

Commercial vehicle manufacturer approvals on using biodiesel (B100)

As at: June 2010

Important information:

Using biodiesel in any vehicle that does not have general approval from the manufacturer requires consultation with the relevant specialist workshop.

The approvals listed here are not automatically applicable to countries outside of Germany. It is therefore necessary to request specific manufacturer approval from each separate country.

Further information on biodiesel is obtainable from the following associations:



Zukunft tanken.

**Association of German
Biofuel Industries (VDB)**

Am Weidendamm 1A
10117 Berlin
info@biokraftstoffverband.de
www.biokraftstoffverband.de



**German Union for the Promotion of
Oilseeds and Protein Plants (UFOP)**

Claire-Waldoff-Straße 7
10117 Berlin
info@ufop.de
www.ufop.de



**German Association for the Quality
Management of Biodiesel (AGQM)**

Claire-Waldoff-Straße 7
10117 Berlin
info@agqm-biodiesel.de
www.agqm-biodiesel.de



Biodiesel purchasing – information on purchasing terms

Biodiesel purchasing and quality assurance

The product information from the commercial vehicle manufacturers requires, for problem-free engine operation and warranty assurances, the use only of biodiesel that complies to DIN EN 14214. Engine manufacturers also recommend users obtain quality assurances from biodiesel suppliers.

Because of the varying storage conditions and time intervals concerning the purchase of biodiesel, the following additional aspects should be taken into consideration when agreeing purchases, and should be assured by suppliers:

- Assurances that the biodiesel is supplied ex-works with oxidation stabilizers (this product characteristic must be noted on the works certificate or delivery documentation).
- Request a works certificate for each delivery. Ensure the documentation provided always enables product tracing.
- Assurances that the product is DIN EN 14214 certified.
- Assurance that the tank is as empty as possible of summer fuel before filling with winter fuel.



The inclusion of oxidation stabilizers is especially recommended for vehicles with high pressure injection systems (pump-nozzle units or common rail systems). The fuel is subject to high pressures and therefore to high temperature demands.

To ensure product traceability, the German Association for Quality Management of Biodiesel (AGQM) has produced a multi-level quality assurance system that monitors the quality of the biodiesel from its members (producers and sellers). This QM concept has been gradually aligned over the years to the increasing requirements of the DIN EN 14214 European standard on minimum standards, and has been extended to meet the AGQM's own requirements. Users can identify quality-assured biodiesel through the AGQM symbol on the delivery documents.

Experience has shown that in the event of a warranty claim, traceability of the biodiesel's origins is required by the vehicle manufacturer. Biodiesel suppliers should, when required, be able to provide works certificates on a batch/lot basis. If in doubt, it is advised to retain a certified sample at delivery time.



Additional information is available under www.agqm-biodiesel.de

Caterpillar / Zeppelin

Download of further information (German):
www.ufop.de/biodiesel_fahrzeughersteller.php

Approved engine types	Vehicle types	Auxiliary heating	Other
3046, 3066, 3114, 3116, 3126, 3176, 3196, 3208, 3306			As at: 30.04.08 Recommendation B30 Oil diagnosis system recommended
C-9, C-10, C-12, C-15, C-16			
3406, 3456, 3408, 3412			
3064	314 C LRC mini hydraulic excavator		
3176	815 F compactors, D7R Series 2 track-type tractor		
Series 3500	994 F wheel loader, 793D/789C mining truck		
Series C175, Series 3600, Series C280, Series CM 20, Series CM 25, Series CM 32			
Cat® C7 diesel with ACERT™ concept up to production year 2006	324D L/LN, 325D L/LN, 330D L demolition machines, 329D L/LN hydraulic excavator, M325D MH/LMH material handler, 328 D LCR tunnel excavator, 328 D LCR mini hydraulic excavator, 962 H/950 H wheel loader, 325D long reach excavator, AP 755 paver, PM 102 cold planer, 140M motor grader		
Cat® C9 diesel with ACERT™ concept up to production year 2006	336D L/LN hydraulic excavator, 330 D long reach excavator, 330D demolition machine, 973 C track loader, D6T track-type tractor		

