**IN THE UNITED STATES DISTRICT COURT**
**WESTERN DISTRICT OF TENNESSEE**
**WESTERN DIVISION, MEMPHIS**

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| **SOLENIS TECHNOLOGIES, L.P.**; **SOLENIS SWITZERLAND GMBH**; and **SOLENIS LLC**;<br><br>Plaintiffs,<br><br>v.<br><br>**BUCKMAN LABORATORIES, INC.**; **BUCKMAN LABORATORIES INTERNATIONAL, INC.**; and **BULAB HOLDINGS, INC.**;<br><br>Defendants. | CIVIL ACTION NO.: 2:23-cv-02413<br><br>**JURY TRIAL DEMANDED** |

## COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs, Solenis Technologies, L.P.; Solenis Switzerland GmbH; and Solenis LLC (collectively, "Solenis"), for their complaint for patent infringement seeking damages and injunctive relief against Buckman Laboratories, Inc.; Buckman Laboratories International, Inc.; and Bulab Holdings, Inc. (collectively, "Buckman"), allege as follows:

## NATURE OF THE ACTION

1. This is an action for patent infringement under the United States Patent Laws, 35 U.S.C. § 1, *et seq*. Buckman is believed to directly infringe, as well as induce and contribute to the infringement of, U.S. Patent Nos. 8,703,847 (the "'847 Patent"), 8,222,343 (the "'343 Patent"), and 7,875,676 (the "'676 Patent") (collectively, the "Asserted Patents"). Buckman's infringement is believed to derive from its commercial activities relating to chemicals used in the production of paper and paperboard products.

## THE PARTIES

2. Plaintiff Solenis Technologies, L.P., the owner of the Asserted Patents, is a Delaware limited partnership with a principal place of business at 3 Beaver Valley Road, Suite 500, Wilmington, Delaware 19803.

3. Plaintiff Solenis Switzerland GmbH, which received an exclusive license of the Asserted Patents from Solenis Technologies, L.P., is a Swiss corporation having a principal place of business at Mühlentalstrasse 38, 8200 Schaffhausen, Switzerland.

4. Plaintiff Solenis LLC, which received an exclusive license of the Asserted Patents from Solenis Switzerland GmbH, is a Delaware limited liability company with a principal place of business at 2475 Pinnacle Drive, Wilmington, Delaware 19803.

5. Defendant Buckman Laboratories, Inc. is a Tennessee corporation having its principal place of business at 1256 North McLean Boulevard, Memphis, Tennessee 38108.

6. Defendant Buckman Laboratories International, Inc. is a Tennessee corporation having its principal place of business at 1256 North McLean Boulevard, Memphis, Tennessee 38108.

7. Defendant Bulab Holdings, Inc. is a Tennessee corporation having its principal place of business at 1256 North McLean Boulevard, Memphis, Tennessee 38108.

8. On information and belief, Buckman Laboratories, Inc. and Buckman Laboratories International, Inc. are wholly owned subsidiaries of Bulab Holdings, Inc.

## JURISDICTION AND VENUE

9. This is an action for patent infringement under the United States Patent Laws, 35 U.S.C. § 1, *et seq*. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

10. This Court has personal jurisdiction over Buckman Laboratories, Inc. because Buckman Laboratories, Inc. is incorporated in Tennessee and has its principal place of business in Tennessee. Thus, Buckman Laboratories, Inc. is at home in Tennessee and subject to the general jurisdiction of the courts in Tennessee, including this Court.

11. This Court has personal jurisdiction over Buckman Laboratories International, Inc. because Buckman Laboratories International, Inc. is incorporated in Tennessee and has its principal place of business in Tennessee. Thus, Buckman Laboratories International, Inc. is at home in Tennessee and subject to the general jurisdiction of the courts in Tennessee, including this Court.

12. This Court has personal jurisdiction over Bulab Holdings, Inc. because Bulab Holdings, Inc. is incorporated in Tennessee and has its principal place of business in Tennessee. Thus, Bulab Holdings, Inc. is at home in Tennessee and subject to the general jurisdiction of the courts in Tennessee, including this Court.

13. Venue is proper under 28 U.S.C. § 1400(b) because each of Buckman Laboratories, Inc.; Buckman Laboratories International, Inc.; and Bulab Holdings, Inc. is incorporated in the State of Tennessee and thus resides in this District. Moreover, each of the Buckman Defendants has a regular and established place of business in this District and is believed to have committed acts of infringement in this District.

