

The Advanced Biofuels Pipeline: BP and DuPont Partnership

Since its founding, DuPont has been on the forefront of some of the greatest innovations in science. Today, the company is committed to leveraging its expertise in biotechnology and engineering to create sustainable solutions essential to a better, safer, healthier life for people everywhere.

Similarly, BP is one of the world's largest energy companies, providing its customers with fuel for transportation, energy for heat and light, retail services, and petrochemical products for everyday use. BP's decision to devote a significant level of resources into widening the availability of biofuels is part of its strategy in identifying low-carbon or renewable fuels for the future.

DuPont's partnership with BP is to develop and bring advanced biofuels to market to expand the use of biofuels in gasoline.

Biobutanol will be the first advanced biofuel available. It offers a number of advantages and can help accelerate biofuel adoption in countries around the world. It provides greater options for sustainable renewable transportation fuels, reduces dependence on imported oil, lowers greenhouse gas emissions, and expands markets for agriculture products worldwide. Using existing processing technology, the first commercial volumes of biobutanol will be available in 2008. In a second phase, an improved conversion technology will be used to broaden commercialization in 2010. This is a real solution to a real global challenge.

Biobutanol Supports Agriculture

- Produced from the same agriculture feedstocks as ethanol (i.e., corn, wheat and sugarcane).
- Supports global farmers as it provides another or expanded marketing opportunity for essential agriculture products, thus enhancing value to farmers.

Biobutanol's Synergy with Ethanol

- Existing ethanol capacity can be retrofitted to biobutanol production.
- Produced from the same agriculture feedstocks as ethanol (i.e., corn, wheat and sugarcane).
- Reduced vapor pressure enhances co-blend synergy between biobutanol and gasoline containing ethanol.

Biobutanol's Performance Benefits

- Biobutanol formulations meet key characteristics of a "good" fuel including energy density, controlled volatility, sufficient octane and low levels of impurities.
- Contains energy content closer to gasoline. This is important as the amount of biofuel in the fuel blend increases.
- Does not phase separate in the presence of water, and has no negative impact on elastomer swelling.
- Compatible with current vehicle and engine technologies.

Biobutanol's Environmental Benefits

- DuPont and BP are currently carrying out detailed calculations of biobutanol's Well-to-Wheel/Life Cycle Analysis emission performance with initial indications that biobutanol delivers emission reductions comparable to ethanol.
- Biobutanol's low vapor pressure (lower than gasoline) means vapor pressure specifications do not need to be compromised leading to higher VOC emissions (i.e., no requirement for a vapor pressure relaxation).

Biobutanol's potential is limitless, and its implications are far-reaching. From an environmental sustainability, performance, or energy-security perspective, biobutanol is second to none. DuPont is proud and excited to be working with BP on this amazing scientific discovery that will improve our environment and our lives.

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