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High Biofuel Blends in Aviation (HBBA)

In the frame of the ENER/C2/2012/ 420-1 Tender a study on high biofuel blends in aviation has been carried out by Deutsche Lufthansa AG and the â??Wehrwissenschaftliches Institut fÃ¼r Werk- und Betriebsstoffeâ?•. The purpose of this research was to analyze the properties of bio kerosene blends with various samples of conventional kerosene, with a focus on blends with high percentages of bio kerosene. For the introduction of biokerosene it will be relevant to know about high biofuel blends even at an early stage.

For every bio kerosene blend three analyses have to be performed before it may be used in commercial aviation:

An ASTM D1655 analysis of the conventional kerosene before blending

An ASTM D7566 analysis of the neat bio kerosene before blending

An analysis of the blend, which is described in ASTM D7566, but in practice is an analysis of the ASTM D1655 parameters, plus some additional ones.

The final report presents the results of the research. One particularly critical property is aromatics content. It is critical not only because several bio kerosene production pathways result in fuel that is virtually aromatics-free, but also because the role of aromatics is a two-faced one, with aromatics being currently necessary to preserve the tightness of fuel systems but on the other hand being undesirable from a fuel burn and emissions point of view.

Source: European Commission (EC)
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