

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM S-3
REGISTRATION STATEMENT
UNDER

THE SECURITIES ACT OF 1933

Milestone Pharmaceuticals Inc.

(Exact name of registrant as specified in its charter)

Québec
(State or other jurisdiction of
incorporation or organization)

Not applicable
(I.R.S. Employer
Identification Number)

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

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Approximate Date of Commencement of Proposed Sale to the Public: From time to time after the effective date of the Registration Statement as the registrant shall determine.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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, please 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(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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

If an emerging growth company, 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.

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 or until the registration statement shall become effective on such date as the Commission acting pursuant to said section 8(a), may determine.

PROSPECTUS

13,888,850 Common Shares

This prospectus relates to the proposed offering and resale by the selling stockholders identified in this prospectus of up to an aggregate of 13,888,850 common shares, no par value, of Milestone Pharmaceuticals Inc., or Milestone, of which (a) 9,552,740 common shares are issuable upon the conversion of Milestone's senior secured convertible promissory notes, or the Notes, and (b) 4,336,110 additional common shares, which represents the maximum number of additional common shares issuable in connection with an adjustment to the conversion rate of the Notes if a holder of Notes exercises its conversion right upon the occurrence of certain transactions. The Notes were issued and sold to accredited investors in a private placement which closed on March 29, 2023. We are not selling any common shares under this prospectus and will not receive any of the proceeds from the sale or other disposition of the common shares by the selling stockholders.

We are paying the cost of registering the common shares covered by this prospectus as well as various related expenses. The selling shareholders are responsible for all selling commissions, transfer taxes and other costs related to shares underlying the Notes, if any.

Our common shares are listed on The Nasdaq Stock Market LLC, or Nasdaq, under the trading symbol "MIST." On May 12, 2023, the last reported sale price of our common shares on Nasdaq was \$4.40 per share.

The selling stockholders may sell common shares on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market, in one or more transactions otherwise than on these exchanges or systems, such as privately negotiated transactions, or using a combination of these methods, and at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. See the disclosure under the heading "Plan of Distribution" elsewhere in this prospectus for more information about how the selling stockholders may sell or otherwise dispose of their common shares hereunder.

The selling stockholders may sell any, all or none of the securities offered by this prospectus and we do not know when or in what amount the selling stockholders may sell their common shares hereunder following the effective date of the registration statement of which this prospectus forms a part.

We are an "emerging growth company" as defined under federal securities laws and, as such, have elected to comply with certain reduced public company reporting requirements. See "Summary Implications of Being an Emerging Growth Company and Smaller Reporting Company."

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading "Risk Factors" contained in the other documents that are incorporated by reference into this prospectus as described on page 8 of this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is May 15, 2023

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We have not authorized anyone to provide you with information other than that contained in or incorporated by reference into this prospectus to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give to you. You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front cover of the prospectus or that the information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference. Our business, financial condition, results of operations and prospects may have changed since those dates. The selling stockholders are not offering to sell, or seeking offers to buy, securities in any jurisdiction in which an offer or solicitation is not authorized or permitted or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

ABOUT THIS PROSPECTUS

Neither we nor the selling stockholders have authorized anyone to provide you with any information or to make any representation other than as may be contained in or incorporated by reference into this prospectus, any prospectus supplement or in any free writing prospectus that we may file with the Securities and Exchange Commission (the “SEC”). We do not, and the selling stockholders or the underwriters, if any, do not, take any responsibility for, and can provide no assurances as to, the reliability of any information that others may provide you. This prospectus and any applicable prospectus supplement or free writing prospectus do not constitute an offer to sell any securities in any jurisdiction where such offer and sale are not permitted. The information contained in or incorporated by reference into this prospectus or any prospectus supplement, free writing prospectus or other offering material is accurate only as of the respective dates of those documents or information, regardless of the time of delivery of the documents or information or the time of any sale of the securities. Neither the delivery of this prospectus or any applicable prospectus supplement nor any distribution of securities pursuant to such documents shall, under any circumstances, create any implication that there has been no change in the information set forth in this prospectus or any applicable prospectus supplement or in our affairs since the date of this prospectus or any applicable prospectus supplement.