## FACTUAL BACKGROUND

14. On April 22, 2014, the United States Patent and Trademark Office duly issued the ’847 Patent, titled “Glyoxalation of Vinylamide Polymer.” The subject matter claimed in the ’847 Patent was invented by Matthew D. Wright. A copy of the ’847 Patent is attached as **Exhibit A**.

15. On July 17, 2012, the United States Patent and Trademark Office duly issued the ’343 Patent, titled “Glyoxalation of Vinylamide Polymer.” The subject matter claimed in the ’343 Patent was invented by Matthew D. Wright. A copy of the ’343 Patent is attached as **Exhibit B**.

16. On January 25, 2011, the United States Patent and Trademark Office duly issued the ’676 Patent, titled “Glyoxalation of Vinylamide Polymer.” The subject matter claimed in the ’676 Patent was invented by Matthew D. Wright. A copy of the ’676 Patent is attached as **Exhibit C**.

17. Solenis Technologies, L.P. is the owner by assignment of title in the Asserted Patents. Solenis Switzerland GmbH received an exclusive license to the Asserted Patents from Solenis Technologies, L.P. Solenis LLC, in turn, received an exclusive license to the Asserted Patents from Solenis Switzerland GmbH. Together, all rights, title, and interests in the Asserted Patents are possessed by Solenis Technologies, L.P.; Solenis Switzerland GmbH; and Solenis LLC.

18. The ’847 Patent is directed to, *inter alia*, methods for preparing cellulose-reactive polyvinylamide adducts. The ’847 Patent is also directed to, *inter alia*, gyloxalated-polyvinylamide thermosets. The inventions of the ’847 Patent may be used to provide improved paper and paperboard strengthening agents.

19. The ’343 Patent is directed to, *inter alia,* methods for increasing the wet or dry strength of paper or paperboard by adding a cellulose reactive functionalized polyvinylamide adduct to an aqueous slurry of cellulose fibers or spraying a cellulose reactive functionalized polyvinylamide adduct onto a wet web, paper, or paperboard. The ’343 Patent is also directed to paper or paperboard having a cellulose reactive functionalized polyvinylamide adduct.

20. The ’676 Patent is directed to, *inter alia,* methods for preparing cellulose-reactive functionalized polyvinylamide adducts. The inventions of the ’676 Patent may be used to provide improved paper and paperboard strengthening agents.

21. Solenis is in the business of commercializing and exploiting technology for generating gyloxalated polyacrylamide (“GPAM”) on-site at paper-production facilities, including under the Hercobond® brand. The innovative Hercobond® technologies enable paper producers to improve the strength of their paper products.

22. On information and belief, Buckman is in the business of making, marketing, and selling GPAM products and services for generating GPAM, including under its Bubond® brand. On information and belief, the GPAM products and services for generating GPAM incorporate technologies described and claimed in the ’847 Patent, the ’343 Patent, and the ’676 Patent.

23. On information and belief, Buckman has established and operates infringing GPAM generation equipment at least at a certain third-party paper-making facility. Moreover, on information and belief, before establishing equipment for the on-site generation of GPAM, Buckman tested its ability to produce GPAM on-site in a manner that infringes the Asserted Patents.

24. Buckman has been aware that its on-site GPAM generation constitutes infringement of one or more of the Asserted Patents. For example, on May 13, 2022, counsel for Solenis sent a letter to Buckman’s general counsel, stating Solenis’s understanding that Buckman is operating GPAM generation equipment at a third-party facility, and that the Asserted Patents (listed specifically by number) encompass on-site GPAM generation.

25. Buckman did not provide a substantive response to the May 13, 2022 letter.

26. On November 4, 2022, counsel for Solenis sent a follow-up letter regarding Buckman's GPAM generation activities at the third-party facility and requesting confirmation that Buckman had ceased such activities.

27. Also on November 4, 2022, the president of a Solenis business unit sent a letter to Buckman's president and CEO, notifying him that Solenis was seeking information concerning Buckman's on-site generation of GPAM and enclosing the November 4, 2022 letter sent to Buckman's general counsel.

