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MEDIA MIGRATION FROM AVIATION FUEL FILTER MONITORS

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This paper describes the development of a laboratory-scale test rig to assess media migration from filter monitors and summarizes results of a study to quantify media migration from 2” aviation fuel filter monitors. Filter monitors from three different manufacturers are evaluated at both a high and low fuel flowrate, with and without the addition of water contamination. Filter monitors, which capture both dirt and water contamination, have been used for many years in aviation fuel distribution systems. Recently, the military reported several in-flight jet engine failures on the same day at the same base. These failures were reported to be caused by the blockage of on-board fuel filters with super absorbent polymer (SAP) originating from filter monitors. The tests reported herein explore the propensity of filter monitors to release SAP into jet fuel representative of that used in the commercial sector, containing no DiEGME icing inhibitor. (Unlike the military, jet fuel used in commercial aviation does not usually contain DiEGME.)