UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

AMENDMENT NO. 3 TO FORM F-1 REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

ACASTI PHARMA INC.

(Exact name of Registrant as specified in its charter)

Québec, Canada (State or other jurisdiction of incorporation or organization) 2834 (Primary Standard Industrial Classification Code Number)

Acasti Pharma Inc. 545 Promenade du Centropolis, Suite 100 Laval, Québec, Canada H7T 0A3 (450) 686-4555

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

C T Corporation System 111 Eighth Avenue New York, NY 10011 (212) 894-8940

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Jason Comerford Osler, Hoskin & Harcourt LLP 620 8th Avenue – 36th Floor New York, NY 10018 (212) 991-2533 Ralph V. De Martino Schiff Hardin LLP 901 K Street NW, Suite 700 Washington, DC 20001 (202) 724-6848

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \Box

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. \Box

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933.

Emerging growth company ⊠

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act \Box .

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to such Section 8(a), may determine.

98-1359336 (I.R.S. Employer Identification Number)

EXPLANATORY NOTE

This Amendment No. 3 to Form F-1 is being filed solely for the purpose of filing Exhibits 5.1 and 23.2 to the registration statement on Form F-1 and to reflect such filings in the Index to Exhibits. No change is being made to the prospectus constituting Part I of the registration statement or Items 6, 7 or 9 of Part II of the registration statement. Accordingly, Part I and Items 6, 7 and 9 of Part II have not been included herein.

Item 8. Exhibits and Financial Statement Schedules.

a. See the Exhibit Index to this registration statement.

b. Financial statement schedules.

All financial statement schedules have been omitted because either they are not required, are not applicable or the information required therein is otherwise set forth in the registrant's financial statements and related notes thereto.

EXHIBIT INDEX

Exhibit Number	Description	
1.1*	Form of Underwriting Agreement	
3.1	Articles of Incorporation (incorporated by reference to Exhibit 4.1 from Form S-8 (File No. 333-191383) filed with the Commission on September 25, 2013)	
3.2	Amended and Restated General By-Law (incorporated by reference to Exhibit 99.1 from Form 6-K (File No. 001-35776) filed with the Commission on February 21, 2017)	
3.3	Advance Notice Bylaw No. 2013-1 (incorporated by reference to Exhibit 4.3 from Form S-8 (File No. 333-191383) filed with the Commission on September 25, 2013)	
4.1	Specimen Certificate for Common Shares of Acasti Pharma Inc. (incorporated by reference to Exhibit 2.1 from Form 20-F (File No. 001-35776) filed with the Commission on June 6, 2014)	
4.2	Warrant Indenture dated December 3, 2013 between Acasti Pharma Inc. and Computershare Trust Company of Canada (incorporated by reference to Exhibit 99.1 from Form 6-K (File No. 001-35776) filed with the Commission on December 3, 2013)	
4.3	Warrant Indenture dated February 21, 2017 between Acasti Pharma Inc. and Computershare Trust Company of Canada (incorporated by reference to Exhibit 2.3 from Form 20-F (File No. 001-35776) filed with the Commission on June 27, 2017)	
5.1†	Opinion of Osler, Hoskin & Harcourt LLP, counsel to Acasti Pharma Inc., as to the validity of the common shares	
10.1*	License Agreement dated August 7, 2008, as modified on February 20, 2009 and March 7, 2013, between Acasti Pharma Inc. and Neptune Technologies & Bioressources Inc.	
10.2*	Prepayment Agreement, dated December 4, 2012, between Acasti Pharma Inc. and Neptune Technologies & Bioressources Inc.	
10.3	Equity Incentive Plan, as amended June 8, 2017 (incorporated by reference to Exhibit 4.2 from Form 20-F (File No. 001- 35776) filed with the Commission on June 27, 2017)	
10.4	Stock Option Plan, as amended June 8, 2017 (incorporated by reference to Exhibit 4.3 from Form 20-F (File No. 001-35776) filed with the Commission on June 27, 2017)	
10.5*	Employment Agreement with Linda O'Keefe, dated November 25, 2016	
10.6*	Employment Agreement with Janelle D'Alvise, dated May 11, 2016	
10.7*	Employment Agreement with Pierre Lemieux, dated September 26, 2017	
10.8*	Employment Agreement with Laurent Harvey, dated September 26, 2017	
23.1*	Consent of KPMG LLP	
23.2†	Consent of Osler, Hoskin & Harcourt LLP (included in Exhibit 5.1)	
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- Powers of Attorney (included on signature page) 24.1*
- 99.1* Consent of Destum Partners, Inc.

