Decree No 20/2025 of the Minister of National Economy of 7 July amending Decree No 45/2016 of the Ministry for National Economy of 29 November on the implementation of certain provisions of Act LXVIII of 2016 on excise duty

[1] Due to the changes in the procedures and technologies that are used in excise activities and in the relevant regulatory environment, it is necessary to amend Decree No 45/2016 of the Ministry for National Economy of 29 November, which implements certain provisions of Act LXVIII of 2016 on excise duty.

[2] On the basis of the authorisation granted in Section 148(2)(c)-(e) and (g) of Act LXVIII of 2016 on excise duty, and acting within my duties as defined in Section 103(1)(12) of Government Decree No 182/2022 of 24 May on the scope of duties and powers of members of the Government, I hereby order the following:

Section 1 In Decree No 45/2016 of the Ministry for National Economy of 29 November on the implementation of certain provisions of Act LXVIII of 2016 on excise duty (hereinafter: Decree No 45/2016 of the Ministry for National Economy of 29 November), Section 17(4) is replaced by the following:

"(4) If the quantity of test spirits collected by the alcoholometer is not sufficient to determine the actual alcoholic strength, the quantity of spirits shall be determined on the basis of the tax warehouse records."

Section 2 Section 40(4) of Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by the following:

"(4) For gas oil falling within CN codes 2710 19 44 and 2710 20 11, traders who are excise licence holders shall indicate CN code 2710 19 44 or CN code 2710 20 11 in the records referred to in paragraph 1, on the delivery note and on the invoice."

Section 3 Section 42(3) of Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by the following:

"(3) The quality requirements for fuel which may be marketed, by traders who are excise licence holders and by excise retailers, as motor fuel for road vehicles are set out in Annex 13, but the fuel does not need to comply with the quality requirements set out in Annex 13 if it has been produced or placed on the market in a Member State of the European Union or in Turkey, or produced in an EFTA State which is a party to the Agreement on the European Economic Area, in accordance with the requirements applicable in that country, provided that the applicable requirements provide for a level of protection equivalent to that laid down in this Decree with regard to the overriding requirement."

Section 4 (1) Section 49(1) of Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by the following:

"(1) The amount of the inspection fee referred to in Section 85 of the Excise Duty Act shall be HUF 10,000 per inspection request, which shall be paid by the beneficiary who requests the procedure, by means of a credit transfer or an instant credit transfer order initiated by means of a uniform data entry solution or a payment request."

(2) Section 49(3) of Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by the following:

"(3) If the procedure requested for a location other than the official premises of the state tax and customs authority is cancelled due to the applicant's fault or can only be started or continued after a wait of more than one hour, the applicant shall pay an increased inspection fee. For any inspection procedure not having taken place or for each hour commenced after the first hour of waiting, HUF 20,000 shall be charged as an increased inspection fee."

(3) Section 49(5) of Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by the following:

"(5) In the case of a procedure which has not been carried out for reasons attributable to the applicant, or which may be commenced or resumed after waiting for more than one hour, if the amount of the inspection fee is contested by the applicant, the report on the case shall state the reason for the failure to carry out the inspection, the reason for the delay and the waiting time — from hour minute to hour minute — as well as the related posting (travel) costs incurred. If the applicant fails to appear at the requested inspection location, the procedure shall be considered as not having taken place."

Section 5 (1) The following paragraph (1a) is added to Section 72 of Decree No 45/2016 of the Ministry for National Economy of 29 November:

"(1a) The right to a tax refund, as defined in Section 113(1a) of the Excise Duty Act, may be exercised in possession of the documents with which it is possible to establish the amount of electricity used for the activity that gives rise to the right to a refund."

(2) Section 72(2) and (3) of Decree No 45/2016 of the Ministry for National Economy of 29 November are replaced by the following:

"(2) The tax exemption under Section 112(1)(b) of the Excise Duty Act and the related tax refund claim, and Section 113(1) and (1a)

(3) If the tax exemption under Section 112(1)(b) of the Excise Duty Act and the related tax refund claim, and the amount of the tax refund claim pursuant to paragraph (1) and (1a) of Section 113 of the Excise Duty Act exceed the limit referred to in Section 95(9) of the Excise Duty Act, the amount of the tax exemption or tax refund claim above this shall be paid to the State Tax and Customs Authority within 8 days of the notification of the reminder by the State Tax and Customs Authority."

Section 6 (1) Annex 2 to Decree No 45/2016 of the Ministry for National Economy of 29 November is amended in accordance with Annex 1 hereto.

(2) Annex 13 to Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by Annex 2 hereto.

Section 7 (1) This Decree shall come into effect — with the exception of paragraphs (2) and (3) — on the day following its publication.

