IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

ENTHONE INC., Plaintiff, v. BASF CORPORATION, Defendant.	 Case No. 1:15-cv-233-TJM-RFT **JURY TRIAL DEMANDED**

FIRST AMENDED COMPLAINT

Plaintiff Enthone Inc. ("Enthone"), for its First Amended Complaint against Defendant BASF Corporation ("BASF") alleges as follows:

Parties

1. Enthone is a corporation organized under the laws of the State of Delaware and maintains a principal place of business at 350 Frontage Road, West Haven, Connecticut 06516.

2. Upon information and belief, BASF is a Delaware corporation with a principal place of business in the U.S. located at 100 Park Avenue, Florham Park, New Jersey 07932.

Jurisdiction and Venue

3. This is an action for patent infringement under 35 U.S.C. § 271. The Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

4. The Court has personal jurisdiction over Defendant BASF because BASF has transacted business, contracted to supply goods or services, and/or committed tortious acts within the State of New York out of which this action arises. N.Y. C.P.L.R. § 302.

5. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b), (c), and (d), and § 1400(b), because Defendant BASF is subject to personal jurisdiction here. Upon

information and belief, BASF has shipped, used, offered to sell, and/or sold its infringing products in this district, and/or induced infringement in this district.

Patents-In-Suit

6. On December 4, 2007, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,303,992 ("the '992 patent"), entitled "Copper Electrodeposition in Microelectronics." A copy of the '992 patent is attached as Exhibit A.

7. Enthone owns the '992 patent and holds all rights to sue for past, present, and future infringement of the '992 patent.

8. On October 19, 2010, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 7,815,786 ("the '786 patent"), entitled "Copper Electrodeposition in Microelectronics." A copy of the '786 patent is attached as Exhibit B.

9. Enthone owns the '786 patent and holds all rights to sue for past, present, and future infringement of the '786 patent.

10. On December 10 and 12, 2013, a competitor of Enthone challenged the validity of the '992 and '786 patents by filing two petitions requesting *Inter Partes* Review by the Patent Trial and Appeal Board ("PTAB") (IPR2014-00243 and IPR2014-00246) based on seventeen prior art references. Both of these petitions were fully denied by the PTAB because the PTAB found that the petitioner failed to show a reasonable likelihood that the '992 and '786 patents were unpatentable.

Facts

11. Among other products, Enthone manufactures and sells chemicals used in the electrolytic plating of copper onto semiconductor substrates in the field of microelectronics manufacturing.

12. One conventional semiconductor manufacturing process is the copper damascene process. Specifically, this process begins by etching a combination of trenches and vias (known as interconnect features) into the substrate's dielectric material. Next, a barrier layer is laid over the dielectric to prevent diffusion of the subsequently applied copper layer into the substrate's junctions, followed by deposition of a copper layer to provide electrical conductivity for a sequential electrochemical process. After the copper layer has been deposited, excess copper is removed from the facial plane of the dielectric by chemical-mechanical polishing, leaving copper in only the etched interconnect features of the dielectric.

13. Copper can be deposited by electrolytic plating to fill the interconnect features on substrates.

14. Some electrolytic copper plating systems rely on "superfilling" or "bottom-up growth" to deposit copper into the interconnect features.

15. Superfilling involves filling a feature from the bottom up, rather than at an equal rate on all of its surfaces, to avoid seams and pinching off that can result in voiding.

16. As electronics have decreased in size, the smaller device sizes and increased circuit density require decreasing the dimensions of interconnect features.

17. Inventors at Enthone discovered that certain suppressor agents comprising polyether groups bonded to a nitrogen-containing species achieve superior fill speeds and polarization.

18. The discoveries of Enthone's inventors, including electrolytic copper plating compositions with suppressor agents having polyether groups bonded to a nitrogen-containing species and related electroplating methods, are disclosed and claimed in the '992 and '786 patents.

19. BASF is a competitor of Enthone. BASF sells specialty chemicals and solutions to microelectronics manufacturers for use in the electrolytic plating of copper onto semiconductor substrates.

20. Upon information and belief, BASF has made, used, sold, or offered for sale compositions for electrolytic copper plating solutions, which—when prepared according to BASF's instructions—contain a source of copper ions sufficient for electrolytic plating of copper onto a semiconductor substrate and a specific suppressor with a polyether group bonded to a nitrogen-containing species having the specific attributes described and claimed in Enthone's '992 and '786 patents ("Electrolytic Copper Plating Products").

21. Upon information and belief, copper plating solutions made with one or more of BASF's CUPUR® series products contain a source of copper ions sufficient for electrolytic plating of copper onto a semiconductor substrate and a specific suppressor with a polyether group bonded to a nitrogen-containing species having the specific attributes described and claimed in Enthone's '992 and '786 patents.

