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U.S. Department of Energy - Energy Efficiency & Renewable Energy
Via e-mail: *sugarandlignin@ee.doe.gov*

Ref. **Request for Information – RFI – Categories 1 and 2: Lignocellulosic Sugars and Lignin**

Dear Sirs,

We refer to your Request for Information – RFI DE-FOA-0001615, dated July 20, 2016, in relation to which we comment as follows:

Category 1: Lignocellulosic Sugars:

Question 1: To which types of research entities are you willing and able to sell your lignocellulosic sugar (e.g., university researchers, national laboratories, industry/private sector)? Are there any types of research entities to whom you are not willing and able to sell your lignocellulosic sugar?

Bioflex final product is anhydrous ethanol at 99.6% ethanol content. We are unable to sell lignocellulosic sugar at commercial quantities, but we would be willing to sell samples to any research entity.

Question 2: What are the maximum and minimum quantities of lignocellulosic sugar you are willing and able to sell (kg)?

We would be willing to sell samples only (approximately 50-100 kg).

Question 3: What is the sugar concentration in your product?

Our final product is anhydrous ethanol at 99.6% ethanol content. Concentration of the lignocellulosic sugar produced in our process ranges between 35 and 40 g/L.

Question 4: What physical form do you sell your sugars (e.g., solid or liquid)?

We sell anhydrous ethanol at 99.6% ethanol content (liquid form).

Question 5: How do you package your lignocellulosic sugars for shipping? Do you ship in bulk?

Our ethanol is transported by truck to the final domestic buyer or to port terminal, if destined to export.

Question 6: What type(s) of biomass do you use to produce lignocellulosic sugar?

We can use any sugarcane residue in our process. In Bioflex 1, we use sugarcane straw (i.e. tops and leaves).

Question 7: What process do you use to produce lignocellulosic sugar?

Hydrothermal pretreatment and enzymatic hydrolysis.

Question 8: What details of the scale of your process are you willing to share (e.g. batch and/or continuous/ volumetric productivity)?

The plant has a continuous operation. Nameplate capacity is 82 million liters (i.e. 22 million gallons) of ethanol.

Question 9: What is the typical composition of your sugar stream (e.g., glucose, galactose, mannose, xylose, arabinose) and what is the purity?

We use sugarcane straw with its typical composition. Glucan 35-40% w/w and xylan 15-20% w/w dry base.

Question 10: Do you routinely test your cellulosic sugar for consistency within and between lots and between feedstocks (if applicable)?

Yes, we continuously test our cellulosic sugar.

Question 11: What impurities are present in your lignocellulosic sugar process and what testing do you perform to determine the presence of impurities?

Silica and ash. We continuously test the biomass along the process.

Question 12: Does your process include a purification step?

The process includes a purification step for the production of anhydrous ethanol.

Question 13: What is the highest concentration in grams/Liter you can provide?

Confidential information.

Question 14: Have you examined the impacts of transport and storage on sugar degradation? If so, can you please provide any relevant (non-proprietary) details of these impacts?

We do not sell lignocellulosic sugar. Our final product is anhydrous ethanol.

Question 15: What additional information are you willing and able to provide to the research community about your lignocellulosic sugar? Please provide any nonproprietary

cost information you are willing to share.

No information to the shared.

Question 16: Into what markets do you typically sell your lignocellulosic sugar? What is a typical application for your lignocellulosic sugar?

Bioflex final production is anhydrous ethanol, which is sold domestically or exported to the US or Europe.