28. A Buckman attorney responded on November 23, 2022, acknowledging receipt of the November 4, 2022 letter and questioning the meaning of certain claim terms in the Asserted Patent. The November 23, 2022 letter did not mention any on-site GPAM generation activities. Thus, the letter was non-responsive to Solenis's inquiry but evidenced Buckman's awareness of the Asserted Patents and their potential relevance to Buckman's activities.

29. On April 24, 2023, counsel for Solenis sent Buckman's counsel another letter that again identified the Asserted Patents and reiterated the belief that they are relevant to Buckman's business. The letter stated that due to the nature of the relevant technology and how Buckman conducts its business, Solenis could not conclusively resolve whether Buckman's activities infringe the Asserted Patents. Solenis asked for information regarding Buckman's activities sufficient to enable Solenis to determine whether those activities fell within the scope of the Asserted Patents' claims and offered to enter into a confidentiality agreement to review any confidential Buckman materials to make the determination of whether the Asserted Patents cover Buckman's on-site GPAM generation activities. The letter asked that Buckman provide Solenis with responsive information by May 15, 2023.

30. On May 15, 2023, Buckman's attorney responded, referring back to the November 23, 2022 letter and restating the bulk of the non-responsive correspondence. Buckman's attorney did not provide the information that Solenis had requested.

31. As of the filing of this suit, Buckman has failed to provide any materials relevant to its GPAM generation activities, or any other information, necessary to determine whether Buckman infringes the Asserted Patents.

32. Solenis is unaware of any analytical technique or means to ascertain conclusively whether Buckman's GPAM generation activities, processes, or resulting products infringe any claim of the Asserted Patents.

33. On information and belief, Buckman's generation of GPAM at third-party facilities infringes the claims of the Asserted Patents. Buckman has failed to provide information or assurances on this issue despite multiple express requests for the same.

34. In the absence of Buckman providing information or assurances regarding its infringement of the Asserted Patents' claims, Solenis resorts to the judicial process and the aid of discovery to obtain, under appropriate judicial safeguards, such information as is required to confirm its belief and to present to the Court regarding Buckman's infringement of the Asserted Patents.

## COUNT ONE:
## DIRECT INFRINGEMENT OF THE '847 PATENT

35. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

36. On information and belief, Buckman directly infringes at least claims 1 and 8 of the '847 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities.

37. Claim 1 of the '847 Patent recites:

> 1. A method for preparing a cellulose reactive functionalized polyvinylamide adduct comprising
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> reacting a substantially aqueous reaction mixture comprising a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the vinylamide polymer has an average molecular weight ranging from 70,000 to 500,000 Daltons and the concentration of the vinylamide polymer is less than about 4 weight percent of the reaction mixture at any stage during the adduct reaction, and
>
> the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.

38. Claim 8 of the '847 Patent recites:

> 8. A substantially aqueous glyoxalated-polyvinylamide thermosetting polymer composition, said composition comprising
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> a reaction product of a vinylamide polymer and glyoxal, wherein said composition contains substantially no organic liquid,
>
> wherein the vinylamide polymer has an average molecular weight ranging from 70,000 to 500,000 Daltons and has a concentration ranging from about 0.1 to less than 4 wt. % based on the composition, and
>
> the reaction product is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.

39. On information and belief, Buckman has established and continues to operate equipment for the generation of GPAM at third-party facilities. On information and belief, Buckman employees or agents control the equipment and on-site GPAM generation. On information and belief, the process that this equipment performs infringes at least claim 1 of the '847 Patent. On information and belief, products of the process infringe at least claim 8 of the '847 Patent.

40. Buckman's infringement has been and continues to be willful and deliberate because Buckman has, on information and belief, continued to infringe the '847 Patent since at

least May 13, 2022, when Solenis provided Buckman with actual notice of the '847 Patent and raised the issue of whether Buckman's activities for the on-site generation of GPAM infringed the '847 Patent.

41. Buckman's infringement of the '847 Patent will continue unless enjoined by this Court.

42. Buckman's infringement of the '847 patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman's infringement of the '847 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the '847 Patent.

43. No amount of damages can fully compensate Solenis.

44. The public interest favors an injunction to protect Solenis's investment-based risk resulting in the commercialization of the technology claimed in the '847 Patent and to enforce the Patent Act's statutory right to exclude others from practicing Solenis's patented inventions. Accordingly, the circumstances of Buckman's infringement warrant injunctive relief.

