



Supply Specification for Germany

Diesel Fuel without FAME (B0)

fulfils DIN EN 590 issue 04/2014

Issue: 7.0

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Valid from: 01.01.2019

Properties	Test methods	Units	Limits	Notes
Appearance *	visual inspection	--	Clear and bright, free of visible water and/or solid matter	
Colour *	ISO 2049 ASTM D 6045	--	max. 2,0	#
Density at 15 °C	EN ISO 3675 EN ISO 12185	kg/m ³	820,0 – 845,0	1
Sulfur content	EN ISO 20884 EN ISO 20846 EN ISO 13032	mg/kg	max. 10,0	
Cetane number (alternative)				
- CFR-method	EN ISO 5165	--	min. 51,0	9
- BASF-method	DIN 51773	--	min. 51,3	
- Ignition delay (ACZ)	EN 15195 EN 16144	--	min. 51,0	
Cetane index	EN ISO 4264	--	min 46,0	
Flash point *	EN ISO 2719	°C	min. 59	
Carbon residue (on 10% distillation residue)	EN ISO 10370	% (m/m)	max. 0,30	2
Ash content	EN ISO 6245	% (m/m)	max. 0,010	
Viscosity at 40 °C	EN ISO 3104	mm ² /s	2,000 - 4,500	
Electrical conductivity * at storage temperature	DIN 51412-2 ASTM D 2624	pS/m	min. 50 temperature to be reported	3
Lubricity (WSD 1,4) at 60°C	EN ISO 12156-1	µm	max. 460	
Copper strip corrosion (3 h at 50 °C)	EN ISO 2160	rating	Class 1	
Total contamination	EN 12662	mg/kg	max. 24	
Oxidation stability	EN ISO 12205	g/m ³	max. 25	
Water content	EN ISO 12937	mg/kg	max. 200	
Fatty acid methyl ester (FAME) content	EN 14078	% (V/V)	max. 0,5	4
Polycyclic aromatic hydrocarbons	EN 12916	% (m/m)	max. 8,0	8
Manganese content	prEN 16576	mg/l	max. 2,0	



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Distillation Recovered at 250 °C Recovered at 350 °C 95% (V/V) recovered at	EN ISO 3405 EN ISO 3924	% (V/V) % (V/V) °C	< 65 min. 85 max. 360	
Climate Class Date Ranges			15.04.-14.09. 15.09.-31.10. 01.11.-29.02. 01.03.-14.04.	5/6
Cloud point *	EN 23015	°C	max. +5 max. -3 max. -7	
CFPP*	EN 116 EN 16329	°C	max. -2 max. -13 max. -22	
WASA *		g/t	- - min. 150	7
Flowimprover		g/t	max. 500 max. 500 max. 500	
Examination of additional criteria for the period 01.11.- 29.02.				
Either Driveability Limit *	DGMK-Method 580-1	°C	max. -22	10
or Cloud point * of „short-sediment-test“	ARAL short-sediment-test DGMK 531-1 and EN 23015	°C	if cloud point of short-sediment is max. -5 -6 -7 -8 -9	
combined with CFPP *	EN 116 EN 16329	°C	CFPP shall be max. -30 -28 -25 -23 -22	
Particle counting > 4 µm, with removal of water (Annex X2)	ASTM D 7619	count/ml	to be reported	11
Particle counting Analysis of size bands ≥4 µm, >6 µm and >14 µm	ISO 4406	--	to be reported	11
<ul style="list-style-type: none"> - The requirements of the latest amendment to the `Gefahrstoffverordnung` (Hazardous Substances Regulation) shall be met. - Diesel fuel shall not be treated with acids and/or bases. - PCB and Halogenic compounds shall not be added to the diesel fuel. - Supplier/provider safeguards by appropriate procedures that his product meets this specification acc. EN ISO 4259. - Metal containing additives shall not be added to the diesel fuel. 				
All requirements of DIN EN 590 (according to the latest issue of 10 th BImSchV) are effective.				
% (m/m) = Mass fraction % % (V/V) = Volume fraction %				



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Notes:

- * Additional or more stringent requirements than DIN EN 590
 - # Not relevant for bilateral term contracts (passive parameter)
1. In the case that FAME-free B0-diesel is supplied for the purpose of subsequently blending with max 7,0 %(V/V) FAME (according to DIN EN 14214), density shall not exceed 842,0 kg/m³.
 2. Tested before cetane number improver has been added. In case of higher test result, cetane improver content according EN ISO 13759 should be tested.
 3. The conductivity requirements apply to domestic production for the product release in refinery tanks only and for imports from abroad to the loading tank. This provision serves to secure a minimum of electrical conductivity at a logistically unfavorable location of a loading facility. For terminal turnover, this limit is not mandatory, as long as the safety requirements for ignition by electrostatic charge according to TRGS 727 or IEC/TS 60079-32-1 are taken into account.
 4. The addition of fatty acid methyl ester (FAME) or other bio components is permitted. Only small amounts due to contamination within the logistics chain are allowed with a maximum of 0,5 %(V/V).
 5. Dates apply to supply sources (refinery, terminal).
 6. To ensure timely fuel introduction for each terminal the supply dates are agreed individually.
 7. If necessary, higher doses can be used to achieve the required driveability limit. If the Cloud point is max. -12 °C no WASA needs to be added. The supplier of WASA-free diesel must confirm this for each delivery to the terminal operator. On request this documentation is to be provided to other exchange partners.
 8. For the application of this specification the content of polycyclic aromatic hydrocarbons is defined as the total content of aromatic hydrocarbons after deducting the content of mono aromatic hydrocarbons, both defined in EN 12916.
 9. To measure the cetane number, it is allowed to use alternative methods in addition to the mentioned methods, on condition that these methods are scientifically recognized and include valid accuracy information aligning to EN ISO 4259. A similar precision has to be proven throughout a reference method. Additionally the alternative test results need to be detectably related to the test result of the reference method.
 10. In addition to dynamometer measurement (DGMK 580-1) rig-measurements are allowed. The alternative rig measurements need to be detectably related to the results of the dynamometer measurement.
 11. Following the CEN TC 19/WG24 task force for abrasive particles in Diesel fuels, the connection between particle contamination in diesel fuels conforming the EN 590 and locally occurring malfunction of injectors is under investigation. The interim report of the taskforce recommends to establish a quality monitoring for particle distribution according to ASTM D 7619-17. The MWV follows this recommendation. As a preventive precautionary measure it is recommended not to exceed a total number of 10000 for particles > 4 µm. This recommendation is valid until 31 December 2019. Afterwards it is either removed without substitution or substituted after evaluation of measuring results.