22. Upon information and belief, BASF sells and distributes its Electrolytic Copper Plating Products to customers in the United States, including shipping, offering to sell, and selling its Electrolytic Copper Plating Products into the Northern District of New York, and induces the infringing use of its Electrolytic Copper Plating Products in the Northern District of New York.

23. In a letter dated June 30, 2014, Enthone informed BASF of the '992 and '786 patents and requested BASF to either "verify or disprove" Enthone's belief that BASF was infringing these patents.

24. In the June 30, 2014 letter, Enthone also offered to protect the confidentiality of any information provided by BASF.

25. On August 14, 2014, an attorney for BASF responded to Enthone's letter requesting more information before BASF could respond to Enthone's June 30 letter.

26. On August 20, 2014, Enthone responded to BASF's attorney by indicating that Enthone believed BASF's copper electroplating suppressor products that contained a polyether compound which comprises a combination of propylene oxide (PO) repeat units and ethylene oxide (EO) repeat units bonded to a nitrogen-containing species infringed the '992 and '786 patents. Specifically, Enthone identified BASF's CUPUR® product line.

27. In an email dated September 12, 2014, BASF's attorney requested additional time to respond to Enthone's letter. After not hearing from BASF for several weeks, Enthone sent a follow up email on September 29, 2014. BASF's attorney replied that it would respond to Enthone's letter by October 3, 2014.

28. On October 7, 2014, BASF's attorney again wrote Enthone, stating that he had not had a chance to meet with his client and that he would do so by October 8, 2014.

29. Enthone still had not heard from BASF on January 21, 2015, so Enthone sent another email to BASF's counsel. In its email of January 21, 2015, Enthone requested a response from BASF by January 28, 2015.

30. BASF's counsel responded on January 28, 2015, and denied that BASF infringes any "valid claim" of the '786 or '992 patents.

31. Enthone sent BASF a response on January 30, 2015.

32. BASF had not further responded and Enthone was unable to establish any further communication with BASF before filing suit on February 27, 2015.

COUNT I

INFRINGEMENT OF U.S. PATENT NO. 7,303,992 BY BASF

33. Enthone incorporates herein by reference Paragraphs 1 through 32 above, as if fully set forth herein.

34. Upon information and belief, the use of BASF's Electrolytic Copper Plating Products, including but not limited to its CUPUR® product line, infringe at least claims 1, 5-7, 9-15, 20-22, and/or 28 of the '992 patent.

35. Upon information and belief, BASF directly infringes at least claims 1, 5-7, 9-15, 20-22, and/or 28 of the '992 patent by using its Electrolytic Copper Plating Products in this infringing manner.

36. Defendant BASF has known of the '992 patent since no later than December 23, 2011, when BASF listed the '992 patent in an Information Disclosure Statement filed with the United States Patent and Trademark Office in connection with its patent application having serial number 13/259,482.

37. Upon information and belief, BASF has actively induced infringement of the '992 patent, including by manufacturing, selling, and supplying Electrolytic Copper Plating Products to customers in the United States, and facilitating and supporting the customers' infringing use of the Electrolytic Copper Plating Products, knowing that the use of these products infringes at least claim 1 of Enthone's '992 patent.

38. Upon information and belief, BASF possessed specific intent to induce direct infringement of at least claim 1 of the '992 patent by its customers that used BASF's Electrolytic Copper Plating Products.

39. Upon information and belief, BASF's Electrolytic Copper Plating Products are especially made or adapted for use in electroplating processes covered by at least claim 1 of the '992 patent.

40. Upon information and belief, BASF's Electrolytic Copper Plating Products are not staple articles or commodities of commerce suitable for substantial non-infringing use.

41. Upon information and belief, BASF's Electrolytic Copper Plating Products include suppressors with a polyether group bonded to a nitrogen-containing species having the specific attributes claimed in Enthone's '992 patent. These suppressors are necessary for superfilling submicron-sized interconnect features and constitute a material part of the invention claimed in the '992 patent.

42. Upon information and belief, BASF has contributed to infringement of the '992 patent by selling, offering to sell, and/or inducing the use of the Electrolytic Copper Plating Products within the United States knowing that these products were especially made or adapted for use in a process that infringes at least claim 1 of the '992 patent.

43. Upon information and belief, BASF has directly and/or indirectly infringed at least claim 1 of Enthone's '992 patent under 35 U.S.C. §§ 271(a), (b), and/or (c).

44. Upon information and belief, BASF's infringement has been knowing and willful.

45. Enthone is without an adequate remedy at law and will be irreparably harmed if the Court does not enter an order enjoining BASF from infringing the '992 patent.

