UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BASF CORPORATION,
Petitioner,

v.

INGEVITY SOUTH CAROLINA, LLC,
Patent Owner.

Case IPR2019-00202
Patent RE38,844 E

Before DONNA M. PRAISS, CHRISTOPHER L. CRUMBLEY, and JON B. TORNQUIST, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

I. INTRODUCTION

BASF Corporation filed a Petition requesting an *inter partes* review of claims 1–8, 11, 12, 14–16, 18–21, 24, 25, 27–29, 31–33, 36, 37, 39–41, 43–45, 48, 49, and 51–53 of U.S. Patent No. RE38,844 E (Ex. 1001, "the '844 patent"). Paper 2 ("Pet."). Ingevity South Carolina, LLC, identified as a real party in interest to the '844 patent (Paper 5, 1)[1], filed a Preliminary Response to the Petition. Paper 6 ("Prelim. Resp.").

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and Preliminary Response shows "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Taking into account the parties' arguments, we conclude that the information presented does not establish a reasonable likelihood that BASF will prevail in challenging the patentability of claims 1–8, 11, 12, 14–16, 18–21, 24, 25, 27–29, 31–33, 36, 37, 39–41, 43–45, 48, 49, and 51–53 of the '844 patent. We, therefore, decline to institute an *inter partes* review.

II. BACKGROUND

A. Related Matters

BASF and Ingevity identify the following related proceedings currently or previously pending in District Court: *Ingevity Corp. et al. v. BASF Corp.*, Case No. 1:18-cv-01391 (D. Del.); *Ingevity Corp. et al. v. MAHLE Filter Sys. North America, Inc.*, Case No. 1:18-cv-06158 (N.D. Ill.);

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[1] Ingevity's Mandatory Notices also list Ingevity Corporation as a real party in interest, but only Ingevity South Carolina, LLC is named as a party in this proceeding. Paper 5, 1.

Ingevity Corp. v. BASF Corp., Case No. 1:18-cv-01072 (D. Del.); and *Ingevity Corp. v. MAHLE Filter Sys. North America, Inc.*, Case No. 1:18-cv-04920 (N.D. Ill.). *See* Pet. 81; Paper 5, 1. Ingevity also identifies a related matter pending before the International Trade Commission: *In the matter of Certain Multi-Stage Fuel Vapor Canister Systems and Activated Carbon Components Thereof*, Inv. No. 337-TA3351. Paper 5, 1.

B. The ’844 Patent

The ’844 patent, entitled Method For Reducing Emissions From Evaporative Emissions Control Systems, reissued October 25, 2005 from U.S. Patent No. 6,540,815, originally issued April 1, 2003. Ex. 1001, (10), (45), (54), (64). The ’844 patent claims priority to provisional application 60/335,897, filed November 21, 2001. *Id.* at (60).

The ’844 patent is directed to reducing air pollution caused by gasoline evaporation from automotive fuel tanks, and in particular so-called “diurnal breathing loss” (DBL). *Id.* at 2:35–47. DBL occurs when a car has been parked for several days and experiences natural heating and cooling during diurnal temperature cycles. *Id.* According to the ’844 patent, DBL was traditionally addressed through the use of a canister attached to the fuel tank that contains activated carbon to adsorb any gasoline vapor released from the tank. *Id*. at 1:32–34; Fig. 1. The adsorbed hydrocarbons were periodically removed from the carbon while the car was in operation, by redirecting engine air through the canister and burning the desorbed vapor in the engine, resulting in regenerated carbon in the canister that can then adsorb additional DBL hydrocarbon. *Id.* at 1:34–39.

The carbons used in traditional evaporative emissions canisters may be characterized by their ability to adsorb butane, quantified in a number of measurements including bed packing density, saturation capacity, and purgeability. *Id.* at 2:1–7. Multiplying these measures together results in a measure of the carbon's "butane working capacity," which the '844 patent describes as a good predictor of the canister working capacity for gasoline vapors. *Id.* at 2:8–12. Carbons used in traditional canister systems typically have "high incremental capacity as a function of increased vapor"; in other words, a large increase in the mass adsorbed by the carbon as a result of increased gasoline vapor concentration. *Id.* at 2:16–20; Fig. 3.