(2) Section 4 shall enter into force on the 31st day following the date of publication of this Decree.

(3) Section 5 shall enter into force on the 15th day following the date of an approval decision by the European Commission. Once known, the calendar date of the entry into force of Section 5 shall be established in a special decision by the minister responsible for tax policy, which shall be published in the Hungarian Official Gazette.

Section 8 The requirement for the prior notification of this draft Decree, as stipulated in Directive (EU) 2015/1535 of the European Parliament and of the Council of 9 September 2015 laying down a procedure for the provision of information in the field of technical regulations and of rules on Information Society services, has been met.

Márton István Nagy, m. p.
Minister of National Economy

Annex 1to Decree No 20/2025 of the Ministry for National Economy of 7 July

Point 4.2.2.3 of Annex 2 to Decree No 45/2016 of the Ministry for National Economy of 29 November is replaced by the following:

"4.2.2.3 for export or delivery to another Member State"

Annex 2 to Decree No 20/2025 of the Ministry for National Economy of 7 July

"Annex 13 to Decree No 45/2016 of the Ministry for National Economy of 29 November

Quality requirements for fuels that can be marketed by traders having an excise licence and by excise retailers

1. Petrol

	A	B	C	D	E
1.	Quality requirements and test methods for ethanol as a motor gasoline blending component				
2.	Characteristics	Unit	Limit value at least up to		Test method
3.	Ethanol + saturated alcohols with higher carbon numbers	% (m/m)	98.7	-	EN 15721
4.	Saturated alcohols with higher carbon numbers (C3-C5)	% (m/m)	-	2.0	EN 15721
5.	Methanol content	% (m/m)	-	1.0	EN 15721
6.	Water content	% (m/m)	-	0.300	**EN 15489** EN 15692
7.	Total acidity (expressed as acetic acid)	% (m/m)	—	0.007	**EN 15491**
8.	Conductivity	µS/cm	—	2.5	**EN 15938**
9.	Appearance	—	clear and colourless		EN 15769
10.	Inorganic chloride content	mg/kg	—	1.5	EN 15492
11.	Sulphate content	mg/kg	—	3.0	EN 15492
12.	Copper content	mg/kg	—	0.100	**EN 15837** EN 15488
13.	Phosphorus content	mg/l	—	0.15	**EN 15487** EN 15837
14.	Non-volatile substance content	mg/100 ml	—	10	EN 15691
15.	Sulphur content	mg/kg	—	10.0	**EN 15837** EN 15485 EN 15486
16.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**				

1.1. Petrol, E10, ESZ 95-98

1.1.1. Requirements and test methods for unleaded motor gasoline with an oxygen content not exceeding 3.7 % (m/m)

	A	B	C		D		E
1.	Characteristics	Unit	Limit values				Test method
			minimum		maximum		
			Esz-95/E10	Esz-98/E10	Esz-95/E10	Esz-98/E10	
2.	Research octane number, RON[1)]	—	95.0	98.0	—	—	**EN ISO 5164**
3.	Motor octane number, MON[1)]	—	85.0	88.0	—	—	**EN ISO 5163**
4.	Lead content	mg/l	—		5.0		EN 237
5.	Density (at 15 °C)	kg/m^3	720.0		775.0		**EN ISO 12185** EN ISO 3675
6.	Sulphur content	mg/kg	—		10.0		**EN ISO 20846** **EN ISO 20884** EN ISO 13032
7.	Manganese content	mg/l	—		2,0		EN 16135 EN 16136
8.	Oxidation stability	minute	360		—		EN ISO 7536
9.	Resin content (solvent washed)	mg/100 ml	—		5		EN ISO 6246
10.	Copper corrosion (3 hours at 50 °C)	grade	class 1				EN ISO 2160
11.	Appearance[2)]	—	clear and transparent				visual inspection
12.	Colour	—	uncoloured				
13.	Hydrocarbon analysis						EN 15553 **EN ISO 22854**
	olefins	% (V/V)	—		18.0		
	aromatics		—		35.0		
14.	Benzene content	% (V/V)	—		1.00		**EN 12177** **EN ISO 22854** EN 238
15.	Oxygen content	% (m/m)	—		3.7		**EN 1601** **EN ISO 22854** **EN 13132**
16.	Oxygenate content						EN 1601 EN 13132 **EN ISO 22854**
	methanol[3)]	% (V/V)	—		3.0		
	ethanol[4)]		—		10.0		
	isopropyl alcohol		—		12.0		
	isobutyl alcohol		—		15.0		
	tert-butyl alcohol		—		15.0		
	ethers (C5 or higher)		—		22.0		
	other oxygenates		—		15.0		
17.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**						

18.	[1] A correction factor of 0.2 shall be subtracted from the measured value of the research octane number (RON) and motor octane number (MON) to calculate the final result in accordance with the requirements of Directive 98/70/EC. Alternative methods to the methods indicated in the table may be used for the determination of RON and MON, provided that they are derived from a series of recognised methods and have validated precision data in accordance with EN 4259, which are at least equivalent to the precision of the reference method. If an alternative method is used, the test results must show a demonstrable relationship with the result obtained using the
19.	[2] To be determined at ambient temperature.
20.	[3] In the case of a dispute concerning the methanol content, standard EN 1601 shall apply.
21.	[4] The ethanol used as a blending component shall meet the requirements of EN 15376.