COUNT II

INFRINGEMENT OF U.S. PATENT NO. 7,815,786 BY BASF

46. Enthone incorporates herein by reference Paragraphs 1 through 45 above, as if fully set forth herein.

47. Upon information and belief, the use of BASF's Electrolytic Copper Plating Products, including but not limited to BASF's CUPUR® product line, infringe at least claims 1-6, 8, and/or 11-18 of the '786 patent.

48. Upon information and belief, BASF directly infringes at least claims 1-6, 8, and/or 11-18 of the '786 patent by making, using, selling, or offering to sell plating compositions made with BASF's Electrolytic Copper Plating Products in the United States, or importing these compositions into the United States.

49. Defendant BASF has known of the '786 patent since no later than May 24, 2013, when the patent examiner cited the published application corresponding to the '786 patent as prior art to BASF's patent application having serial number 13/257,716.

50. Upon information and belief, BASF has actively induced infringement of the '786 patent, including by manufacturing, selling, and supplying Electrolytic Copper Plating Products to customers in the United States, and facilitating and supporting the customers' infringing use of the Electrolytic Copper Plating Products, knowing that the use of these products infringes at least claim 1 of Enthone's '786 patent.

51. Upon information and belief, BASF possessed specific intent to induce direct infringement of at least claim 1 of the '786 patent by its customers that used BASF's Electrolytic Copper Plating Products.

52. Upon information and belief, BASF's Electrolytic Copper Plating Products are especially made or adapted for use in electroplating compositions covered by at least claim 1 of the '786 patent.

53. Upon information and belief, BASF's Electrolytic Copper Plating Products are not staple articles or commodities of commerce suitable for substantial non-infringing use.

54. Upon information and belief, BASF's Electrolytic Copper Plating Products include suppressors with a polyether group bonded to a nitrogen-containing species having the specific attributes claimed in Enthone's '786 patent. These suppressors are necessary for superfilling submicron-sized interconnect features and constitute a material part of the invention claimed in the '786 patent.

55. Upon information and belief, BASF has contributed to infringement of the '786 patent by selling, offering to sell, and/or inducing the use of the Electrolytic Copper Plating Products within the United States knowing that these products were especially made or adapted for use in a composition that infringes at least claim 1 of the '786 patent.

56. Upon information and belief, BASF has directly and/or indirectly infringed at least claim 1 of the '786 patent under 35 U.S.C. §§ 271(a), (b), and/or (c).

57. Upon information and belief, BASF's infringement has been knowing and willful.

58. Enthone is without an adequate remedy at law and will be irreparably harmed if the Court does not enter an order enjoining BASF from infringing the '786 patent.

WHEREFORE, Enthone requests that the Court enter judgment against Defendant BASF and respectfully prays that the Court enters an order:

A. Finding that Defendant BASF has directly and/or indirectly infringed U.S. Patent No. 7,303,992;

B. Finding that Defendant BASF has directly and/or indirectly infringed U.S. Patent No. 7,815,786;

C. Finding that Defendant BASF's infringement has been willful;

D. Enjoining Defendant BASF and its respective officers, agents, servants, employees, and attorneys, and all of those persons in active concert or participation with any of them from directly or indirectly infringing any claim of U.S. Patent Nos. 7,815,786 and 7,303,992;

E. Awarding compensatory damages to Enthone under 35 U.S.C. § 284;

F. Trebling the damage award under 35 U.S.C. § 284;

G. Awarding Enthone pre-judgment and post-judgment interest;

H. Finding this to be an exceptional case under 35 U.S.C. § 285 and awarding Enthone its reasonable attorneys' fees and expenses in this action;

I. Awarding Enthone its costs in this action; and

J. Awarding such other and further relief as the Court deems just and proper.

JURY DEMAND

Under Rule 38(b) of the Federal Rules of Civil Procedure, Enthone demands a trial by jury of all issues so triable.

Dated: September 4, 2015

Respectfully submitted,

SENNIGER POWERS LLP

By: */s/ Robert M. Evans, Jr.*
Robert M. Evans, Jr. (Pro Hac Vice)
Marc. W. Vander Tuig (Pro Hac Vice)
Kyle G. Gottuso (Pro Hac Vice)
SENNIGER POWERS LLP
100 North Broadway, 17th Floor
Saint Louis, MO 63102
(314) 345-7000 (telephone)
(314) 345-7600 (facsimile)
revans@senniger.com
mvandertuig@senniger.com
kgottuso@senniger.com

HINCKLEY ALLEN & SNYDER LLP

Michael L. Koenig (507423)
Christopher V. Fenlon (516392)
HINCKLEY ALLEN & SNYDER LLP
30 S. Pearl Street, Suite 901
Albany, NY 12207
(518) 396-3100 (telephone)
(518) 396-3101 (telefax)
mkoenig@hinckleyallen.com
cfenlon@hinckleyallen.com

Attorneys for Plaintiff Enthone Inc.