



# INFORMATION

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für Erdöl, Erdgas und Kohle e.V.

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# PROJECTS

DGMK-COMMITTEE  
**FUELS**

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## **DGMK-Project 502-1 Composition of Gasolines from German Refineries - Winter Grade 2001/2002 -**

Gasolines are a blend of various hydrocarbons, oxygenates may also be present. In order to judge technical, ecological and toxicological problems with regard to the use of gasolines information about types and content of its components has to be available.

This report summarizes the results of an analysis of gasolines from fourteen German refineries produced in winter 2001 / 2002. The three grades Normal, Super and Super Plus were tested. Specifically the content of 50 hydrocarbons with three to six carbon atoms, 51 aromatic hydrocarbons and three oxygenates was determined. Besides that for paraffinic, naphthenic, olefinic (acyclic and cyclic) and aromatic hydrocarbons the sum of all compounds with the same number of carbon atoms was measured. The content of ten olefinic and 15 polycyclic aromatic hydrocarbons was determined separately. The average and the range between minimum and maximum of the results were determined for the three gasoline grades from the fourteen refineries.

In addition the report contains information about the content of halogens, nitrogen, sulfur, active sulfur and heavy metals.

The results are an update of information provided in DGMK-Forschungsbericht 502 "The composition of gasolines from German refineries" published in 1994.

### **Source:**

DGMK-Forschungsbericht 502-1  
Zusammensetzung von Ottokraftstoffen aus deutschen Raffinerien  
-Winterware 2001/2002 -  
(Composition of Gasolines from German Refineries - Wintergrade  
2001/2002 -)  
Autor: Dr. Hans-Peter Schmiedel, 2003  
81 S., 35 Tab., 18 Abb., 6 Lit.  
ISBN 3-936418-07-1  
Price: EUR 150,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 531-1 The Evaluation of a Test Scheme for the Approval of Diesel Lubricity Additives for Refinery Use - Follow Up -**

In the DGMK project 531 test criteria were defined to ensure that the refinery application of lubricity additives would be free from unwanted side-effects.

To satisfy these test criteria a number of laboratory tests were determined, furthermore these methods were verified in a 'round robin' test between the contributing laboratories in order to check power and feasibility of the methods.

The current DGMK-Research Report 531-1 is a revised version of the DGMK-Research Report 531 which was issued 1998. The containing investigation methods has been adapted to the actual technical status and are now an improved tool for refinery requirements to guarantee freedom from negative side effects with lubricity additives.

### **Source:**

DGMK-Forschungsbericht 531-1  
Aufstellung eines Kriterienkataloges zur Testung von Lubricity-Additiven in Dieselmotoren für den Raffinerieeinsatz - Fortschreibung  
(The Evaluation of a Test Scheme for the Approval of Diesel Lubricity Additives for Refinery Use – Follow up)  
Autor: Margret Schmidt, 2004  
32 Seiten  
ISBN 3-936418-30-6  
Price: EUR 40,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 583 Composition of Diesel fuels from German Refineries**

Due to the increasing importance of Diesel fuels in the market and the more stringent requirements on their quality as well as their ecological compatibility, a provision of appropriate data is required.

The Diesel fuels investigated for this report were made available by refineries during two different time periods. In accordance with the DIN EN 590 standard, samples of the so-called summer quality were supplied by 13 refineries during the time of July/August 2000. The corresponding winter quality was made available by 16 refineries in December 2000 / January 2001.

Chemical composition and relevant physical-technical properties of these 13 summer and 16 winter qualities were determined. In addition to the characteristic values defined by the quality standard certain unspecified, yet relevant parameters were established. The properties selected are important applicational or ecological criteria.

The test results demonstrate that composition and properties of the Diesel fuels investigated are within certain band widths. All samples tested comply with the requirements of the standard.