1.1.2. Volatility classes of unleaded motor gasolines with an oxygen content not exceeding 3.7 % (m/m)

	A	B	C	D	E	F
1.	Characteristics	Unit	Limit values			Test method
			A	C/C1	D/D1	
2.	Vapour pressure (DVPE)	kPa, at least kPa, at most	45.0 60.0	50.0 80.0	60.0 90.0	EN 13016-1
3.	Quantity evaporated up to 70 °C, %, E70	% (V/V), minimum % (V/V), maximum	22.0 50.0	24.0 52.0	24.0 52.0	EN ISO 3405
4.	Quantity evaporated up to 100 °C, %, E100	% (V/V), minimum % (V/V), maximum	46.0 72.0	46.0 72.0	46.0 72.0	
5.	Quantity evaporated up to 150 °C, %, E150	% (V/V), minimum	75.0	75.0	75.0	
6.	Final boiling point, FBP	°C, maximum	210	210	210	
7.	Distillation residues	% (V/V), maximum	2	2	2	
8.	Volatility Index (VLI) (10 DVPE + 7 E70)	index, maximum	—	C —	D —	
9.	Volatility Index (VLI) (10 DVPE + 7 E70)	index, maximum	—	C1 1064	D1 1164	
10.	In summer: from 1 May to 30 September: Class A					
11.	In winter: from 15 November to the last day of February: Class C, D					
12.	Transitional (transition) period: from 1 March to 30 April and from 1 October to 14 November: Class C1, D1					

1.2. Petrol, E5, ESZ 95-98

1.2.1. Requirements and test methods for unleaded motor gasoline with an oxygen content not exceeding 2.7 % (m/m)

	A	B	C		D		E
1.	Characteristics	Unit	Limit values				Test method
			minimum		maximum		
			Esz-95/E5	Esz-98/E5	Esz-95/E5	Esz-98/E5	
2.	Research octane number, RON[1]	—	95.0	98.0	—	—	**EN ISO 5164**
3.	Motor octane number, MON[1]	—	85.0	88.0	—	—	**EN ISO 5163**
4.	Lead content	mg/l	—		5.0		EN 237
5.	Density (at 15 °C)	kg/m^3	720.0		775.0		**EN ISO 12185** EN ISO 3675
6.	Sulphur content	mg/kg	—		10.0		**EN ISO 20846** **EN ISO 20884** EN ISO 13032

7.	Manganese content	mg/l	—	2.0	EN 16135 EN 16136
8.	Oxidation stability	minute	360	—	EN ISO 7536
9.	Resin content (solvent washed)	mg/100 ml	—	5	EN ISO 6246
10.	Copper corrosion (3 hours at 50 °C)	grade	class 1		EN ISO 2160
11.	Appearance[2)]	—	clear and transparent		visual inspection
12.	Colour	—	uncoloured		
13.	Hydrocarbon analysis				EN 15553 **EN ISO 22854**
	olefins	% (V/V)	—	18.0	
	aromatics		—	35.0	
14.	Benzene content	% (V/V)	—	1.00	**EN 12177** **EN ISO 22854** EN 238
15.	Oxygen content	% (m/m)	—	2.7	**EN 1601** **EN ISO 22854** EN 13132
16.	Oxygenate content				EN 1601 EN 13132 **EN ISO 22854**
	methanol[3)]	% (V/V)	—	3.0	
	ethanol[4)]		—	5.0	
	isopropyl alcohol		The extent of incorporation is limited, and the oxygen content may not exceed 2.7 % (m/m).		
	isobutyl alcohol				
	tert-butyl alcohol				
	ethers (C5 or higher)				
	other oxygenates				
17.	In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.				
18.	[1)] A correction factor of 0.2 shall be subtracted from the measured value of the research octane number (RON) and motor octane number (MON) to calculate the final result in accordance with the requirements of Directive 98/70/EC.				
19.	[2)] To be determined at ambient temperature.				
20.	[3)] In the case of a dispute concerning the methanol content, standard EN 1601 shall apply.				
21.	[4)] The ethanol used as a blending component shall meet the requirements of EN 15376.				