	Approved engine types	Vehicle types	Auxiliary heating	Other
Caterpillar / Zeppelin	Cat® C11 diesel with ACERT™ concept up to production year 2006	966 H wheel loader, 735/740 articulated truck, RM300 rotary mixer, 14M motor grader		
	Cat® C13 diesel with ACERT™ concept up to production year 2006	345D L hydraulic excavator, 345C L demolition machine, 345C long reach excavator, 972 H wheel loader		
	Cat® C15 ATAAC diesel with ACERT™ concept up to production year 2006	365C L hydraulic excavator, 365C demolition machine, 980 H wheel loader, 735/740 articulated truck, 770 off-highway truck, 621/627G scraper, RM500 rotary mixer, 587/583 T pipelayer, 824H wheel dozer, 825H compactor, D8T track-type tractor		
	Cat® C27 diesel with ACERT™ concept up to production year 2006	990H wheel loader, 773/775 F off-highway truck, D10T track loader		
	Cat® C32 diesel with ACERT™ concept up to production year 2006	992/993 K wheel loader, 777 off-highway truck, D11T/T CD track loader		
DAF Trucks Deutschland GmbH	XE engine	XF95 vehicles	Airtronic D4S, Eberspächer D1LC compact, D3LC compact	
	PE or XE engine from vehicle id-number OE552891	CF75/85 vehicles		
	PR oder MX engine	CF75/85 and XF105 vehicles		
	BE, CE engines			

Download of further information (German):
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	Approved engine types	Vehicle types	Auxiliary heating	Other
Daimler AG (EvoBus GmbH)	BR 300 from prod. year 1988			
	BR 400 from prod. year 1988 OM 457 LA/hLA from series use	Citaro/Citaro Ü, CapaCity, Travega, Turismo, Integro		Conversion necessary
	BR 900 from series use (OM 926 LA)	Tourino		
	BR 500 from series use OM 502 LA	Travego		
DEUTZ AG	Off-highway			
	1011/2011 to Tier 3 stage IIIA			
	1012/1013/2012/2013 to Tier 2 stage II			
	TCD 2012/2013/2V/4V Tier 3 stage IIIA			
	TCD 2012 2V/4V DEUTZ Natural Fuel Engine			And 100% plant oil
	2015 to Tier 3 stage IIIA			Approval for engines from 01.07.2010, retrofitting possible with earlier production date
	413/513/912/913/914			
	Commercial vehicles			
	TCD 2013 to Euro III			
	TCD 2013 from Euro IV			Approved to 30% EN14214
Marine engines 912/913/1013M/1015M/2015M/914M				

Download of further information (German):
www.ufop.de/biodiesel_fahrzeughersteller.php

DEUTZ recommends quality assured biodiesel for all engines.



	Approved engine types	Vehicle types	Auxiliary heating	Other
Irisbus Deutschland GmbH	IVECO Cursor engine 8	Citelis articulated bus, Crossway Le Intercity 12m/12,8m, Evadys H 12m/12,8m, Citelis Line		
	IVECO Cursor engine 10	Evadys HD 12m/12,8m		
IVECO AG Download of further information (German): www.ufop.de/biodiesel_fahrzeughersteller.php	Cursor 8/10/13 engines with PDE	EuroTech, EuroStar, Euro Trakker, Stralis, Trakker		
Liebherr Dredger crane Crawler crane Piling and drilling rigs Drilling rigs Wheel loaders Wheeled excavator (earthmoving)		HS 825, 835, 845, 855, 885 HS 875, 885, 895		Retrofit kit on request
		LR 1100, 1130, 1160, 1200, 1280, 1300		
		LRB 125, 155, LRB 255		Retrofit kit on request
		LB 16, 20, 24, 28, 36		
		L 538, 542, 550, 556, 566, 576, 580, 586		
		717/1035 718/1035 719/1037 1039 1040 1002 729/730/931/979/1030/ 1031/1032/1033 439/441/1003/1005 954/955/1044/1045/ 1046 956/957/1047/1048	A 309 A 311 A 312 A 314 A 316 A 900 A 900 ZW A 904 A 914 A 924 A 924 C Plus	

