



Technical Bulletin

0199-99-1210/0 EN



This Circular supersedes:

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DEUTZ engines

- All current DEUTZ engines
- Product number(s) EKZ:
All product codes of the DEUTZ engines named above
- Assemblies:
99

Engine problems due to stuck/resinated fuel injectors introduction DEUTZ diesel additive "DEUTZ Clean-Diesel InSyPro"

General

Greater percentages of biodiesel (FAME) are now contained in diesel fuels in accordance with EU directives and many other national regulations. The current diesel fuel standards in Germany (DIN 51628 / DIN EN 590) and in Europe enable biodiesel percentages up to 7 % (V/V).

There are also special diesel/biofuel blends of up to 30 % (V/V) (B30, B20) which national regulations in France or Italy allow for example.

Outside Europe (USA, South America, Asia) fuel blends based on soya oil methyl ester (SME) are often produced. SME is of a much poorer quality in its chemical properties, especially the oxidation stability, than biodiesel in accordance with EN 14214 which is normally produced based on rape seed methyl ester.

These bio components in the fuel behave differently to fuels without bio components added, especially during storage.

The biodiesel components in the fuel can decompose under the influence of temperature, air oxygen and time. This produces deposits in the injection system during operation which can lead to sticking of the injectors and pumps especially in the current Common Rail injection systems. The results are ignition failure, black smoke, starting problems and increased fuel consumption.

Note:

The part numbers indicated in this document are not subject to updating.
Binding for the identification of spare parts is exclusively the spare parts documentation.

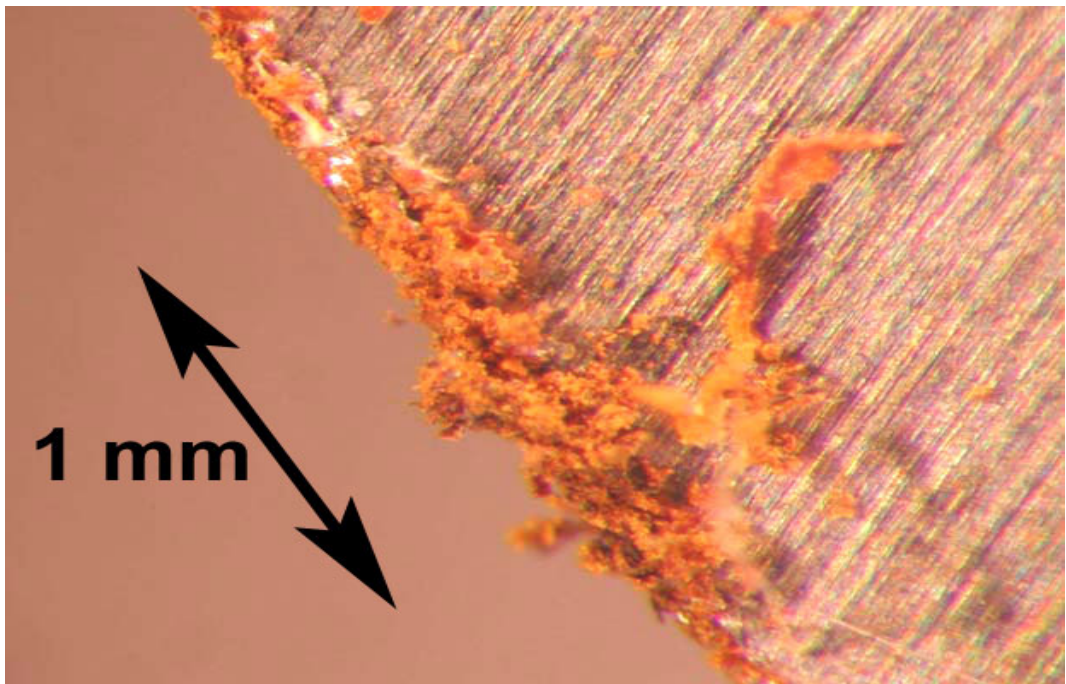
Change in pure biodiesel in storage at 50°C

Oxidised fuel parts give it a dark colour.



A 1 Change in pure biodiesel in storage at 50°C.

Deposits from a pump plunger after longer standstill with a diesel fuel containing biodiesel.



A 2 Deposits from a pump plunger

To avoid these negative influences, DEUTZ AG has now developed a fuel additive specially adapted to the DEUTZ engines which prevents premature ageing of the biodiesel parts and can effectively eliminate deposits which have already been left.

The fuel additive is released for all current engine series up to EPA TIER 3 / EU Stage IIIA.



"DEUTZ Clean-Diesel InSyPro"

Main properties

"Keep Clean"

- Increase in the oxidation stability of the used fuel when using biogenic fuels (biodiesel (FAME) or plant oils).
- Protects against deposits and sticking.
- Therefore prolongs the storage time of these fuels.
- Reduces incidences of filters becoming contaminated and clogged.

Recommended area of application

- For preservation of engines which are out of operation for a long time.
- Devices with longer storage periods without operation (e.g. new devices in the delivery).
- Operation with biodiesel (FAME).
- Operation with pure vegetable oil (only applies for DEUTZ Natural Fuel Engine ®).

"Clean-Up"

- Dissolves deposits in injectors, injection pumps and lines and makes them as good as new provided there is no mechanical damage.
- Increased smoke values are normalised.
- Reduces fuel consumption with improved engine performance.
- Protects against corrosion.
- Improves poor lubricating properties.

Recommended area of application

- For start problems and increased smoke values.
- First "application alternative" with injector problems.
- In regions with poor quality fuel.

The above properties were proven both in laboratory tests and in practical use.



Only "DEUTZ Clean Diesel InSyPro" has the release for use in DEUTZ engines, other products available on the market do not have this release!

The additive is suitable for all internationally approved diesel and biodiesel fuels as well as diesel/biodiesel blends.

In addition, tests on injection components in use in the field have revealed that these can be returned to a functioning state in case of problems by treating with "DEUTZ Clean Diesel InSyPro" and therefore save cost-intensive exchange.

Machine downtimes are also avoided in addition to saving costs.

For the above reasons we urgently recommend the use of "DEUTZ Clean Diesel InSyPro" when the following conditions are satisfied:

- 1 Devices which are not put into operation at the OEM or for more than 3 months after production.
"Keep Clean"
- 2 Devices which are operated in regions with poor quality fuel.
"Clean-Up"
- 3 If problems in the injection system (start problems and increased smoke values) are reported, at least one or better still two tank fillings should be operated with the additive in the fuel before exchanging expensive components.
"Clean-Up"
- 4 Operation with biodiesel (FAME) or with vegetable oil (only applies for DEUTZ Natural Fuel Engine ®), see Technical Bulletin 0199-99-3005 for fuels.
"Keep Clean"
- 5 Preservation of engines. (See Technical Bulletin 0199-99-1170).
"Keep Clean"
- 6 Engines which are shut down at the end customers for more than 3 months (e.g. harvesting machinery).
"Keep Clean"



The "DEUTZ Clean Diesel InSyPro" additive



A 3 "DEUTZ Clean Diesel InSyPro"

Available under:

- Part no.:
01017967
- Container size:
1 litre

Application instructions



See the safety instructions in the safety data sheet!

- For good mixing first put in the additive and then top up with diesel fuel.



Avoid overdosing!

- Dosing
 - 1:400 for "Keep Clean"

As preventive protection and diesel stabiliser

 - 1:200 for "Clean-Up"
- Repeated application is recommended in connection with lubricating oil changes (usually every 500 oh).

Please contact the following persons if you have any questions about the listed topics.

Contact:
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Service Information

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