1.2.2. Volatility classes of unleaded motor gasolines with an oxygen content not exceeding 2.7 % (m/m)

	A	B	C	D	E	F
1.	Characteristics	Unit	Limit values			Test method
			A	C/C1	D/D1	
2.	Vapour pressure (DVPE)	kPa, at least kPa, at most	45.0 60.0	50.0 80.0	60.0 90.0	EN 13016-1
3.	Quantity evaporated up to 70 °C, %, E70	% (V/V), minimum % (V/V), maximum	20.0 48.0	22.0 50.0	22.0 50.0	EN ISO 3405
4.	Quantity evaporated up to 100 °C, %, E100	% (V/V), minimum % (V/V), maximum	46.0 71.0	46.0 71.0	46.0 71.0	
5.	Quantity evaporated up to 150 °C, %, E150	% (V/V), minimum	75.0	75.0	75.0	

6.	Final boiling point, FBP	°C, maximum	210	210	210	
7.	Distillation residues	% (V/V), maximum	2	2	2	
8.	Volatility Index (VLI) (10 DVPE + 7 E70)	index, maximum	—	C —	D —	
9.	Volatility Index (VLI) (10 DVPE + 7 E70)	index, maximum	—	C1 1050	D1 1150	
10.	In summer: from 1 May to 30 September: Class A					
11.	In winter: from 15 November to the last day of February: Class C, D					
12.	Transitional (transition) period: from 1 March to 30 April and from 1 October to 14 November: Class C1, D1					

2. Gas oil

2.1. Generally applicable requirements and test methods for diesel vehicle fuel

	A	B	C	D	E
1.	Characteristics	Unit	Limit values		Test method
			minimum	maximum	
2.	Cetane number	—	51.0	—	**EN ISO 5165:2020** EN 15195:2014 EN 16715:2015 EN 16906:2017 EN 17155:2018
3.	Cetane index	—	46.0	—	EN ISO 4264
4.	Polycyclic aromatic hydrocarbons[1)]	% (m/m)	—	8.0	EN 12916:2019
5.	Sulphur content	mg/kg	—	10.0	**EN ISO 20846:2019** **EN ISO 20884:2019** EN ISO 13032:2012
6.	Manganese content	mg/l	—	2.0	**EN 16576:2014**
7.	Flash point	°C	over 55	—	**EN ISO 2719**
8.	Coking residue (from 10% distillation residue)[2)]	% (m/m)	—	0.30	**EN ISO 10370**
9.	Ash content	% (m/m)	—	0.010	**EN ISO 6245**
10.	Water content	% (m/m)	—	0.020	**EN ISO 12937**
11.	Total contaminants	mg/kg	—	24	**EN 12662**
12.	Copper corrosion (3 hours at 50 °C)	grade	class 1		EN ISO 2160
13.	Fatty acid methyl ester (FAME) content[3)]	% (V/V)	—	7.0	EN 14078:2014
14.	Oxidation stability	g/m^3	—	25	EN ISO 12205

15.	Oxidation stability for FAME content above 2% (V/V)[4)]	h or min	20.0 Or 60.00	— —	**EN 15751** or EN 16091
16.	Lubricity, corrected wear scar diameter (WSD) at 60 °C[5)]	µm	—	460	EN ISO 12156-1
17.	Viscosity at 40 °C	mm^2/s	2.000	4.500	**EN ISO 3104** ISO 23581
18.	Distillation distilled up to 250 °C distilled up to 350 °C 95 % (V/V) Distilling temperatures	% (V/V) % (V/V) °C	85	< 65 360.0	**EN ISO 3405:2019** EN ISO 3924:2019 EN 17306:2019
19.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**				
20.	In the case of references with a year, only the cited version may be used. In the case of references without a year, the latest version of the referred standard shall be used.				
21.	[1)] Polycyclic aromatic hydrocarbons shall be understood as the difference between the total aromatic hydrocarbons content and the monocyclic aromatic hydrocarbons content, as defined in accordance with EN 12916:2019.				
22.	[2)] Where a combustion improver is used, the limit value for coking residue applies to the product before the combustion improver is added. If the test result obtained for the finished product on the market exceeds this limit, EN ISO 13759 shall be used for the detection of nitrate-containing compounds. If the presence of the combustion improver additive is thus detected, the limit value for the coking residue of the tested product shall not apply. The use of the additive does not exempt the manufacturer from the requirement that the coking residue of the product before the addition of the additive shall not exceed 0.30 % (m/m).				
23.	[3)] FAME must meet the requirements of EN 14214:2014+A2:2019.				
24.	[4)] For diesel fuels containing FAME above 2% (V/V), this is an additional requirement.				
25.	[5)] The lubricity of diesel fuels, irrespective of the FAME content, shall comply with the maximum HFRR limit of 460 µm. Diesel fuels with a FAME content of more than 4.0% (V/V) generally have good lubricity at HFRR values below 460 µm, so it may not be necessary to perform an HFRR test as long as no harmful experiences are known.				