**Source:**

DGMK-Forschungsbericht 583  
Zusammensetzung von Dieselmotorkraftstoffen aus deutschen Raffinerien  
(Composition of Diesel fuels from German Refineries)  
Autoren: Dr. Jörg-Christian Fröhling, Jan Ludzay, 2002  
83 Seiten, 66 Abbildungen, 24 Tabellen, 2 Literaturstellen  
ISBN 3-936418-01-2  
Price: EUR 150,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 583-1 Composition of Diesel fuels from German Refineries - Summer grade 2003 -**

DGMK Research Project 583-1 investigates the composition of sulfur-free Diesel fuels as a supplement to DGMK Report 583 published in 2002, which reports the composition of Diesel fuels with a sulfur content of max. 350 mg/kg. Thereby the effect of desulfurisation on the composition of Diesel fuels was determined.

In summer 2003 fuels from German refineries were sampled and examined. In contrast to the first survey, the number of tests was reduced significantly. Only those parameters were considered that were likely to have changed due to the modified refining processes.

Since sulfur-free products have to this extent been investigated for the first time, the results will give a significant contribution to questions regarding application techniques and ecology.

**Source:**

DGMK-Forschungsbericht 583-1  
Zusammensetzung von Dieselmotoren aus deutschen Raffinerien – Sommerware 2003  
(Composition of Diesel fuels from German Refineries – Summer Grade 2003)  
Autor: Dr. Jörg-Christian Fröhling, 2004  
16 Seiten, 8 Abbildungen, 6 Tabellen  
ISBN 3-936418-24-1  
Price: EUR 50,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 583-2 Determination of the Content of Poly Aromatics in Diesel Fuel – Summer Grade 2005 –**

With the implementation of the 22<sup>nd</sup> Federal Emission Control Ordinance, changed limit values for particulate matter have become effective on January 1<sup>st</sup>, 2005. According to current knowledge, the compliance with these thresholds will not be possible throughout Germany.

As a short-term measure for reducing the exposure to particulate matter, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety has considered to recommend to the EU Commission that especially the content of poly aromatic hydrocarbons should be reconciled to the demand of the World Wide Fuel Charter for category 4 diesel fuel. This would mean a limit value of max. 2 % m/m of poly aromatics vis-à-vis a limit of 11 % m/m as currently specified by DIN EN 590.

Against this background, DGMK has been asked to provide data on the content of poly aromatics in diesel fuels. This report lists the groups of aromatic hydrocarbons for 16 samples of diesel fuel of the current summer grade of 2005 as an addition to data already available for the product quality of 2000/2001 and 2003.

The results of the diesel fuels investigated in 2005 show that the average content of poly aromatics in diesel fuel has not changed significantly when compared with the values for 2003; in comparison with the data for 2000/2001, the average is reduced by about 30 %.

### **Source:**

DGMK-Forschungsbericht 583-2  
Bestimmung des Poly-Aromatengehaltes im Dieselmotorkraftstoff –  
Sommerware 2005  
(Determination of the Content of Poly Aromatics in Diesel Fuel –  
Summer Grade 2005)  
Autor: Jan Ludzay, 2006  
8 Seiten, 4 Tabellen, 1 Abbildung  
ISBN 3-936418-52-7  
Price: EUR 30,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 611 Biofuels – Properties and Experiences with their Use**

The European Union wants to promote the use of renewable raw materials also in the traffic sector in order to meet the internationally committed reduction of carbon dioxide emissions. At the same time a new market shall be created for farming and jobs shall be secured. Fatty acid methyl esters in the diesel market and ethanol and ethyl tertiary butyl ether (ETBE) in gasoline are discussed as compounds that can be produced from renewable raw materials and be applied as fuels in the short term.

This literature survey deals with the extent of CO<sub>2</sub> / greenhouse gas emission reductions, the availability of biofuels and summarizes the economical and technical experiences obtained so far with their application. The use of pure vegetable oils, dimethylether and pyrolysis oil is also briefly covered.

If biodiesel (in Germany normally rape seed methyl ester, RME) is used, problems result especially from storage over a long period of time. Fatty acid methyl esters are prone to oxidation and to contact with water. In the presence of water they may decompose by hydrolysis and show microbial attack. In the car industry metals and elastomers have to be used that are compatible with fatty acid methyl esters. In general there is still a lack of sufficient experience in everyday use. Therefore the car manufacturers are reluctant to use biodiesel in cars due to its possible technical risks

Already today ethanol and ethyl tertiary butyl ether, a compound very similar to methyl tertiary butyl ether, are used internationally in limited amounts as fuel components. Therefore the technology is available to modify existing cars so that they become compatible with these oxygenates. With alcohol containing gasolines problems may arise from the formation of a water-alcohol phase. At high alcohol concentrations the engines have to be adapted to the changed combustion parameters.