45. Buckman's infringement of the '847 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

**COUNT TWO:**
**INDUCED INFRINGEMENT OF THE '847 PATENT**

46. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

47. Alternatively, on information and belief, Buckman has induced and continues to induce the infringement of at least claims 1 and 8 of the '847 Patent, in violation of 35 U.S.C. § 271(b), by providing, establishing, or operating equipment for the generation of GPAM at one or

more third-party facilities in the United States and actively and knowingly encouraging those third parties to use the equipment to generate GPAM according to one or more claims of the '847 Patent and to use such GPAM in processes for making paper and paperboard products. Buckman encouraged such acts knowing, or was willfully blind to the fact, that they constituted direct infringement of at least claims 1 and 8 of the '847 Patent.

48. Claim 1 of the '847 Patent recites:

> 1. A method for preparing a cellulose reactive functionalized polyvinylamide adduct comprising
>
> reacting a substantially aqueous reaction mixture comprising a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the vinylamide polymer has an average molecular weight ranging from 70,000 to 500,000 Daltons and the concentration of the vinylamide polymer is less than about 4 weight percent of the reaction mixture at any stage during the adduct reaction, and
>
> the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.

49. Claim 8 of the '847 Patent recites:

> 8. A substantially aqueous glyoxalated-polyvinylamide thermosetting polymer composition, said composition comprising
>
> a reaction product of a vinylamide polymer and glyoxal, wherein said composition contains substantially no organic liquid,
>
> wherein the vinylamide polymer has an average molecular weight ranging from 70,000 to 500,000 Daltons and has a concentration ranging from about 0.1 to less than 4 wt. % based on the composition, and
>
> the reaction product is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.

50. On information and belief, the generation of GPAM on-site directly infringes at least claims 1 and 8 of the '847 Patent.

51. Buckman's encouragement to third parties to use the GPAM-generating equipment induces the infringement of at least claims 1 and 8 of the '847 Patent.

52. Buckman's infringement has been and continues to be willful and deliberate because Buckman has, on information and belief, continued to infringe the '847 Patent since at least May 13, 2022, when Solenis provided Buckman with actual notice of the '847 Patent and raised the issue of whether Buckman's activities for the on-site generation of GPAM infringed the '847 Patent. For the same reasons, Buckman has had knowledge that its GPAM generated on site, and methods for generating GPAM, infringes the '847 Patent, and Buckman has had knowledge of the '847 Patent.

53. Buckman's infringement of the '847 Patent will continue unless enjoined by this Court.

54. Buckman's infringement of the '847 Patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman's infringement of the '847 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the '847 Patent.

55. No amount of damages can fully compensate Solenis.

56. The public interest favors an injunction to protect Solenis's investment-based risk resulting in the commercialization of the technology claimed in the '847 Patent and to enforce the Patent Act's statutory right to exclude others from practicing Solenis's patented invention. Accordingly, the circumstances of Buckman's infringement warrant injunctive relief.

57. Buckman's infringement of the '847 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

**COUNT THREE:**
**DIRECT INFRINGEMENT OF THE '343 PATENT**

58. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

59. On information and belief, Buckman directly infringes at least claim 1 of the '343 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States.

60. Claim 1 of the '343 Patent recites:

> 1. A paper or board comprising a cellulose reactive functionalized polyvinylamide adduct prepared by a process comprising
>
> reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation;
>
> wherein the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.;
>
> wherein the reaction is run in a continuous mode or in a batch mode.

61. On information and belief, Buckman has established and continues to operate equipment for the generation of GPAM at third-party facilities. On information and belief, Buckman employees or agents control the equipment and on-site GPAM generation. On

information and belief, the process that this equipment performs generates products that infringe at least claim 1 of the ’343 Patent.

62. Buckman’s infringement has been and continues to be willful and deliberate because Buckman has, on information and belief, continued to infringe the ’343 Patent since at least May 13, 2022, when Solenis provided Buckman with actual notice of the ’343 Patent and raised the issue of whether Buckman’s activities for the on-site generation of GPAM infringed the ’343 Patent.

63. Buckman’s infringement of the ’343 Patent will continue unless enjoined by this Court.

64. Buckman’s infringement of the ’343 Patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman’s infringement of the ’343 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the ’343 Patent.

65. No amount of damages can fully compensate Solenis.

66. The public interest favors an injunction to protect Solenis’ investment-based risk resulting in the commercialization of the technology claimed in the ’343 Patent and to enforce the Patent Act’s statutory right to exclude others from practicing Solenis’s patented invention. Accordingly, the circumstances of Buckman’s infringement warrant injunctive relief.