2.2. Climate-dependent requirements and test methods. Temperate zone

	A	B	C	D	E	F	G	H	I
1.	Climate-dependent requirements and test methods. Temperate zone								
2.	Characteristics	Unit	Limit values						Test method
			Grade A	Grade B	Grade C	Grade D	Grade E	Grade F	
3.	CFPP	°C, maximum	+5	0	-5	-10	-15	-20	**EN 116** EN 16329
4.	Density at 15 °C	kg/m^3, at least	820.0	820.0	820.0	815.0	815.0	815.0	EN ISO 3675:1998
5.		kg/m^3, maximum	845.0	845.0	845.0	845.0	845.0	845.0	**EN ISO 12185:1996**
6.	In summer: from 1 May to 30 September: Grade A								
7.	In winter: from 15 November to the last day of February: Grade F								
8.	Transitional (transition) period: from 1 March to 30 April and from 1 October to 14 November: Grade A-F								

3. Fuel for aeroplanes

3.1. Aviation gasoline falling within CN code 2710 12 31

3.1.1 Quality requirements and test methods for aviation gasoline

	A	B	C	D	E	F
1.	Grades of quality		RB 80	RB 100	RB 100LL	Test method
2.	Characteristics	Unit	Specifications			
3.	Appearance	-	When tested at room temperature, it should be clear, transparent, and free of any water deposition and mechanical contamination that is visible to the naked eye.			sensory
4.	Compression tolerance					
5.	Octane number (lean mixture), at least	-	80.0	100.0	100.0	MSZ ISO 5163
6.	Octane number (rich mixture), at least	-	87.0	-	-	ASTM D 909
7.	Performance number, at least	-	-	130	130	
8.	Colour	-	red	green	blue	sensory
9.	Lead content[1)], maximum	g/l	0.14	1.12	0.56	MSZ 10874
10.	Density at 15 °C	kg/m^3	to be provided			**UNI EN ISO 3675** UNI EN ISO 12185
11.	Distillation characteristics					MSZ EN ISO 3405
12.	Initial boiling point	°C	to be provided			
13.	10 % (V/V) distills, up to	°C	75			
14.	40 % (V/V) distills, at least up to	°C	75			
15.	50 % (V/V) distills, up to	°C	105			
16.	90 % (V/V) distills, up to	°C	135			
17.	Final boiling point, maximum	°C	170			
18.	sum of 10% and 50% (V/V) distillation temperatures, not less than	°C	135			
19.	Distilled quantity, at least	% (V/V)	97			
20.	Distillation residue, maximum	% (V/V)	1.5			
21.	Loss on distillation, maximum	% (V/V)	1.5			
22.	Vapour pressure at least up to	kPa	38.0 49.0			MSZ EN 13016-1
23.	Sulphur content, maximum	% (m/m)	0.05			**MSZ EN ISO 20846** MSZ EN ISO 20884 MSZ EN ISO 20847
24.	Calorific value, minimum	MJ/kg	43.50			**MSZ 19954** MSZ 10869:2005 standard, Chapter M2
25.	Corrosion effect on copper plate (2 hours at 100 °C), maximum	corrosion grade	1.			MSZ EN ISO 2160
26.	Oxidation stability (5 hours)					MSZ-09-60.0125

27.	Potential resin, maximum	mg/100 cm^3	6	
28.	Visible lead precipitate, maximum	mg/100 cm^3	3	
29.	Crystallization point, maximum	°C	-58	MSZ ISO 3013
30.	Interaction with water Variation in volume, maximum	cm^3	2	MSZ ISO 6250
31.	Specific electrical conductivity, maximum	pS/m	to be provided[2)]	MSZ ISO 6297
32.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**			
33.	[1)] The lead additive used shall contain at least 61% (m/m) of tetraethyllead and such an amount of ethylene dibromide that the ratio of lead to bromine is 1:2.			
34.	[2)] When a conductivity-enhancing additive is added to aviation gasoline, it shall have a specific electric conductivity of 50-450 pS/m.			