This prospectus is part of a registration statement that we filed with the SEC utilizing a shelf registration process or continuous offering process. Under this shelf registration process, the selling stockholders may, from time to time, sell the securities described in this prospectus in one or more offerings. This prospectus provides you with a general description of the securities that may be offered, from time to time, by the selling stockholders. Each time a selling stockholder sells securities, such selling stockholder may be required to provide you with this prospectus and, in certain cases, a prospectus supplement containing specific information about such selling stockholder and the terms of the securities being offered. That prospectus supplement may include additional risk factors or other special considerations applicable to those securities. Any prospectus supplement may also add, update, or change information in the prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in that prospectus supplement.

You should read this prospectus and any prospectus supplement for a specific offering of securities, together with additional information described in the sections entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” below, before making an investment decision. You should rely only on the information contained in or incorporated by reference into this prospectus, any accompanying prospectus supplement or any free writing prospectus prepared by or on behalf of us to which we have referred you.

This prospectus and the information incorporated herein by reference contain summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading “Where You Can Find More Information.”

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains and any applicable prospectus supplement will contain forward-looking statements within the meaning of the federal securities laws about us and our industry that involve substantial risks and uncertainties. All statements other than statements of historical facts contained in this prospectus, including statements regarding our strategy, future financial condition, future operations, projected costs, prospects, plans, objectives of management and expected market growth, are forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. In some cases, you can identify forward-looking statements by terminology such as “aim,” “anticipate,” “assume,” “believe,” “contemplate,” “continue,” “could,” “design,” “due,” “estimate,” “expect,” “goal,” “intend,” “may,” “objective,” “plan,” “predict,” “positioned,” “potential,” “seek,” “should,” “target,” “will,” “would” and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology.

We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. These forward-looking statements are subject to a number of known and unknown risks, uncertainties and assumptions, including risks described in the section titled “Risk Factors” and elsewhere in this prospectus or any applicable prospectus supplement, regarding, among other things:

- the initiation, timing, progress and results of our current and future clinical trials of etripamil, including our Phase 3 clinical trials of etripamil for the treatment of paroxysmal supraventricular tachycardia, our Phase 2 clinical trial of etripamil for the treatment of atrial fibrillation with rapid ventricular rate, and of our research and development programs;
- our plans to develop and commercialize etripamil and any future product candidates;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our ability to develop and, if approved by regulatory authorities, commercialize etripamil in China and Taiwan through our license agreement with Ji Xing Pharmaceuticals;
- our ability to establish collaborations or obtain additional funding;
- our ability to obtain regulatory approval of our current and future product candidates;
- our expectations regarding the potential market size and the rate and degree of market acceptance of etripamil and any future product candidates;
- our ability to fund our working capital requirements and expectations regarding the sufficiency of our capital resources;
- the implementation of our business model and strategic plans for our business, etripamil and any future product candidates;
- our intellectual property position and the duration of our patent rights;
- developments or disputes concerning our intellectual property or other proprietary rights;
- our expectations regarding government and third-party payer coverage and reimbursement;
- our ability to compete in the markets we serve;
- the impact of government laws and regulations;
- developments relating to our competitors and our industry; and
- other factors that may impact our financial results.

The foregoing list of risks is not exhaustive. Other sections of this prospectus and any applicable prospectus supplement may include additional factors that could harm our business and financial performance. Moreover, we operate in a very competitive and rapidly changing environment. New risk factors emerge from time to time, and it is not possible for our management to predict all risk factors, nor

can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in, or implied by, any forward-looking statements.

In light of the significant uncertainties in these forward-looking statements, you should not rely upon forward-looking statements as predictions of future events. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur at all. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under the section entitled “Risk Factors” in this prospectus, as may be updated from time to time by our future filings under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and discussed elsewhere in this prospectus, or any applicable prospectus supplement and the documents incorporated by reference herein or therein. You should carefully review all of these factors. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. The Private Securities Litigation Reform Act of 1995 and Section 27A of the Securities Act of 1933, as amended, or the Securities Act, do not protect any forward-looking statements that we make in connection with this prospectus.