The emissions of carbon monoxide, hydrocarbons and polycyclic aromatic hydrocarbons decrease if biodiesel, ethanol and ETBE are used, emissions of nitrogen oxides in most cases increase slightly. The volumetric fuel consumption normally increases, if biofuels are used.

**Source:**

DGMK-Forschungsbericht 611  
Biokraftstoffe – Eigenschaften und Erfahrungen bei der Anwendung  
(Biofuels – Properties and Experiences with their Use)  
Autor: Dr. Hans-Peter Schmiedel, 2002  
65 S., 2 Abb., 26 Tab., 106 Lit.  
ISBN 3-931850-99-4  
Price: EUR 40,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 611-1 Biofuels – Properties and Experiences with their Use Follow Up**

This Research Report is a continuation of DGMK Research Report 611 „Biofuels – Properties and Experiences with their Use” published in 2002.

Since that time the plans of the European commission to promote the use of biofuels have been put in concrete terms. Directive 2003/30/EC sets targets for the period 2005 to 2010, to which extent biofuels have to be marketed. In the case of diesel fuels this will be accomplished mainly by the blending of up to 5% fatty acid methyl esters and not by their use as a pure compound. Ethanol and ethyl tertiary butyl ester (ETBE) are available as blending components for petrol. For both diesel fuel and petrol the existing standards limit the addition of the oxygen containing compounds.

Because of their poorer storage and oxidation stability there is an interest in laboratory tests, which permit to forecast whether biodiesel and diesel fuels containing biodiesel will have a stability that is sufficient for their actual use. Method ASTM D 4625 with storage at 43°C is generally regarded as the most suitable test procedure for the determination of the storage stability of middle distillates. For fatty acid methyl esters and their blends, however, it is less well suited. Amongst the many tested methods for the determination of the storage stability the Rancimat method has got the broadest acceptance. There are, though, results that let it appear questionable, whether a general relationship exists between the Rancimat results and the storage stability.

There are a few diesel fuels, which appear to be poorly suitable for blending of even the small quantity of 5% biodiesel. For such diesel fuels an especially small Rancimat induction period seems to be characteristic.

Not all proven antioxidants for hydrocarbons are also equally effective in blends with biodiesel.

According to previous experiences there are no problems with the use of fuels containing biodiesel in cars, if the biodiesel content does not exceed 5%, water is absent and the storage time does not exceed 6 months. The biodiesel must meet the requirements of standard EN 14214. Unnecessary contact with air by e.g. agitation has to be absolutely avoided.

No difficulties will arise in the practical operation, if ethanol or ETBE are added to conventional petrol within the limits specified in the standards. Attention must be paid, however, to the absence of water in the system. In the case of an uncontrolled mixture of an ethanol containing fuel and an ethanol free fuel it is possible that the vapour pressure specification will be exceeded.

### **Source:**

DGMK-Research Report 611-1  
Biofuels – Properties and Experiences with their Use – Update  
(Biokraftstoffe – Eigenschaften und Erfahrungen bei der Anwendung - Fortschreibung)  
Author: Dr. Hans-Peter Schmiedel, 2005  
51 pages, 1 figures, 23 tables, 77 references  
ISBN 3-936418-33-0 (English) / ISBN 3-936418-28-4 (German)  
Price: EUR 40,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 639 Investigations on the Addition of FAME to Diesel Fuels**

The addition of biodiesel to conventional diesel fuels has an impact on fuel quality, especially on oxidation stability, which can be significantly reduced, depending on the basic fuel and the biodiesel in the fuel blend. The stringent requirements, which diesel engines have to fulfil nowadays, e.g. according to legislation on exhaust gas emissions, call for a reliably good fuel quality. The influence of 5 % biodiesel on coking of fuel injector nozzles has basically not yet been investigated and assessed.

In the laboratory test programme, the impact of FAME additions to sulphur-free diesel fuels on oxidation stability is systematically investigated, in order to get a broad data basis. In addition to the oxidation stability of diesel fuel/FAME blends (B5 and B20) and their corresponding blending components, investigations were carried out on storage stability and on interactions of the additives of diesel fuel and FAME.

