

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

| | | |
|---------------------------------|---|----------------------------|
| BUTAMAX™ ADVANCED BIOFUELS LLC, |) | |
| |) | |
| Plaintiff, |) | |
| |) | C.A. No. _____ |
| v. |) | |
| |) | JURY TRIAL DEMANDED |
| GEVO, INC. |) | |
| |) | |
| Defendant. |) | |

COMPLAINT

Plaintiff Butamax™ Advanced Biofuels LLC ("Butamax"), by its attorneys, for its Complaint against Defendant Gevo, Inc. ("Gevo"), alleges as follows:

THE PARTIES

1. Butamax is a limited liability company organized and existing under the laws of the state of Delaware, with its principal place of business in Wilmington, Delaware. Butamax has developed methods of making isobutanol, an advanced biofuel that will provide improved options for increasing energy supplies and facilitate the transition to renewable transportation fuels which lower overall greenhouse gas emissions. Isobutanol also can be used as a feedstock chemical in the production of various plastics, fibers and other products.

2. Butamax has developed novel methods useful for producing isobutanol with recombinant microorganisms comprising an engineered isobutanol biosynthetic pathway.

3. On information and belief, Gevo is a corporation organized and existing under the laws of the state of Delaware, with its principal place of business in Englewood, Colorado.

JURISDICTION AND VENUE

4. This action arises under the Declaratory Judgment Act and the Patent Statute of the United States of America, Titles 28 and 35 of the United States Code. This Court has

jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1338(a), 2201 and 2202.

5. On information and belief, this Court has personal jurisdiction over Gevo because it is a Delaware corporation with a registered Delaware agent and has purposefully availed itself of the benefits and protections of this state.

6. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and 1400(b).

BACKGROUND

7. United States Patent No. 8,283,144 ("the '144 patent") entitled, FERMENTIVE PRODUCTION OF FOUR CARBON ALCOHOLS, duly and legally issued on October 9, 2012, to inventors Gail K. Donaldson, Andrew C. Eliot, Dennis Flint, Lori Ann Maggio-Hall, and Vasantha Nagarajan. The '144 patent is assigned to Butamax. Butamax owns the '144 patent and has owned it since it issued. The '144 patent issued from a continuation application of Application No. 11/586,315, now U.S. Patent No. 7,851,188. The '188 patent is involved in a pending litigation between Butamax and Gevo.

8. The '144 patent discloses and claims a method for producing isobutanol using recombinant yeast host cells comprising genes encoding an engineered isobutanol biosynthetic pathway which increases production of isobutanol.¹

9. On information and belief, Gevo uses or has used a method for producing isobutanol that is embodied by the invention of the '144 patent.

¹ The '144 patent issued on October 9, 2012 at 12:00 am EDT, as shown on the September 19, 2012 Issue Notification attached as **Exhibit A**. A paper copy will be filed with the Court as soon as it becomes available.

10. On information and belief, Gevo uses or has used a method for the production of isobutanol comprising:

- 1) providing a recombinant yeast host cell comprising genes encoding an engineered isobutanol biosynthetic pathway, wherein said isobutanol biosynthetic pathway increases the production of isobutanol as compared to naturally occurring amounts of isobutanol made by unmodified yeast and comprises the following substrate to product conversions:
 - (a) 2,3-dihydroxy-isovalerate to α -ketoisovalerate;
 - (b) the α -ketoisovalerate from (a) to isobutyraldehyde; and
 - (c) the isobutyraldehyde from (b) to isobutanol,

wherein

- (i) the substrate to product conversion of step (a) is performed by a recombinantly expressed acetoxy acid dehydratase enzyme;
 - (ii) the substrate to product conversion of step (b) is performed by a recombinantly expressed decarboxylase enzyme; and
 - (iii) the substrate to product conversion of step (c) is performed by a recombinantly expressed alcohol dehydrogenase enzyme; and
- 2) contacting the recombinant yeast host cell of 1) with a fermentable carbon substrate in a fermentation medium under conditions whereby isobutanol is produced through the substrate to product conversions of (a) to (c); and
- 3) recovering isobutanol produced in 2),

wherein

the recombinantly expressed enzymes of (i) to (iii) are expressed in the cytosol, and said recombinant yeast host cell is capable of producing isobutanol through the substrate to product conversions of (a) to (c).

11. On information and belief, Gevo's U.S. Patent No. 8,232,089 ("the '089 patent") provides examples of recombinant yeast host cells that Gevo makes and uses.