This prospectus may also contain estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information.

SUMMARY

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, including the risks of investing in our securities discussed under the heading “Risk Factors” contained in this prospectus or any applicable prospectus supplement and the documents incorporated by reference herein or therein. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements and related notes, and the exhibits to the registration statement of which this prospectus is a part, before making an investment decision.

Unless the context indicates otherwise, references in this prospectus to “Milestone,” “company,” “we,” “us” and “our” refer to Milestone Pharmaceuticals Inc. and its wholly-owned subsidiary Milestone Pharmaceuticals USA Inc.

Company Overview

We are a biopharmaceutical company focused on the development and commercialization of innovative cardiovascular medicines. Our lead product candidate etripamil is a novel and potent calcium channel blocker that we designed as a rapid-onset nasal spray to be self-administered by patients. We are developing etripamil for the treatment of specific arrhythmias with a lead indication to treat paroxysmal supraventricular tachycardia, or PSVT, and a subsequent indication to treat atrial fibrillation with rapid ventricular rate, or AFib-RVR.

PSVT is a highly symptomatic and impactful heart arrhythmia characterized by unpredictable attacks of a racing heart, often exceeding 150 beats per minute. Symptoms of PSVT often arise suddenly and include palpitations, sweating, chest pressure or pain, shortness of breath, sudden onset of fatigue, lightheadedness or dizziness, fainting, and anxiety, causing many patients to interrupt their daily activities at the time of symptom-onset. The impact and morbidity from an episode of PSVT can be especially detrimental in patients with underlying cardiovascular or medical conditions, such as heart failure, obstructive coronary disease, or dehydration. The uncertainty of when such an attack of PSVT will strike or how long it will persist is anxiety-provoking, reduces patients’ quality of life and prevents participation in many desired activities. Drugs approved for the treatment of PSVT attacks include adenosine, verapamil, and diltiazem, with all being administered intravenously under medical supervision, usually in the emergency department. Other oral drugs are sometimes used to treat attacks in a concept called “pill in the pocket.” However, those drugs have never been proven effective or safe and are not approved for this use. Doctors are frustrated by the lack of effective treatment options besides a prolonged, unpleasant, and costly trip to the emergency department or, for some patients, an invasive ablation procedure. PSVT is traumatic for patients, frustrating for healthcare providers, and costly for payers. With no pharmaceutical innovation in the treatment of PSVT for over 30 years and a movement in the healthcare system to enable patient centered care, there is an opportunity to help patients living with PSVT to take greater control over their PSVT attacks.

Atrial Fibrillation, or AFib, is a common form of arrhythmia with an irregular and often rapid heart rate that is often markedly symptomatic and, without proper treatment, can increase the risk of stroke, heart failure, and other cardiovascular complications. A common complication of AFib is a rapid ventricular rate, or AFib-RVR, which is frequently defined as a heart rate ≥ 110 beats per minute. The occurrence of a rapid ventricular rate in patients with atrial fibrillation increases the likelihood of symptoms including heart palpitations, shortness of breath and weakness. There are two commonly used pharmacological approaches to chronically manage AFib, rhythm control and rate control. Regardless of the chronic approach, when faced with an episode of AFib-RVR, acute rate control is called for most commonly in the form of oral AV-nodal targeted drugs such as a beta blocker or calcium channel blockers. However, these oral rate control drugs, when used acutely, do not adequately provide immediate ventricular rate control due to a 30- to 60-minute delayed onset of action, and, as a result, many patients seek faster and more certain rate reduction and symptom resolution by going to the emergency department for acute treatment utilizing intravenous rate control and/or electrical cardioversion of their atrial fibrillation. Similar to PSVT, patients feel a loss of control by needing to visit the emergency department for overcoming their atrial fibrillation attack, doctors are frustrated by the lack of options for patients to self-manage these acute rate attacks and payer organizations would prefer to treat the AFib-RVR attacks in a more cost effective and time-efficient manner.

