

Easicult<sup>®</sup>



■ *Easicult M*

■ *Easicult TTC*

*Dedicated to quality*

## Microbial contamination in jet fuel

Easicult M and TTC can be used for monitoring microbial contamination. Follow the instructions of aircraft maintenance manual on how to draw a sample from the fuel tank. Microbes grow in the water phase and water/fuel interface. Separate the water phase and use Easicult TTC to test bacteria and Easicult M to test yeasts and moulds according to instructions in the kit insert.

## There's life in fuel tanks

Microbiological contamination of fuels can cause operational problems such as corrosion of metallic structures, fuel quantity indication problems, and blocking of the scavenge systems and fuel filters during flight. Microbes as fungi, yeast and bacteria cause contamination of light to middle distillate fuels. These organisms are present in the environment and therefore can easily access the fuel supply chain.

Microbes live in water and feed off the hydrocarbons in fuel. Water is always present in the fuel tank and it can be introduced into fuel in different ways, for instance by changes in relative humidity, or by precipitation of dissolved water in the fuel triggered by falling temperature.

Microbes tend to grow in the fuel/water interface in fuel tanks, but growth can take place also in other areas such as on the vertical surfaces of fuel tank and on the convex shapes such as pipelines. Good maintenance practices will help to prevent microbial contamination, and once an aircraft tank is contaminated, biocides are the option to deal with the problem.

Fuel tanks are monitored routinely to determine if they are infected with microbial contamination. Corrosion and extensive mat formed by microbial growth can be visually detected on the fuel tank surfaces. Microbes become attached to the fuel tank surface in areas where water collects, usually at the bottom surfaces of the tanks.

## Good practises

IATA recommends that airlines test for microbial contamination regularly, adjusting the interval based on their location and experience, and in case contamination is detected, take action according to good maintenance practices.

During inspection microbiological tests can be conducted to fulfill following objectives:

- determine whether there is a potential for microbiologically related operational problems
- determine whether existing operational problems may have been caused by microbiological contamination
- determine whether antimicrobial control measures have been successful.

## Reference

IATA FUEL BOOK, Guidance Material on Microbiological Contamination in Aircraft Fuel Tanks, 3rd ed., 2009



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## It's so easy to use!

A plastic slide is covered on both sides with an agar medium. After sampling and closing the tube, the test can easily be transported to a laboratory for further culture analysis, if needed.



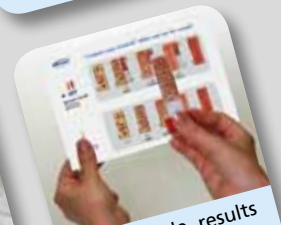
Take the sample by dipping the slide into the liquid, swabbing or by allowing the liquid spray to moisten both sides of the slide well.



It is important to blot off any excess liquid after sampling.



Incubation may take place either in an incubator or outside it at room temperature.



The dipslide results are interpreted with the aid of the model chart provided with each kit.