3.1.2 Colouring agents authorised for aviation gasoline and their quantities

	A	B	C	D
1.	Quantity of colouring agents added to aviation gasoline			
2.	Colouring agent	Colouring content, maximum mg/l		
		RB 80	RB 100	RB 100LL
3.	blue dye: 1,4-dialkyl-amino-anthraquinone	0.2	2.7	2.7
4.	yellow dye: p-diethylaminoazobenzene, or 1,3-benzenediol-2,4-bis[(alkylphenyl)azo] derivative	—	2.8	—
5.	red dye: alkyl derivatives of azobenzene-4-azo-2-naphthol	2.3	—	—

3.2. Petroleum fuel falling within CN code 2710 19 21

	A	B	C	D
1.	Quality requirements and test methods for fuels for gas turbine-powered aircraft			
2.	Symbol of the quality grade of the product: JET-A1			
3.	Characteristics	Unit	Specifications	Test method
4.	Appearance	—	Clear, transparent, shiny, free from impurities and water deposition.	According to standard MSZ 10870:2023, section 6.3 (sensory testing)
5.	Colour	—	to be provided	sensory testing
6.	Saybolt colour number	—	to be provided	MSZ-09-60.0138
7.	Acid value, maximum	mg KOH/g	0.015	MSZ ISO 6618
8.	Aromatics content, maximum	% (V/V)	25[1)]	**BS EN 15553** ASTM D 6379
9.	Mercaptan sulphur content, maximum	% (m/m)	0.0030	**MSZ ISO 3012** MSZ15973
10.	Total sulphur content, maximum	% (m/m)	0.30	**MSZ EN ISO 8754**[2)] **MSZ EN ISO 20846** **MSZ EN ISO 20884**
11.	Distillation characteristics[3)]			MSZ EN ISO 3405

12.	10% (V/V) distilled, up to	°C	205	
13.	50% (V/V) distilled	°C	to be provided	
14.	90% (V/V) distilled	°C	to be provided	
15.	Final boiling point, maximum	°C	300	
16.	Percentage residue, maximum	% (V/V)	1.5	
17.	Percentage loss, maximum	% (V/V)	1.5	
18.	Flash-point, closed, minimum	°C	38[4)]	**MSZ 10879** MSZ EN ISO 3679 MSZ EN ISO 2719
19.	Density at 15 °C	g/cm^3	0.775-0.840	**MSZ EN ISO 3675** MSZ EN ISO 12185
20.	Crystallisation point, maximum	°C	-47	**MSZ 2047** **ASTM D 7153**
21.	Kinematic viscosity at –20 °C, maximum	mm2/s	8.000	**MSZ EN ISO 3104** **ASTM D 7042**[5)]
22.	Calorific value, minimum	MJ/kg	42.80	**MSZ19954**
23.	Height of non-sooty flame[6)], minimum	mm	25	**MSZ 970**
24.	Height of non-sooty flame[7)], minimum and Naphthalene content, maximum	mm % (V/V)	19 3.0	**MSZ 970** **MSZ 2046**
25.	Corrosion effect on copper plate (2 hours, 100 °C), maximum	corrosion grade	1.	**MSZ EN ISO 2160**
26.	Thermal stability			MSZ 10892
27.	Pressure drop across the filter, up to	kPa	3.3	
28.	Deposition on the heating pipe	grade	less than 3	
29.	Actual resin content[8)], maximum	mg/100 cm^3	7.0	MSZ EN ISO 6246
30.	Microseparation Index (MSEP-A)			MSZ 10876
31.	With conductivity-enhancing additive, minimum	-	70	
32.	Without a conductivity-enhancing additive, minimum	-	85	
33.	Electrical conduction at 20 °C[9)]	pS/m	50-600	MSZ ISO 6297
34.	Solid contaminant content, maximum	mg/l	1	MSZ 10875
35.	Non-hydrogenated proportion	% (V/V)	to be provided	
36.	Hydrogenated proportion	% (V/V)	to be provided	
37.	Hydrogenated proportion under strict conditions[10)]	% (V/V)	to be provided	
38.	Proportion of synthetic components	% (V/V)	to be provided	
39.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**			
40.	[1)] The aromatics content should not exceed 26.5% (V/V) when the ASTM D 6379 method is being used			
41.	[2)] MSZ EN ISO 8754 is not suitable as a decisive test for determining the sulphur content if it is less than 0.05 % (m/m).			
42.	[3)] JET-A1 should be distilled according to distillation group 4 at a condenser temperature of 0–4 °C.			
43.	[4)] If the MSZ 10879 method is used, the flash point shall be at least 40 °C.			
44.	[5)] The correction described in the standard shall be used for specifying the kinematic viscosity.			
45.	[6) 7)] From among the test results, either 6) or 7) shall be provided.			

46.	[8)] It may be blown with air.
47.	[9)] At 20 ± 0.5 °C
48.	[10)] Hydrocarbons that are hydrogenated under strict conditions are those for which the partial pressure of hydrogen during hydrogenation is greater than 7000 kPa (70 bar or 1015 psi). If the propellant contains in at least 20% a component hydrogenated under strict conditions and the total hydrogenated proportion is more than 95%, or if the propellant contains a synthetic component, a lubricity test according to ASTM D 5001 shall be performed and the wear scar diameter shall be less than or equal to 0.85 mm.