Based on the results of the laboratory test programme, four B5-diesel/FAME blends were selected, which were examined in endurance tests on four engines of different builders with regard to deposit formation at injector nozzles in comparison with straight diesel fuel.

It turned out, that diesel/FAME blends can exhibit a very sophisticated behaviour of deterioration. Basically, oxidation stability is impaired by the addition of FAME to fossil diesel fuel. In some cases, however, diesel/FAME blends can show a higher level of stability than the original components.

The results of the engine tests have shown definitely that not only the engine, but also fuel quality influence deposit formation on nozzles. It can be stated, that blends of diesel fuel with 5 % biodiesel (B5) do not necessarily exhibit a higher risk for deposit formation than straight mineral oil based diesel fuels. However, there are indications that certain B5 fuels can lead to an increased formation of deposits.

**Source:** DGMK-Research Report 639  
Investigations on the Addition of FAME to Diesel Fuels  
Part I: Laboratory test programme  
Part II: Coking test runs with four B5 fuels and a reference fuel with the analysis of deposits formed at the nozzles of diesel fuel injectors  
(Untersuchungen zu FAME in Dieselmotoren)  
Teil I: Laboruntersuchungsprogramm  
Teil II: Durchführung von Verkockungstestläufen mit vier B5-Kraftstoffen und einem Referenzkraftstoff mit Analyse der gebildeten Beläge an Dieseleinspritzdüsen)  
Authors: Olaf Loest, Dr. Jörg Ullmann, Joachim Winter, 2007  
85 pages, 16 tables, 42 figures  
Price: EUR 75,00 plus VAT (DGMK-Members 50 %)  
ISBN: 978-3-936418-63-7 (English) / ISBN 3-936418-59-4 (German)

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## **DGMK-Project 639-2 Test Programme on the Addition of 10 % (v/v) FAME to Diesel Fuels**

### **Reason and Objective**

Currently, there are discussions to increase the amount of FAME, which may be added to fossil diesel fuel. The effects of higher rates of biodiesel blends on the properties of the fuel (especially its stability) and on deposit formation (nozzle coking and deposits) are investigated in tests with the addition of 10 % (v/v) FAME to diesel fuels. FAME (fatty acid methyl esters), not consisting of RME (rape seed methyl ester) are also taken into account.

### **Brief Description**

Engine test runs and a laboratory test programme are carried out in parallel. Deposit formation of 5 fuels is investigated on 4 engines within the framework of the engine test runs. The employed fuels are described in detail by a comprehensive analysis (stability, peroxide number, polymer content amongst others). Analytical tests of the fuel are carried out after certain times of operation, in order to detect possible changes of the fuels during the engine test runs. In addition to the fuels used for the engine tests runs, further special blends of B10 fuels are investigated. The execution of vehicle tests is also part of the programme.

<b>Duration</b>	2006 – 2008
<b>Authors</b>	Laboratories and engine test benches
<b>Projectadvisors</b>	spec. working group, et. al. <ul style="list-style-type: none"><li>- additive producer</li><li>- automobile industry</li><li>- producer of biodiesel</li><li>- mineraloil industry</li><li>- suppliers</li></ul>

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## **DGMK-Project 645 Laboratory Test Programme on the Addition of Ethanol to Automotive Fuels**

As a contribution to the climate protection programme and to CO<sub>2</sub> reduction, the European Union has made a commitment to the application of regenerative energy resources as a substitute for fossil fuels. Fatty acid esters are available as biofuel for use in diesel vehicles and bio-ethanol for use in spark ignition engines as regenerative energy resources according to Directive 2003/30/EG. These products are made from regenerative raw materials and are used as blending components. Apart from the reduction of CO<sub>2</sub> emissions caused by road traffic, the intentions of the directive are to protect agricultural jobs and to reduce the dependency on imported crude oil.

Problems arise with the increase of vapour pressure, when small amounts of ethanol are added to the automotive fuel; furthermore, there are problems in the logistic chain regarding increased capacities of water absorption. This can result in a separation into two phases and in a change of fuel oil characteristics.

