

References and approvals

Vehicles and engine manufacturers

- **MAN Nutzfahrzeuge AG** – grotamar® 82 has been tested and approved.
- **MTU Friedrichshafen GmbH** – grotamar® 82 is approved for usage in all MTU and DDC engines of series 2000/4000
- **Deutz AG** – The usage of grotamar® 82 is recommended against biological contamination in fuel, technical newsletter 0199-99-1218/ODE
- Further approvals pending

Institutes

- **Ol-Warme-Institut Aachen** - grotamar® 82 has passed the hardware-in-the-loop test bench successfully in 2000 hours test time.
- **SGS Fresenius** - grotamar® 82 fulfills the criteria check list for heating oil additives (DGMK 646).

Armed forces / NATO

- **Germany**
 - stock no. 1L bottle 6840-12-388-3545
 - stock no. 10L canister 6840-12-388-3543
 - operating supply item no. of German armed forces: XW0131

Contact for advice and sales



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grotamar® 82

**Stops bacteria and
fungi in diesel.**

Optimised protection specifically
for diesel fuels, including
biodiesel.

highly effective acc.
ASTM E1259-05 test



the plus of pure
performance



grotamar® 82 – the first biocide with a new protective formula for modern diesel fuels.

Biodiesel – good for the environment, good for diesel bugs.

Whether “diesel bug”, “fungus”, “bacteria” or “MBC” – infestation by microorganisms in diesel fuel has many names.

Whatever you call the phenomenon, it has a common cause. Free water in the diesel will enable the growth of bacteria, yeasts and moulds. Small amounts of water which form by condensation are sufficient to stimulate microbial growth in a fuel tank.

Today, “fossil” diesels are blended with environmentally friendly biodiesel. Biodiesel is good for the environment but also good for microbes. Biodiesels are a good source of nutrition for microbes and they promote the contamination of the fuel with water. Biodiesel is also less stable than “fossil” diesel and degrades with ageing leading to darkening and formation of solid deposits.

Microbes grow faster than ever, forming “biomass” and causing corrosion. The “biomass” clogs filters and leads to engine failure. This places the operating reliability and safety of the whole system at risk!



new efficient dosage

Dosing:

■ Shock dosing:

(Follow application instructions):

Add 200 ml of grotamar® 82 per 200 L fuel
or 1 L per 1000 L fuel

■ Preventative:

Add 200 ml of grotamar® 82 per 800 L fuel
or 1 L per 4000 L fuel (1:4000)
every time the tank is refilled

Use biocides safely. Always read the label and product information before use.
Keep out of reach of children.



Application:

Drain any water or sludge from the tank as thoroughly as possible and then add grotamar® 82 directly. It is **not** necessary to dissolve grotamar® 82 before adding it and no further mixing is required.

grotamar® 82 disperses quickly and evenly in the fuel. The dosage must be based on the total volume of fuel to be treated.

If **operational problems**, such as filter blockage, have been experienced or when fuel is visibly contaminated, we recommend shock dosing. For effective remediation of the tank, a preventative dose should be added at the next fuelling following the shock dosing. After adding grotamar® 82, dead microorganisms may clog the fuel filter and additional filter changes may be required.

If biomass has accumulated on the tank floor or is adhered to the tank walls, the fuel system (tank, pipes, filters) should be cleaned before treatment with grotamar® 82. This will minimise the chance of recontamination.

Underdosing must be avoided! Product should only be used with protective equipment (gloves, protective eyewear, long-sleeve shirts and pants or coveralls) and in places with good ventilation. Direct inhalation has to be avoided.

grotamar® 82 at a glance:

- specifically developed for modern diesel fuels including low sulphur diesels and fuels containing biodiesel
- new protective formula to prevent premature oil degradation caused by ageing
- fast and highly effective against bacteria, yeasts and moulds
- excellent long-term protection for fuel tank, pipes and engine
- excellent solubility and dispersion in all types of diesel fuels, heating oils (including B0-B20) and biodiesel
- no corrosive combustion products
- effectively protects steel, aluminium, copper and other non-ferrous metals against corrosion