* Previously filed.† Filed herewith.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form F-1 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Encinitas, State of California on November 29, 2017.

ACASTI PHARMA INC.

By: /s/ Janelle D'Alvise

Name: Janelle D'Alvise Title: Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Janelle D'Alvise Janelle D'Alvise	President and Chief Executive Officer (Principal Executive Officer)	November 29, 2017
* Linda P. O'Keefe	Chief Financial Officer and Secretary (Principal Financial and Accounting Officer)	November 29, 2017
* Dr. Roderick N. Carter	Chairman of the Board	November 29, 2017
* Jean-Marie (John) Canan	Director	November 29, 2017
* Richard P. Schottenfeld	Director	November 29, 2017
* Katherine Crewe	Director	November 29, 2017

*By: <u>/s/ Janelle D'Alvise</u> Janelle D'Alvise Attorney-in-fact

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AUTHORIZED REPRESENTATIVE

Pursuant to the requirements of Section 6(a) of the Securities Act of 1933, the undersigned has signed this Registration Statement, solely in the capacity of the duly authorized representative of Acasti Pharma Inc. in the United States, on November 29, 2017.

ACASTI PHARMA INC.

By: /s/ Janelle D'Alvise

Name: Janelle D'Alvise Title: Chief Executive Officer **Osler, Hoskin & Harcourt LLP** 1000 De La Gauchetière Street West Suite 2100 Montréal, Québec, Canada H3B 4W5 514.904.8100 MAIN 514.904.8101 FACSIMILE

Montréal November 29, 2017

TorontoAcasti Pharma Inc.
545 Promenade du CentropolisCalgarySuite 100
Laval, QuebecOttawaH7T 0A3VancouverDear Sirs/Mesdames:

New York Re: Acasti Pharma Inc. - Registration Statement on Form F-1

We have acted as Canadian counsel to Acasti Pharma Inc. (the "**Corporation**"), a corporation governed by the *Business Corporations Act (Québec)*, in connection with the registration of up to 8,797,500 common shares of the Corporation (the "**Shares**") pursuant to a Registration Statement on Form F-1 (Registration No. 333-220755) (as amended to date, the "**Registration Statement**") filed with the Securities and Exchange Commission (the "**SEC**") under the Securities Act of 1933, as amended (the "**Securities Act**"), relating to the registration of common shares of the Corporation (the "**Shares**") to be issued by the Corporation pursuant to an underwriting agreement (the "**Underwriting Agreement**") to be entered into among the Corporation and The Benchmark Company, LLC, as representative of the other underwriters named on Schedule 1 thereto.

We have examined the Registration Statement and all such corporate and public records, statutes and regulations and have made such investigations and have reviewed such other documents as we have deemed relevant and necessary and have considered such questions of law as we have considered relevant and necessary in order to give the opinion hereinafter set forth. As to various questions of fact material to such opinions which were not independently established, we have relied upon a certificate of an officer of the Corporation.

In reviewing the foregoing documents and in giving this opinion, we have assumed the legal capacity of all individuals, the genuineness of all signatures, the veracity of the information contained therein, the authenticity of all documents submitted to us as originals and the conformity to authentic or original documents of all documents submitted to us as certified, conformed, electronic, photostatic or facsimile copies.

We are qualified to practice law in the Province of Québec and this opinion is rendered solely with respect to the Province of Québec and the federal laws of Canada applicable in the Province of Québec.

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On the basis of the foregoing, we are of the opinion that when the Shares shall have been issued and sold pursuant to the terms of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable.

We hereby consent to the reference to us under the heading "Legal Matters" in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement.

Yours very truly,

(signed) Osler, Hoskin & Harcourt LLP

Osler, Hoskin & Harcourt LLP