The objective of the present lab test programme is to fully investigate the addition of ethanol to fuels, in order to obtain a broad data basis.

### **Source:**

DGMK-Research Report 645  
Laboratory Test Programme on the Addition of Ethanol to Automotive Fuels  
(Laboruntersuchungsprogramm zur Ethanolbeimischung zu Ottokraftstoffen)  
Authors: Rudolf Terschek, Jan Ludzay, 2005  
59 pages, 14 figures, 14 tables  
ISBN 3-936418-43-8 (English) / ISBN 3-936418-40-3 (German)  
Price: EUR 50,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 686 Impacts and Parameters of Diesel Fuels with FAME Components > 5 % (v/v)**

### **Reason and Objective**

Within the discussions on an increase of the FAME amount, which may be added to fossil diesel fuel, questions came up, which are investigated within a DGMK project in co-operation with interested parties of the automobile industry and their suppliers as well as with the mineral oil industry and the producers of biodiesel. The objective is to provide data on the blending of FAME components > 5 % (v/v).

### **Brief Description**

In this project, engine test runs are carried out, to investigate the solubility and extractability of fuel components in and by the engine oil. In addition, data (e.g. density of energy, compatibility with elastomers, stability) are collected and determined, which can also be used for standardisation purposes.

<b>Duration</b>	2007 – 2008
<b>Authors</b>	Laboratories and engine test benches
<b>Projectadvisors</b>	spec. working group, et. al. <ul style="list-style-type: none"><li>- automobile industry</li><li>- producer of biodiesel</li><li>- mineraloil industry</li><li>- suppliers</li></ul>

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## **DGMK-Project 691 Procedure for the Blending of Fuels from BOB and Ethanol on a Laboratory Scale**

As result of the Biofuels Quota Act, ethanol will gain increasing importance in the coming years as a blending component for gasoline. Blending of ethanol-containing-fuels will probably take place not only in refineries, but also in depots. For this purpose, blend stocks for oxygenate blending (BOB) have to be provided, which meet the specification after the addition of ethanol. There is no standard for BOB. Therefore, a procedure (DGMK-691) has been defined and tested in laboratory investigations, which makes it possible to check BOB with regard to its suitability for the production of ethanol-containing-gasoline prior to its delivery. In this context, the focus was on the parameter vapour pressure. The laboratory results show, that the procedure DGMK-691 renders it possible to produce a fuel from BOB and ethanol which meets the standard, on a laboratory scale.

**Source:**

DGMK-Research Report 691  
Procedure for the Blending of Fuels from BOB and Ethanol  
on a Laboratory Scale  
(Prozedur zum Aufmischen von Kraftstoffen aus BOB und  
Ethanol im Labormaßstab)  
Authors: Jan Ludzay, Günther Pollinger, 2007  
11 pages  
ISBN 978-3-936418-77-4  
Price: EUR 50,00 plus VAT (DGMK-Members 50 %)

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## **DGMK-Project 693 Investigations on the Solubility Behavior of Diesel Fuels**

### **Reason and Objective**

Since FAME has been used as a fuel component, different conspicuities were observed (e.g. deposit formation in storage tanks, filter blocking during loading, filter blocking at service stations). Instigated by the DGMK Committee *Fuels* and in consultation with the chairmen of the DGMK Committees *Fuels and Storage, Transportation and Distribution*, technical questions are investigated by a small working group consisting of members of different technical committees.

### **Brief Description**

Within the project, it is investigated, whether product compositions have any effect on the solubility properties of the fuel. Especially, the aromatics content of the fossil diesel fuel and the composition and stability of the FAME component are considered to be influential factors. The test programme is carried out with summer and winter grade fuels.

<b>Duration</b>	2007 – 2008
<b>Author</b>	R. Terschek, Deutsche BP AG
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## **DGMK-Project 694 Influence of Fuel Composition on the Growth of Microorganisms (Literature search)**

### **Reason and Objective**

Since FAME has been used as a fuel component, different conspicuities were observed (e.g. deposit formation in storage tanks, filter blocking during loading, filter blocking at service stations). Instigated by the DGMK Committee *Fuels* and in consultation with the chairmen of the DGMK Committees *Fuels and Storage*, *Transportation and Distribution*, technical questions are investigated by a small working group consisting of members of different technical committees.