12. Gevo's '089 patent provides examples of recombinant yeast that recombinantly express acetohydroxy acid dehydratase enzyme, decarboxylase enzyme and alcohol dehydrogenase enzyme in the cytosol. These enzymes perform the substrate to product conversions a-c in paragraph 10. On information and belief, Gevo has produced and recovered isobutanol using additional strains of recombinant yeast that express these enzymes in the cytosol, perform the substrate to product conversions, and that are cultivated in a culture medium providing a carbon source. The production and recovery of isobutanol from these strains embodies the claims of the '144 patent.

13. Gevo announced to the press that its "scientists realized from the beginning the importance of increasing pathway efficiencies and recognized that to produce commercially relevant levels of isobutanol one must use the technology covered by our patents."

14. On information and belief, Gevo owns an ethanol production facility retrofitted to produce isobutanol via a method that embodies the claims of the '144 patent. The yeast commercially used in this method produce, or have produced, isobutanol by expressing the enzymes as identified in paragraph 12 through the identified conversions in increased amounts compared to naturally occurring amounts of isobutanol made by unmodified yeast. On information and belief, such isobutanol has been recovered. Gevo also plans to have additional

retrofitted ethanol facilities produce commercial quantities of isobutanol using its recombinant yeast.

15. Subsequent to its initial production and recovery of isobutanol, Gevo announced to the press that it was temporarily halting isobutanol production at its facility, but that it anticipated that the facility would return to isobutanol production in a few months.

16. Gevo has entered into contracts with third parties to supply them with isobutanol produced from this facility.

17. Gevo has entered collaborations with third parties for high-volume production of isobutanol at the facilities owned and operated by these third parties. On information and belief, Gevo intends for such third parties to produce isobutanol from yeasts by methods that embody the claims '144 patent.

18. On information and belief, as a competitor of Butamax, Gevo has been aware of the application that matured into the '144 patent.

19. On information and belief, at least Gevo's production and recovery of isobutanol from recombinant yeast host cells infringed the '144 patent. On information and belief, continued infringement of the '144 patent is imminent as a consequence of the renewed production and recovery of isobutanol from recombinant yeast host cells at Gevo's facility and/or its inducement of others to produce and recover isobutanol from recombinant yeast host cells infringes the '144 patent. Gevo will continue to infringe unless enjoined.

COUNT I - PATENT INFRINGEMENT

20. Each of the preceding paragraphs, 1-19 is incorporated as if fully set forth herein.

21. On information and belief, Gevo has directly and/or indirectly infringed and will continue to infringe, either literally or under the doctrine of equivalents, one or more claims of the '144 patent, pursuant to 35 U.S.C. § 271.

22. On information and belief, Gevo's infringement of the '144 patent will continue, unless enjoined by this Court. Gevo's infringement causes harm to Butamax. Thus, there is a real and actual controversy between Butamax and Gevo.

REQUEST FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the following relief:

(a) That a declaratory judgment be entered declaring that Gevo infringes one or more claims of the '144 patent and that Gevo's production and recovery of isobutanol using recombinant yeast host cells comprising genes encoding an engineered isobutanol biosynthetic pathway and/or its inducement of others to produce and recover isobutanol via recombinant yeast host cells comprising genes encoding an engineered isobutanol biosynthetic pathway are acts of infringement of one or more claims of the '144 patent;

(b) That Gevo and its officers, employees, agents, attorneys, affiliates, successors, assigns and others acting in privity or concert with it be preliminarily and permanently enjoined from producing and recovering isobutanol using recombinant yeast host cells comprising genes encoding an engineered isobutanol biosynthetic pathway or inducing others to produce and recover recombinant yeast host cells comprising genes encoding an engineered isobutanol biosynthetic pathway claimed in the '144 patent;

(c) That judgment be entered awarding Plaintiff damages resulting from Gevo's infringement in an amount no less than a reasonable royalty, and that such amount be

multiplied based on Gevo's continuing willful and deliberate infringement, pursuant to 35 U.S.C. § 285;

(d) That this case be deemed exceptional and attorneys' fees be awarded pursuant to 35 U.S.C. § 285;

(e) That interest, costs and expenses be awarded in favor of Butamax;

(f) That this Court order such other and further relief as the Court may deem just and proper.

JURY DEMAND

Butamax hereby demands trial by jury in this action on all issues so triable.

Respectfully submitted,

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