67. Buckman’s infringement of the ’343 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys’ fees and costs under 35 U.S.C. § 285.

**COUNT FOUR:**
**CONTRIBUTORY INFRINGEMENT OF THE '343 PATENT**

68. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

69. On information and belief, Buckman contributes to the infringement of at least claim 12 of the '343 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States and supplying that GPAM for use in making paper and paperboard products. And, alternatively to Count Three, on information and belief, Buckman contributes to the infringement of at least claim 1 of the '343 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States.

70. Claim 1 of the '343 Patent recites:

> 1. A paper or board comprising a cellulose reactive functionalized polyvinylamide adduct prepared by a process comprising
>
> reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation;
>
> wherein the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.;
>
> wherein the reaction is run in a continuous mode or in a batch mode.

71. Claim 12 of the '343 Patent recites:

> 12. A method for increasing the wet or dry strength of paper or board comprising the steps:
>
> a) providing an aqueous slurry of cellulosic fibers;

> adding a cellulose reactive functionalized polyvinylamide adduct to the aqueous slurry of cellulosic fibers; or
>
> b) spraying, coating or applying a cellulose reactive functionalized polyvinylamide adduct onto a wet web, paper or board,
>
> wherein the adduct is prepared by a process comprising reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation;
>
> wherein the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.;
>
> wherein the reaction is run in a continuous mode or in a batch mode.

72. On information and belief, Buckman has established and continues to operate equipment for the generation of GPAM at third-party facilities. On information and belief, Buckman employees or agents control the equipment and on-site GPAM generation. On information and belief, the products of the process that this equipment performs are non-staple materials sold by Buckman to third parties for use in making paper and paperboard products knowing the same to be especially made or especially adapted for use in an infringement of the ’343 Patent.

73. On information and belief, the production of paper and paperboard including the GPAM generated on-site directly infringes at least claims 1 and 12 of the ’343 Patent.

74. Buckman’s production, supply, and sale of the GPAM generated on-site contributes to the infringement of at least claims 1 and 12 of the ’343 Patent.

75. GPAM is not a staple article or commodity of commerce suitable for substantial noninfringing use.

76. GPAM generated on-site is a material part of the invention of claims 1 and 12 of the ’343 Patent. On information and belief, Buckman instructs third parties to combine Buckman’s GPAM with cellulose fibers during the papermaking process and knows that its GPAM will be used in a papermaking process. On information and belief, Buckman instructs third parties to make paper and paperboard using Buckman’s GPAM. On information and belief, the papermaking process that includes using GPAM provided by Buckman infringes at least claims 1 and 12 of the ’343 Patent.

77. Buckman’s infringement has been and continues to be willful and deliberate because Buckman has, on information and belief, continued to infringe the ’343 Patent since at least May 13, 2022, when Solenis provided Buckman with actual notice of the ’343 Patent and raised the issue of whether Buckman’s activities for the on-site generation of GPAM infringed the ’343 Patent. For the same reasons, Buckman has had knowledge that its GPAM generated on-site infringes and is used in the infringement of the ’343 Patent, and Buckman has had knowledge of the ’343 Patent.

78. Buckman’s infringement of the ’343 Patent will continue unless enjoined by this Court.

79. Buckman’s infringement of the ’343 Patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman’s infringement of the ’343 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the ’343 Patent.

80. No amount of damages can fully compensate Solenis.

81. The public interest favors an injunction to protect Solenis's investment-based risk resulting in the commercialization of the technology claimed in the '343 Patent and to enforce the Patent Act's statutory right to exclude others from practicing Solenis's patented invention. Accordingly, the circumstances of Buckman's infringement warrant injunctive relief.

82. Buckman's infringement of the '343 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

**COUNT FIVE:**
**INDUCED INFRINGEMENT OF THE '343 PATENT**

83. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

84. On information and belief, Buckman has induced and continues to induce the infringement of at least claim 12 of the '343 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States, supplying that GPAM to third parties for use in making paper and paperboard products, and actively encouraging those third parties to use the GPAM when making paper and paperboard products according to one or more claims of the '343 Patent. And, alternatively to Count Three, on information and belief, Buckman has induced and continues to induce the infringement of at least claim 1 of the '343 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States, supplying that GPAM to third parties for use in making paper and paperboard products, and actively encouraging those third parties to use the GPAM when making paper and paperboard products according to one or more claims of the '343 Patent.