### **Brief Description**

Development, collection and evaluation of actual informations about the effect of biogenous components in fuels on the growth of microorganisms.

<b>Duration</b>	2007 – 2008
<b>Author</b>	Dr. R. Weyandt, SGS INSTITUT FRESENIUS GmbH
<b>Projectadvisors</b>	Interdisciplinary DGMK working group

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## **DGMK-Project 695-1 Cause Analysis for Deposit Formation**

### **Reason and Objective**

Since FAME has been used as a fuel component, different conspicuities were observed (e.g. deposit formation in storage tanks, filter blocking during loading, filter blocking at service stations). Instigated by the DGMK Committee *Fuels* and in consultation with the chairmen of the DGMK Committees *Fuels and Storage, Transportation and Distribution*, technical questions are investigated by a small working group consisting of members of different technical committees.

### **Brief Description**

This project investigates, whether a microbial contamination is the cause for the filter blocking at service stations or whether the blocking is a result of fuel components that tend to form deposits. For this purpose, actual deposits from the logistics system (service stations and the up-stream logistics chain) are analysed.

<b>Duration</b>	2007 – 2008
<b>Author</b>	Dr. R. Weyandt, SGS INSTITUT FRESENIUS GmbH
<b>Projectadvisors</b>	Interdisciplinary DGMK working group

**Further Information:** Jan Ludzay, DGMK      ludzay@dgmk.de

## **DGMK-Project 695-2 Influence of Selected Fuel Components on the Appearance of Microorganisms**

### **Reason and Objective**

Since FAME has been used as a fuel component, different conspicuities were observed (e.g. deposit formation in storage tanks, filter blocking during loading, filter blocking at service stations). Instigated by the DGMK Committee *Fuels* and in consultation with the chairmen of the DGMK Committees *Fuels and Storage, Transportation and Distribution*, technical questions are investigated by a small working group consisting of members of different technical committees.

### **Brief Description**

Based on the results of DGMK Project 695-1, it is investigated, whether selected fuel components enhance the appearance of microorganisms. In addition to the identification of the detected microorganisms, it should be clarified whether changes of the fuel composition (FAME, sulphur, nitrogen, phosphorus) have any impact on bacterial growth.

<b>Duration</b>	2007 – 2008
<b>Author</b>	Dr. R. Weyandt, SGS INSTITUT FRESENIUS GmbH
<b>Projectadvisors</b>	Interdisciplinary DGMK working group

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## **DGMK-Project 697 Stability of Diesel Fuels at Service Stations (Data Collection)**

### **Reason and Objective**

During the discussions about the establishment of DIN 51628, it has been proposed, with regard to the property oxidation stability, to additionally include DIN 51627-2 with a minimum limit value, in order to exclude negative influences by corrosion and ageing of the fuel as far as possible. The DGMK Technical Committee Fuels was asked by the FAM Committee AA 632, which is responsible for the required standard for diesel fuels, to instigate a project with the following objective: expansion of the existing database for the determination of the stability of diesel fuels containing FAME.

### **Brief Description**

Within this project, samples were taken from 91 service stations. For each sample, FAME content and stability accord. to DIN EN 14112 mod. were determined in 2 laboratories.

<b>Duration</b>	2007 – 2008
<b>Author</b>	Laboratories of DGMK Members companies
<b>Projectadvisors</b>	DGMK-committee Fuels

**Further Information:** Jan Ludzay, DGMK      ludzay@dgmk.de

## **DGMK-Project 697-2 Stability of Diesel Fuels at Service Stations (2<sup>nd</sup> Data Collection)**

### **Reason and Objective**

For the property oxidation stability, no minimum limit value can be derived from the results of DGMK Project 697. Therefore, a working group of FAM instigated to carry out continuative investigations.

### **Brief Description**

Samples were taken from 30 service stations. The stability of each sample was determined in 5 laboratories accord. to E DIN 51627-2. The comparability of the results should be ascertained with analytical tests conducted in parallel.

<b>Duration</b>	2008
<b>Author</b>	Laboratories of DGMK Members companies and Bosch
<b>Projectadvisors</b>	DGMK-comittee Fuels

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