FUELSTAT RESINAE PLUS

Aviation Test

Product Data Sheet

Scan the QR Code to view the instructional animation video or go to conidia.com

INTRODUCTION

There are a number of different types of microorganisms that can grow in certain types of fuel. The biggest problem is presented by a filamentous fungus called Hormoconis resinae, (H Res). Previously called Cladosporium resinae, and more commonly referred to as “Jet Fuel Fungus”.

H Res is a fungus that thrives in aviation fuel. It requires only a minimal amount of water content in the fuel to grow and will cause filter blockages, gauging errors and tank corrosion if left unchecked. Bacteria and other types of fungi, particularly some yeasts can also cause problems in fuel tanks, usually acting as a consortium.

The objective of the test is to provide rapid screening of fuel samples (water in fuel or fuel), giving a quick and accurate assessment of H Res, bacteria & other fungi including yeasts in the fuel tank. This test is unlike current growth-based tests, which require a minimum of 72 hours to provide any results. The test measures the amount of active growth in the sample and provides actions and alert levels.

The FUELSTAT® resinae PLUS test measures the amount of different types of contamination: H Res, bacteria and fungi actively growing in the sample and reports that as the weight of material in the sample. This is a newer, more accurate measurement system than the old Colony Forming Unit (CFU) count.

The test provides results based on a traffic light scenario:

• Negligible (green) – negligible contamination

• Low Positive (amber) – moderate contamination

• High Positive (red) – heavy contamination

“IATA Strongly recommends testing of each aircraft fuel tank for microbiological contamination at least once a year.”

SIX DEVICES ARE INCLUDED IN EACH TEST:

Right side of paddle (LOW) 3 devices with cut off levels for H Res, bacteria and fungi in accordance with the agreed limits laid down by IATA.

Left side of paddle (HIGH) 3 devices with cut off levels for H Res, bacteria and fungi in accordance with the agreed limits laid down by IATA.

TEST CONTENTS

Each heat sealed foil pouch contains a Paddle with desiccant sachet and pipette in one section and Sample Extraction Bottle with flat cap, dropper cap and instructions for use in the other section.

- Paddle: Plastic base with 6 lateral flow devices affixed
- Preparation Bottles: 175ml plastic bottle with flat cap and “dropper” cap containing 3.0ml of Sample Extraction Liquid
- Disposable, single use, plastic pipette
- Instruction leaflet

STORAGE AND STABILITY

No special transport precautions

Store below 30°C

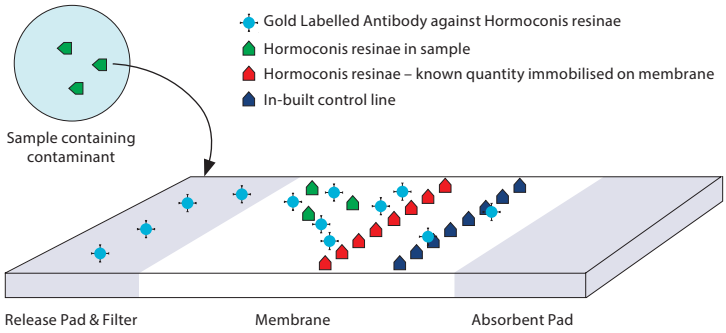
Use between 10° and 30°C

Do not use after the stated expiry date

Long term freezing is not recommended

ASSAY DESCRIPTION

The FUELSTAT® resinae PLUS test utilises lateral flow technology and antibodies to H Res, bacteria and fungi which grow in aviation fuel.



The gold-labelled antibody is immobilised in the Release Pad under the sample well. The sample containing an unknown amount of contamination is added to the sample well and this re-hydrates, allowing the reagents to flow up (wicking) the membrane towards the absorbent pad. Any large particles in the sample, which may block the reaction, are blocked by the filtering action of the pad. During the wicking, the contamination in the sample will bind to the specific antibodies.