85. Claim 1 of the '343 Patent recites:

1. A paper or board comprising a cellulose reactive functionalized polyvinylamide adduct prepared by a process comprising

reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,

wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation;

wherein the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.;

wherein the reaction is run in a continuous mode or in a batch mode.

86. Claim 12 of the ’343 Patent recites:

12. A method for increasing the wet or dry strength of paper or board comprising the steps:

a) providing an aqueous slurry of cellulosic fibers;

adding a cellulose reactive functionalized polyvinylamide adduct to the aqueous slurry of cellulosic fibers; or

b) spraying, coating or applying a cellulose reactive functionalized polyvinylamide adduct onto a wet web, paper or board,

wherein the adduct is prepared by a process comprising reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,

wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation;

wherein the adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.;

wherein the reaction is run in a continuous mode or in a batch mode.

87. On information and belief, the production of paper and paperboard including the GPAM generated on-site directly infringes at least claims 1 and 12 of the ’343 Patent.

88. Buckman’s encouragement to third parties to use the GPAM generated on-site induces the infringement of at least claims 1 and 12 of the ’343 Patent.

89. On information and belief, Buckman instructs third parties to combine its GPAM with cellulose fibers during the papermaking process and knows that its GPAM will be used in a papermaking process. On information and belief, the papermaking process that includes using GPAM provided by Buckman infringes at least claims 1 and 12 of the ’343 Patent.

90. Buckman’s infringement has been and continues to be willful and deliberate because Buckman has, on information and belief, continued to infringe the ’343 Patent since at least May 13, 2022, when Solenis provided Buckman with actual notice of the ’343 Patent and raised the issue of whether Buckman’s activities for the on-site generation of GPAM infringed the ’343 Patent. For the same reasons, Buckman has had knowledge that its GPAM generated on-site infringes and is used in the infringement of the ’343 Patent, and Buckman has had knowledge of the ’343 Patent.

91. Buckman’s infringement of the ’343 Patent will continue unless enjoined by this Court.

92. Buckman’s infringement of the ’343 Patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman’s infringement of the ’343 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the ’343 Patent.

93. No amount of damages can fully compensate Solenis.

94. The public interest favors an injunction to protect Solenis's investment-based risk resulting in the commercialization of the technology claimed in the '343 Patent and to enforce the Patent Act's statutory right to exclude others from practicing Solenis's patented invention. Accordingly, the circumstances of Buckman's infringement warrant injunctive relief.

95. Buckman's infringement of the '343 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

**COUNT SIX:**
**DIRECT INFRINGEMENT OF THE '676 PATENT**

96. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

97. On information and belief, Buckman infringes at least claim 1 of the '676 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States.

98. Claim 1 of the '676 Patent recites:

> 1. A method for preparing a cellulose reactive functionalized polyvinylamide adduct comprising
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> reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which Critical Concentration the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which Critical Concentration, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation, wherein the cellulose reactive functionalized polyvinylamide adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.

99. On information and belief, Buckman has established and continues to operate equipment for the generation of GPAM at third-party facilities. On information and belief, Buckman employees or agents control the equipment and on-site GPAM generation. On information and belief, the process that this equipment performs infringes at least claim 1 of the '676 Patent.

100. Buckman's infringement has been and continues to be willful because Buckman has, on information and belief, continued to infringe the '676 Patent since at least May 13, 2022, when Solenis provided Buckman with actual notice of the '676 Patent and raised the issue of whether Buckman's activities for the on-site generation of GPAM infringed the '676 Patent.

101. Buckman's infringement of the '676 Patent will continue unless enjoined by this Court.

102. Buckman's infringement of the '676 Patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman's infringement of the '676 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the '676 Patent.

103. No amount of damages can fully compensate Solenis.

104. The public interest favors an injunction to protect Solenis's investment-based risk resulting in the commercialization of the technology claimed in the '676 Patent and to enforce the Patent Act's statutory right to exclude others from practicing Solenis's patented invention. Accordingly, the circumstances of Buckman's infringement warrant injunctive relief.

