European Union Aviation Safety Agency

Safety Information Bulletin

Airworthiness – Operations – Aerodromes

SIB No.: 2020-06

Issued: 20 March 2020

Subject: Use of DuPont Kathon™ FP 1.5 Biocide

Ref. Publications:

- EASA Certification Memorandum (CM) CM-PFIS-009 issue 1 “Fuel Specification Change”.
- IATA Guidance Material on Microbiological Contamination in Aircraft Fuel Tanks.

Applicability:

Type Certificate (TC) and Supplemental Type Certificate (STC) holders, maintenance personnel, owners and operators of turbine engine powered aircraft, aerodrome operators.

Description:

The purpose of this SIB is to notify affected stakeholders of the recent occurrences related to the use of Kathon™ FP 1.5 biocide, including multi engine loss of thrust control. First investigations may indicate a higher susceptibility of some engine fuel control systems to Kathon™ FP 1.5 biocide as well as improper application and dosage of biocide during aircraft maintenance.

Several recent events have been documented showing adverse engine effects on the ground and in flight after application of a biocide treatment of the aeroplane. Two of these events were the result of overdosing the fuel system beyond the recommended dosage, however one event has found no evidence of misapplication. As a result, DuPont, the manufacturer of Kathon™ FP 1.5 biocide, sent a letter to distributors, customers and end-users of the product, requiring an immediate halt to all use of Kathon™ FP1.5 biocide for aviation fuel products.

Microbiological contamination is caused by micro-organisms (bacteria, moulds, yeasts) that grow in water and feed off the hydrocarbons in the fuel. Good housekeeping is the first measure to prevent water accumulation in the fuel tanks. In case microbiological contamination is detected and needs to be treated with biocides, all maintenance personnel, aircraft owners and operators are expected to follow up-to date instructions from the aircraft TC holder and (as applicable) STC holder(s) and to ensure that the correct method and dosage is applied. In case of discrepancies, e.g. due to different update cycles of aircraft documentation, the TC/STC holder should be contacted for further advice.

All TC and STC holders of turbine engine powered aircraft are expected to ensure that applicable engine limitations regarding the use of biocide are properly implemented into the aircraft’s instructions for continued airworthiness. In case biocide usage is approved for airframe application only, the engine(s) should not be operated with fuel containing biocide and the aircraft TC (STC) holder is to provide appropriate maintenance procedures to prevent ingestion by the engine of fuel containing biocide.

At this time, the safety concern described in this SIB is not considered to be an unsafe condition that would warrant Airworthiness Directive (AD) action under Regulation (EU) 748/2012, Part 21.A.3B.

At this time, the safety concern described in this SIB does not warrant Safety Directive (SD) action under Regulation (EU) 965/2012, Annex II, ARO.GEN.135(c).

At this time, the safety concern described in this SIB is not considered to be an unsafe condition that would warrant SD action under Regulation (EU) 139/2014, Annex II, ADR.AR.A.040.

Recommendation(s):

TC and STC holders are responsible to provide operating limitations in case they have approved the use of Kathon™ FP 1.5 biocide for their type design (change).

Where the use of a biocide, in particular Kathon™ FP 1.5 biocide, is prohibited, EASA recommends the affected TC or STC approval holders to ensure that adequate procedures are in place to prevent biological contamination of aircraft fuel tanks. In case a hazardous level of biological contamination in any aircraft fuel tank(s) exists, EASA recommends approval holders to provide procedures to ensure that fuel contained in the tank is not used.

Where the continued use of Kathon™ FP 1.5 biocide is permitted, EASA recommends the affected TC or STC approval holders to ensure that adequate manuals, instructions and maintenance procedures are in place to ensure the appropriate use of the biocide, and to reflect the latest fuel and additives approvals.

EASA recommends affected TC and STC holders to ensure consistency of aircraft and engine documentation regarding (any) biocide usage and to include detailed application and easily understandable biocide dosage instructions. In particular, consistency between documentation of engine and aircraft TC or STC holders on individual aircraft-engine combination(s) should be verified (refer to EASA CM-PIFS-009).

EASA reminds affected TC and STC holders that any change to the list of approved fuels / additives could be a major change to the type certificate (refer to EASA CM-PIFS-009).

EASA recommends all maintenance personnel, owners and operators of turbine powered aircraft, to ensure before biocide usage that the latest TC/STC holders instructions are followed.

EASA recommends all aerodrome operators (see IATA Guidance Material, Ref. No: 9680-05, ISBN 978-92-9252-781-5) to ensure that aircraft operators are advised by their fuel provider(s) in case any fuel being delivered to an aircraft has been treated with biocide, including the type and concentration.

Contact(s):

For further information contact the EASA Programming and Continued Airworthiness Information Section, Certification Directorate, E-mail: ADs@easa.europa.eu.

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