

# [***-Virent's BioForm fuel component used in test flight of 100% sustainable aviation fuel***](https://advance.lexis.com/api/document?collection=news&id=urn:contentItem:63WC-WJK1-JD3Y-Y1VX-00000-00&context=1516831)

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**Body**

MADISON - Virent's BioForm synthesized aromatic kerosene (SAK) was used in a United Airlines test flight on Oct. 13, demonstrating that sustainable aviation fuel (SAF) can be 100% renewable, 100% fossil free, and 100% compatible with today's aviation fleet.

The test flight was powered by one engine burning SAF and the other using traditional, petroleum-based jet fuel in order to provide a direct comparison of the two fuels under identical operating parameters.

SAF is typically a blend of a renewable fuel called HEFA (hydroprocessed esters and fatty acids) and petroleum-based fuel, which provides compounds called aromatics that are necessary to meet current fuel specifications. But the SAF used during the United test flight was a 100% renewable 'drop-in' replacement for petroleum jet fuel because Virent's SAK - derived from plant sugars - was able to provide the necessary aromatics to the HEFA fuel, eliminating the need for petroleum products. Virent's parent company, Marathon Petroleum Corporation, supported the SAF test flight by providing testing, blending, and transportation of the 100% SAF.

'The flight was a great success, and we're excited that we have this opportunity to contribute to a first-of-its-kind test of 100% drop-in SAF in a commercial aircraft,' said Virent President and General Counsel Dave Kettner. 'Thanks to Virent's BioForm SAK, this test flight showed that 100% renewable fuel can meet current specifications and work flawlessly in today's commercial airline engines.'

Because Virent's SAK is made from plant-based feedstocks, the carbon impact on a lifecycle basis is less than that of petroleum-based fuels. Virent is targeting greater than 50% reduction in greenhouse gas ***emissions*** for SAK from a commercial project, with the potential to achieve net zero ***emissions*** using options such as renewable electricity, renewable natural gas and carbon capture and sequestration. Virent has also developed data from engine testing that shows a SAK/HEFA blend is cleaner burning and has lower particulate matter ***emissions*** than conventional jet fuels.

'The modern airline industry requires energy-dense liquid fuels, and Virent's technology is creating alternatives to petroleum-based products using a wide range of naturally occurring renewable resources,' said Marathon Refining Technology Director Jeff Sexton. 'Virent is building on the broad market potential for its bio-based products, and we're excited to be a part of this milestone in the development of sustainable aviation fuel.'

Kettner noted that one of the benefits of the test flight was that it demonstrated the 100% drop-in SAF could be used with no modification to the aircraft and engine or special tooling, and will support approval of SAK by ASTM International - the industry body that approves new jet fuels.

'The global use of SAF is growing, with thousands of commercial flights having been powered by blends of SAF and petroleum jet fuel,' said Kettner. 'Showing that Virent's BioForm SAK enables a 100% SAF that meets current jet fuel specifications is a big step, as it demonstrates that SAF can be a reality without the need to make significant changes to the current aviation fleet and infrastructure. We are proud to be playing a role in this advancement toward sustainable aviation fuels.'

Virent produced the SAK in its demonstration pilot plant at its facility in Madison, Wisconsin, using corn dextrose from Iowa. To date, Virent has produced tens of thousands of gallons of its bio-based products for testing in various applications, including gasoline, jet fuel and to provide chemicals for 100% bio-based plastics, fibers and films. Virent is currently working to commercialize its BioForming process and evaluating options for a first commercial deployment.

About Virent

Virent is a wholly owned subsidiary of Marathon Petroleum Corporation, an integrated refining, marketing and midstream logistics company. Virent uses its patented BioForming technology to create the fuels and chemicals the world needs from a wide range of naturally occurring, renewable resources. Virent's patented chemistry converts biobased carbohydrate feedstocks into products molecularly identical to those made from petroleum. Virent's technology can produce a range of fuel products, including gasoline, diesel, and jet fuel, as well as chemicals used for plastics, fibers and films. Virent is currently working with Johnson Matthey to further develop the BioForming technology and license it for future commercialization.

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