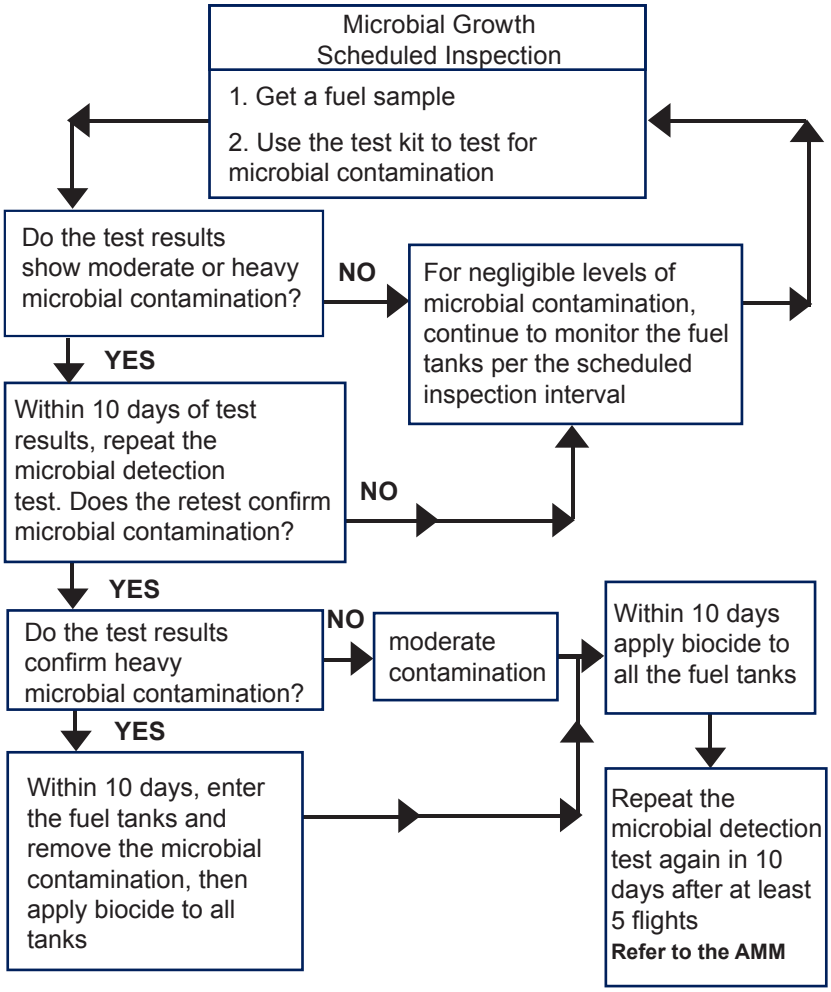
As the liquid reaches the Test Line (T) any free gold-labelled antibodies will bind to the test line. This means if more contamination is in the sample than the threshold engineered, there will be no antibodies to bind to the Test Line, no red line will appear, and this is a POSITIVE result.

If the amount of contamination in the sample is lower than the threshold, there will be free antibodies to bind to the Test Line, a red line will appear, and this is a NEGLIGIBLE result. The quantities of materials immobilised in the device are engineered to provide results at the different thresholds of H Res, bacteria and fungi in each of the test devices on the Test Paddle

ACTIONS FOLLOWING TESTING

Based on the IATA Guidelines, but we advise that each user should define their own policy on test frequency and actions following a positive test result. For specific aircraft type actions users should refer to the AMM.

Note: If the detection test shows contamination from either H Res, bacteria or fungi then do the scheduled inspection test more often.



SAMPLE PREPARATION

Take a sample from the fuel tank into a clean container. Allow the sample to “settle” and any water to accumulate at the bottom of the sampling container.

NOTE: When possible, test the water phase of the sample taken from the fuel tank. Testing the water phase will provide more accurate results than testing the fuel phase.

WARNINGS AND PRECAUTIONS

- Caution should be exercised in the handling of fuel or other hazardous materials in accordance with Health and Safety procedures.
- Optimum results will be obtained by strict adherence to this protocol.
- Each paddle is disposable. Use only once.
- The paddle in the foil pack should be kept sealed until ready for use. Once the foil pack is opened the shelf-life of the device is not guaranteed. It should be used as soon as possible.
- The viewing window of the test device should not be touched.
- The paddle should be kept dry at ALL times. DO NOT USE if the device becomes wet.
- If the paddle appears damaged, scratched or marked in any way please contact Conidia Bioscience.

Conidia Bioscience Ltd
Bakeham Lane, Egham, Surrey, TW20 9TY, UK.
T: +44 (0)1491 829102 E: info@conidia.com
www.conidia.com

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