

Directive 98/70/EC: Test Methods, Limit Values and Tolerance Limits*

*Based on information provided by the German Environmental Protection Agency & CEN

Petrol

Parameter	Unit	98/70/EC		Test specified in 98/70/EC or EN 228:1999				
		Limit values		Method	Date	Reproducibility, R	Tolerance limits (95% confidence)	
		Min.	Max.				Minimum	Maximum
Research Octane Number (RON)	--	95		EN 25164	1993	0.7	94.6	
		91					90.6	
Motor Octane Number (MON)	--	85		EN 25163	1993	0.9	84.5	
		81					80.5	
Vapour Pressure, DVPE								
--summer period (normal)	kPa		60	EN 13016-1	2000	2.9		61.7
--summer period (Arctic)	kPa		70	EN 13016-1	2000	2.9		71.7
Distillation								
--evaporated at 100 °C	% (v/v)	46		EN-ISO 3405	1988	Depends on test conditions		
-- evaporated at 160 °C	% (v/v)	75		EN-ISO 3405	1988	Depends on test conditions		
Hydrocarbon analysis								
-- Olefins	% (v/v)		18.0	ASTM D1319	1995	6.8		22.0
-- Olefins (RON 91 fuel only)	% (v/v)		21.0	ASTM D1319	1995	6.8		25.1
-- Aromatics	% (v/v)		42.0	ASTM D1319	1995	3.5		44.0
-- Benzene	% (v/v)		1.0	EN 12177	1998	0.1		1.1
				EN 238	1996			1.2
Oxygen content	% (m/m)		2.7	EN 1601	1997	0.3		2.9
Oxygenates								
-- Methanol	% (v/v)		3	EN 1601	1997	0.4		3.2
-- Ethanol	% (v/v)		5	EN 1601	1997	0.3		5.2
-- Iso-propyl alcohol	% (v/v)		10	EN 1601	1997	0.9		10.5
-- Tert-butyl alcohol	% (v/v)		7	EN 1601	1997	0.6		7.3
-- Iso-butyl alcohol	% (v/v)		10	EN 1601	1997	0.8		10.5
-- Ethers with 5 or more carbon atoms per molecule	% (v/v)		15	EN 1601	1997	1		15.6
-- other oxygenates	% (v/v)		10	EN 1601	1997	0.8		10.5
Sulphur content	mg/kg		150	EN ISO 14596	1998	30		168
				EN ISO 8754	1995			
				EN 24260	1994			161
Sulphur content (low sulphur, from 2005)	mg/kg		50	EN ISO 14596	1998			54
				EN ISO 8754	1995			
				EN 24260	1994			54
Sulphur content (sulphur free, from 2005)	mg/kg		10	EN ISO 14596	1998			12
				EN ISO 8754	1995			
				EN 24260	1994			12
Lead content	g/l		0.005	EN 237	1996	2		1.2

Diesel

Parameter	Unit	98/70/EC		Test specified in 98/70/EC or EN 590:1999				
		Limit values		Method	Date	Reproducibility, R	Tolerance limits (95% confidence)	
		Min.	Max.				Minimum	Maximum
Cetane number	--	51.0	--	EN-ISO 5165	1998	4.3	48.5	
Density at 15 °C	kg/m ³		845	EN-ISO 3675	1998	1.2		845.7
				EN ISO 12185	1996			845.3
Distillation -- 95% Point	°C		360	EN-ISO 3405	1988	Depends on test conditions		
Polycyclic aromatic hydrocarbons	% (m/m)		11	IP 391	1995	0.29		13.3
Sulphur content	mg/kg		350	EN ISO 14596	1998	50		380
				EN ISO 8754	1995			
				EN 24260	1994			375
Sulphur content (low sulphur, from 2005)	mg/kg		50	EN ISO 14596	1998			54
				EN ISO 8754	1995			
				EN 24260	1994			54
Sulphur content (sulphur free, from 2005)	mg/kg		10	EN ISO 14596	1998			12
				EN ISO 8754	1995			
				EN 24260	1994			12