	Approved engine types	Vehicle types	Auxiliary heating	Other
Liebherr Crawler excavator (earthmoving)	636/1038 970/1042 971/981/982/1076	R 313 R 317 R 900		
	1041 440/477/1004/1071 958/959/1050/1051/ 1049 934/935/1006/1007/ 1053 194/196 450	A 316 A 904 A 924 A 934 A 944 A 954		
	1043	R 317		
	Off-road crawler excavator	D 904, 906, 914, 916, 924, 926, 9306, 9308, 9406, 9408, 934, 936, 946 D 504, 404 D 846		
MAN Nutzfahrzeuge AG Download of further information (German): www.ufop.de/biodiesel_fahrzeughersteller.php	D08 from production date 10/98 EURO 5 EEV	TGL/TGM series	Airtronic D4S, Hydronic D5WSC, D1LCC, D3LCC	All trucks that use FAME driven engines are equipped with FAME compatible components also on the chassis side (fuel system, tank transmitter) Approval on request for vehicles with CRT filter
	D20 EURO 5 EEV	TGX/TGS series		
	D26 EURO 5 EEV	TGX/TGS series		
	D28 from production date 10/98 EURO 5 EEV			

	Approved engine types	Vehicle types	Auxiliary heating	Other
Mercedes-Benz-Trucks Download of further information (German): www.ufop.de/biodiesel_fahrzeughersteller.php	BR 500	Actros		
	BR 900	Atego, Axor, Econic		
	BR900 (OM 926 LA)	Zetros		
	BM 457.9	Axor		
Neoplan Bus GmbH (MAN-Group)	MAN D26	Starliner		Urban and rural buses, tourist coaches
	MAN D2676 LOH/LOH 02 EUR 4	Skyliner, Cityliner, Tourliner		
	MAN D2066 LOH, EUR 4 or EEV	Cityliner, Tourliner		
	MAN D2066 LUH	Centroliner		
Renault Trucks Deutschland GmbH				Overall approval for 30% admixture; no overall approval for using 100% biodiesel but separate agreement in exceptions on extended use of biodiesel for 11 and 13 litre engines
SCANIA				All vehicles can generally be converted to run on B100 (except for engines with injection pumps, type XPI, type HPI for buses only)

	Approved engine types	Vehicle types	Auxiliary heating	Other
SETRA-Omnibusse (EvoBus GmbH)	BR 500 (OM 501 LA)	TopClass 400 - S 411 HD		
	BR 500 (OM 502 LA)	TopClass 400: S 431 DT, ComfortClass 400: S 419 GT		
	BR 400 (OM 457 LA/hLA)	HD TopClass 400: S 415 HD/ HDH, 416 HDH, 417 HDH ComfortClass 400: S 415 GT/ GT HD, 416 GT/GT HD/GT HD 2, 417 GT HD MultiClass 400: S 412 UL, 415 UL/NF, 416 UL/NF, 417 UL, 419 UL		
	BR 900 (OM 926 LA)			
Volvo Trucks	D11, D13 and D16 (all approved for B30)	FH, FM, FMX and FH16		
Welte forestry and municipal machinery				
Forestry machinery	W130			
Municipal machinery	W130K, W130M, W130T W230, W210			

Disclaimer:

The attached information from the commercial vehicle manufacturers is based on a survey carried out in the spring of 2010. Although the survey was carried out with the utmost care, no guarantee can be given for the accuracy of the information.