105. Buckman's infringement of the '676 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

**COUNT SEVEN:**
**INDUCED INFRINGEMENT OF THE '676 PATENT**

106. Solenis realleges and incorporates by reference each of the foregoing paragraphs.

107. On information and belief, Buckman has induced and continues to induce the infringement of at least claim 1 of the '676 Patent by providing, establishing, or operating equipment for the generation of GPAM at one or more third-party facilities in the United States and actively encouraging those third parties to use the equipment to generate and use GPAM according to one or more claims of the '676 Patent when making paper and paperboard products.

108. Claim 1 of the '676 Patent recites:

> 1. A method for preparing a cellulose reactive functionalized polyvinylamide adduct comprising
>
> reacting a substantially aqueous reaction mixture of a vinylamide polymer and a cellulose reactive agent to form the adduct,
>
> wherein the concentration of the vinylamide polymer is below, equal to or no more than 1% above a Critical Concentration and the Critical Concentration is defined as the concentration of the vinylamide polymer above which Critical Concentration the viscosity increases for the reaction mixture resulting from the forward progress of the adduct formation, and below which Critical Concentration, the viscosity decreases for the reaction mixture resulting from the forward progress of adduct formation, wherein the cellulose reactive functionalized polyvinylamide adduct is characterized by a viscosity of no more than 30 centipoise measured using a BROOKFIELD viscometer at a speed of 60 rpm and a temperature of 25° C.

109. On information and belief, the generation of GPAM on-site directly infringes at least claim 1 of the '676 Patent.

110. Buckman's encouragement to third parties to use the GPAM-generating equipment induces the infringement of at least claim 1 of the '676 Patent.

111. Buckman's infringement has been and continues to be willful and deliberate because Buckman has, on information and belief, continued to infringe the '676 Patent since at least May 13, 2022, when Solenis provided Buckman with actual notice of the '676 Patent and raised the issue of whether Buckman's activities for the on-site generation of GPAM infringed the '676 Patent. For the same reasons, Buckman has had knowledge that its GPAM generated on-site infringes and is used in the infringement of the '676 Patent, and Buckman has had knowledge of the '676 Patent.

112. Buckman's infringement of the '676 Patent will continue unless enjoined by this Court.

113. Buckman's infringement of the '676 Patent has caused and will continue to cause damages to Solenis in an amount not yet determined for which Solenis is entitled to relief. Regardless, Buckman's infringement of the '676 Patent has caused and will continue to cause irreparable harm to Solenis incapable of being fully remedied by damages alone. Buckman should be enjoined from further infringement of the '676 Patent.

114. No amount of damages can fully compensate Solenis.

115. The public interest favors an injunction to protect Solenis's investment-based risk resulting in the commercialization of the technology claimed in the '676 Patent and to enforce the Patent Act's statutory right to exclude others from practicing Solenis's patented invention. Accordingly, the circumstances of Buckman's infringement warrant injunctive relief.

116. Buckman's infringement of the '676 Patent is willful and deliberate, entitling Solenis to enhanced damages under 35 U.S.C. § 284 and to attorneys' fees and costs under 35 U.S.C. § 285.

## DEMAND FOR JURY TRIAL

Solenis hereby demands a jury trial for all issues so triable.

## PRAYER FOR RELIEF

WHEREFORE, Solenis respectfully requests that this Court enter judgment in its favor and against Buckman, and award Solenis the following relief:

A. Entry of judgment that Buckman has infringed one or more claims of each of the Asserted Patents, directly or indirectly;

B. Entry of judgment that Buckman's infringements are and have been willful;

C. A permanent injunction that enjoins Buckman, and Buckman's officers, agents, servants, employees, attorneys, and those persons in active concert or participation with Buckman who receive actual notice of the order by personal service or otherwise, from any further sales or use of the infringing products, processes, or services and any other infringement of each of the Asserted Patents, whether direct or indirect;

D. An award of all damages adequate to compensate Solenis for Buckman's infringement of the Asserted patents, and in no event less than a reasonable royalty for Buckman's acts of infringement, including all pre-judgment and post-judgment interest at the maximum rate permitted by law;

E. Entry of judgment that this case is exceptional with respect to Buckman, an award of treble damages due to Buckman's deliberate and willful infringement;

F. An award of costs and expenses in this action, including an award of Solenis's reasonable attorneys' fees and costs to the full extent allowed by law; and

G. Any other and further relief that the Court deems just, proper, and equitable under the circumstances.

Dated: July 7, 2023

Respectfully submitted,

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