According to the '844 patent, traditional canister systems have proven unable to meet the stricter emissions standards enacted in recent years. *Id.* at 2:46–61. The '844 patent proposes addressing these standards through the use of a staged system in which traditional, prior art canisters are modified to have a secondary adsorption volume containing carbon having specific adsorption properties. *Id.* at 3:43–51; Fig 2. In particular, the carbon used in the secondary volume is said to have "relatively low incremental capacity at high concentration vapors compared to the fuel source-side" primary canister. *Id.* at 3:51–53. The '844 patent defines a measure of "incremental adsorption capacity" (IAC), and states that preferred carbons for use in its secondary volume should have an IAC at 25° C of less than 35 g n-butane/L between vapor concentrations of 5 vol % and 50 vol% n-butane, whereas the carbon in the primary canister should have an IAC above that level. *Id.* at 9:33–42. Figure 3 of the '844 patent, reproduced below, compares the capacity of two prior art carbons, BAX 1100 and BAX 1500, with that of three example carbons prepared according to the invention:

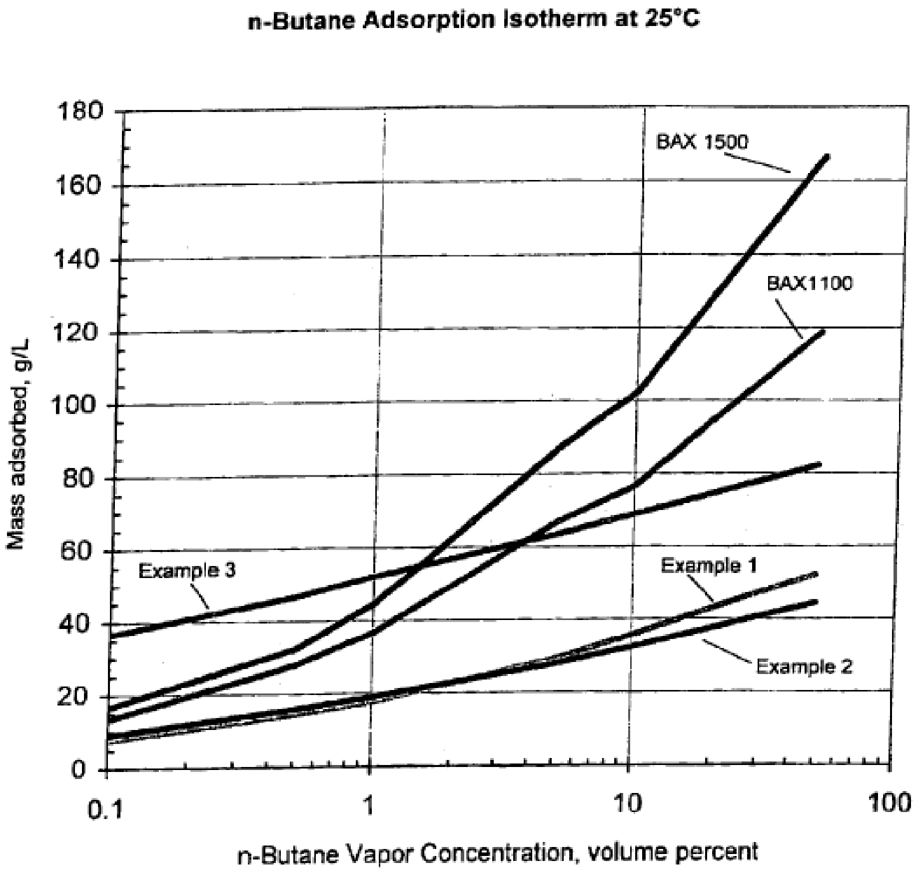

Figure 3 depicts the relationship between n-butane vapor concentration and the mass of n-butane adsorbed by the various carbons at 25° C. As can be seen, the prior art BAX carbons exhibit a greater increase in adsorption at higher vapor concentration than the example carbons. The ’844 patent reports that the IAC at 5–50% vapor concentration for BAX 1100 is 52 g/L and BAX 1500 is 80 g/L, whereas the exemplary carbons have IACs that range from 16 to 24 g/L. *Id.* at 8:5–60.

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