4. E85

4.1. Requirements and test methods for E85 ethanol

	A	B	C	D	E
1.	Characteristics	Unit	Limit value at least up to		Test method
2	Density (at 15 °C)	kg/m^3	755.0	800.0	EN ISO 12185
3.	Oxidation stability	minute	360	—	EN ISO 7536
4.	Copper corrosion (3 h, 50 °C)	grade	class 1		EN ISO 2160
5.	Total acidity (expressed as acetic acid)	% (m/m)	—	0.005	EN 15491
6.	Conductivity[1)]	pS/cm	—	1.50	EN 15938
7.	Appearance[2)]	—	clear and colourless		EN 15769
8.	Methanol content	% (V/V)	—	1.0	**EN 16761-1** EN 16761-2
9.	Saturated monoalcohols with higher carbon numbers (C3-C5)	% (V/V)	—	6.0	EN ISO 22854:2016, Procedure B
10.	Water content	% (m/m)	—	0.400	**EN 15489** EN 15692
11.	Inorganic chloride content	mg/kg	—	1.2	EN 15492[3)]
12.	Phosphorus content	mg/l	—	0.15	EN 154 87[4)]
13.	Sulphur content	mg/kg	—	10.0	EN 16997
14.	Sulphate content	mg/kg	—	2.6	EN 15492
15.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**				
16.	[1)] If the required limit is not met but the pH of the sample, as determined by one of the methods in EN 15490 or ASTM D6423-99, is between 6.5 and 9.0, the parameter should not be contested.				
17.	[2)] Determine at ambient temperature or at 15 °C, whichever is higher, before any colouring.				
18.	[3)] Taking into account point A.3 in Annex A of standard MSZ EN 15293:2019.				
19.	[4)] Taking into account point A.4 in Annex A of standard MSZ EN 15293:2019.				

4.2. Climate-dependent requirements and test methods

	A	B	C	D	E	F	G	H	I	J	K
1.	Climate-dependent requirements and test methods										
2.	Characteristics	Unit	Class A		Class B		Class C		Class D		Test method
			minimum	maximum	minimum	maximum	minimum	maximum	minimum	maximum	
3.	Vapour pressure (DVPE)	kPa	35.0	60.0	50.0	80.0	55.0	80.0	60.0	—	**EN 13016-1** EN 13016-3
4.	ethanol + saturated alcohols with higher carbon numbers	% (V/V)	70	85	70	85	60	85	50	85	EN ISO 22854
5.	Any class can be used.										

5. Biodiesel

5.1. Generally applicable requirements and test methods for fatty acid methyl esters

	A	B	C	D	E
1.	Characteristics	Unit	Limit values		Test method
			minimum	maximum	
2	FAME content	% (m/m)	96.5	—	EN 14103
3.	Density at 15 °C[1)]	kg/m^3	860	900	**EN ISO 12185** EN ISO 3675
4.	Viscosity at 40 °C[2)]	mm^2/s	3.50	5.00	**EN ISO 3104** EN 16896
5.	Flash point	°C	101	—	**EN ISO 3679**[3)] EN ISO 2719
6.	Cetane number	—	51.0	—	**EN ISO 5165**[4)] EN 15195 EN 16715 EN 17155
7.	Copper corrosion (3 hours at 50 °C)	grade	class 1		EN ISO 2160
8.	Oxidation stability at 110 °C	hour	8.0	—	**EN 15751** EN 14112
9.	Acid value	mg KOH/g	—	0.50	EN 14104
10.	Iodine number	g iodine/100 g	—	120	**EN 14111** EN 16300
11.	Linolenic acid methyl ester	% (m/m)	—	12.0	EN 14103
12.	Polyunsaturated methyl esters (> 4 double bonds)	% (m/m)	—	1.00	EN 15779
13.	Methanol content	% (m/m)	—	0.20	EN 14110
14.	Monoglyceride content	% (m/m)	—	0.70	EN 14105
15.	Diglyceride content	% (m/m)	—	0.20	EN 14105
16.	Triglyceride content	% (m/m)	—	0.20	EN 14105
17.	Free glycerol	% (m/m)	—	0.02	**EN 14105** EN 14106
18.	Total glycerol	% (m/m)	—	0.25	EN 14105
19.	Water content	% (m/m)	—	0.050	EN ISO 12937
20.	Total contaminants	mg/kg	—	24	EN 12662
21.	Sulphated ash	% (m/m)	—	0.02	ISO 3987
22.	Sulphur content	mg/kg	—	10.0	**EN ISO 20846** **EN ISO 20884** EN ISO 13032
23.	Group I metals (Na+K)	mg/kg	—	5.0	**EN 14538** EN 14108 EN 14109
24.	Group II metals (Ca+Mg)	mg/kg	—	5.0	EN 14538
25.	Phosphorus content	mg/kg	—	4.0	**EN 14107** EN 16294
26.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**				
27.	[1)] It is possible to measure the density between 20 °C and 60 °C; the temperature correction shall be carried out according to the formula given in Annex B of standard MSZ EN 14214:2012+A2:2019.				

