viscosity at 40 °C ([1])	mm^2/s	3,50	5,00	EN ISO 3104 EN 16896
Flash point	°C	101	–	EN ISO 2719 EN ISO 3679 ([2])
Cetane number ([3])	–	51,0	–	EN ISO 5165 EN 15195 EN 16715 EN 17155
Copper strip corrosion (3 h at 50 °C)	Rating	class 1		EN ISO 2160
Oxidation stability (at 110 °C)	h	8,0	–	EN 14112 EN 15751
Acid value	mg KOH/g	–	0,50	EN 14104
Iodine value	g iodine/100 g	–	120	EN 14111 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	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 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
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	EN 14108 EN 14109 EN 14538
Group II metals (Ca+Mg)	mg/kg	–	5,0	EN 14538
Phosphorus content	mg/kg	–	4,0	EN 14107 EN 16294

([1]) 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.

([2]) A 2 ml sample and apparatus equipped with a thermal detection device shall be used.

([3]) The determination of derived cetane number for FAME is not included in the precision determinations of some test methods.

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