28.	[2)] In the case where the CFPP is equal to or less than –20 °C, the viscosity shall be measured at –20 °C and the measured value shall not exceed 48 mm2/s.
29.	[3)] 2 ml of the sample and a device equipped with a heat sensor shall be used.
30.	[4)] Alternative methods may be used for determining the cetane number, provided that they are derived from a series of recognised methods and have validated precision data in accordance with EN 4259, which are at least

5.2. Climate-dependent requirements and test methods for FAME fuel

	A	B	C	D	E	F	G	H	I	J
1.	Characteristics	Unit	Limit values							Test method
			Grade A	Grade B	Grade C	Grade D	Grade E	Grade F	Grade G	
2.	CFPP	°C, maximum	+5	0	-5	-10	-15	-20	-26	**EN 116** EN 16329
3.	In summer: from 1 May to 30 September: Grade A									
4.	In winter: from 15 November to the last day of February: Grade F									
5.	Transitional (transition) period: from 1 March to 30 April and from 1 October to 14 November: Grade A-F									

5.3. Climate-dependent requirements and test methods for the FAME blending component

5.3.1. Selection of cold flow properties

	A	B	C	D	E	F	G	H	I
1.	Characteristics	Unit	Limit values						Test method
			Grade A	Grade B	Grade C	Grade D	Grade E	Grade F	
2.	Cloud point	°C, maximum	16	13	9	5	0	-3	EN 23015
3.	CFPP	°C, maximum	13	10	5	0	-5	-10	**EN 116** EN 16329
4.	In summer: from 1 May to 15 September: Grade D								
5.	In winter: from 16 October to the last day of February: Grade E								
6.	Transitional (transition) period: from 1 March to 30 April and from 16 September to 15 October: Grade D, E								

5.3.2. Selection of monoglyceride content

	A	B	C	D	E	F	G	H	I
1.	Characteristics	Unit	Limit values						Test method
			Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
2.	Monoglyceride content	% (m/m), maximum	0.15	0.30	0.40	0.50	0.60	0.70	EN 14105
3.	Entire year: Grade 6								

6. LPG

6.1. Quality requirements and test methods for LPG fuel

	A	B	C	D	E
1.	Characteristics	Unit	Limit values		Test method
			minimum	maximum	
2.	Motor octane number, MON	-	89.0	-	MSZ EN 589:2024 Norm (standard) Annex B
3.	Total diene content	% (m/m)	-	0.5	**EN 27941** DIN 51619
4.	1,3-butadiene	% (m/m)	-	< 0.10	**DIN 51619** **EN 27941**
5.	Propane content	% (m/m)	20	-	**EN 27941** **DIN 51619**
6.	Hydrogen sulphide	-	negative		EN ISO 8819

7.	Total sulphur content (after odorisation)	mg/kg	-	30	**EN 17178** ASTM D 6667
8.	Copper corrosion (1 hour, at 40 °C)	grade	class 1		EN ISO 6251
9.	Evaporation residue	mg/kg	-	60	**EN 15470** **EN 15471** EN 16423
10.	Vapour pressure (overpressure) at 40 °C	kPa	-	1550	**EN ISO 4256** EN ISO 8973 and MSZ EN 589:2024, Annex C
11.	Vapour pressure at a given temperature and under overpressure[1), 2)] Grade A: –10 °C Grade B: –5 °C Grade C: 0 °C Grade D: +10 °C Grade E: +20 °C	kPa	200	-	EN ISO 8973 and MSZ EN 589:2024, Annex C
12.	Water content	-	It must not contain free water at 0 °C and under saturated vapour pressure.		EN 15469
13.	Odour	-	Unpleasant and distinctive, at a lower explosion limit of 20 % (V/V).		Section 6.3 and Annex A of standard MSZ EN 589:2024
14.	**In case of dispute, if more than one test method is specified for a parameter and there is an underlined (decisive) method, that shall be used.**				
15.	[1)] In winter: from 15 November to the last day of February: Grade B, from 1 March to 14 November: Grade E				
16.	[2)] EN ISO 8973 shall be applied in conjunction with Annex C of standard MSZ EN 589:2024 at the indicated temperature. For internal routine quality control, the values given in Annex D of standard MSZ EN 589:2024 may also be used.				