Our objective is to develop and commercialize etripamil as a fast-acting nasal spray to be prescribed by the doctor so that the patient can carry etripamil with them for use wherever and whenever an attack occurs. We have completed patient conduct (last patient last visit) in the Phase 3 clinical trials for the lead indication and we plan to submit a New Drug Application, or NDA, for marketing approval in the United States for etripamil for the treatment of PSVT mid-2023. If approved, we believe that etripamil will provide the patient with a portable treatment to stop an attack in at-home and to reduce the reliance on the emergency department. We believe that this may help patients to live their lives with less concern over when their next PSVT attack will occur. For health care providers, etripamil could represent a new tool they can offer to their patients to better self-manage their PSVT attacks resulting in fewer calls to their office, a more efficient use of healthcare resources, and more empowered, satisfied patients.

Etripamil is currently in Phase 2 clinical development for assessing its safety and effectiveness in AFib-RVR. Similar to our approach for PSVT, we believe that etripamil has the potential to help the patient experiencing a symptomatic episode of AFib-RVR to self-manage their condition by conveniently, reliably and quickly reducing their elevated heart rate wherever and whenever the episode occurs, thereby reducing the need for emergency department utilization that many patients currently seek.

We believe that PSVT is a large and under-recognized market that we estimate affects approximately two million Americans and results in over 150,000 emergency department visits and hospital admissions and up to 80,000 ablations per year. From this diagnosed population, we define the target addressable market for etripamil as the 40 to 60% of patients who experience frequent and longer, moderate to severe episodes each year. After being exposed to the data from the RAPID clinical study in market research, cardiologists reported a willingness to prescribe etripamil to approximately 50% of the patients with PSVT in their care, which suggests 500,000 to 800,000 patients can potentially be treated with etripamil in the peak year. Additionally, we believe that these target patients will use etripamil to treat a median of five episodes per year based on the projected number of longer or more intense episodes (self-reported) experienced by the patient. This implies demand in the US for etripamil of 2.5 million to 4 million episodes treated in the peak year.

The American Heart Association estimates a prevalence for AFib of seven million by 2030, while the Centers for Disease Control (CDC) reports this prevalence as increasing to 12 million over the same time period. According to the Healthcare and Utilization Project, AFib resulted in 660,000 patient visits to the emergency department and 465,000 admissions to the hospital in 2016. From market research we estimate the target addressable market for etripamil in patients with AFib and rapid ventricular rate (RVR) as approximately 30 to 40% of the diagnosed prevalent population, defined as patients experiencing at least one symptomatic episode of AFib-RVR requiring treatment per year.

Corporate Information

We were incorporated under the Canada Business Corporations Act in 2003 and continued under the Business Corporations Act (Québec) in 2017. Our principal executive offices are located at 1111 Dr. Frederik-Philips Blvd., Suite 420, Montréal, Québec, Canada H4M 2X6, and our telephone number is (514) 336-0444. In January 2017, we incorporated our wholly owned subsidiary, Milestone Pharmaceuticals USA, Inc., a Delaware corporation. Our corporate website address is www.milestonepharma.com. Information contained on, or accessible through, our website is not a part of this prospectus. We have included our website in this prospectus solely as an inactive textual reference.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We are an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to take advantage of specified reduced reporting and other burdens that are otherwise applicable generally to public companies, including:

- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements;

- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- not being required to hold a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may take advantage of these reporting exemptions until we are no longer an emerging growth company. We will remain an emerging growth company until the earlier of: (i) December 31, 2024; (ii) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.235 billion; (iii) the last day of the fiscal year in which we are deemed to be a large accelerated filer, which means the market value of our common shares held by non-affiliates exceeds \$700 million as of June 30 of such fiscal year; or (iv) the date on which we have issued more than \$1 billion in non-convertible debt during the prior three-year period. We may choose to take advantage of some or all of these available exemptions. We have taken advantage of some reduced reporting requirements in our public filings. Accordingly, the information that we provide stockholders may be different than the information you receive from other public companies in which you hold stock.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt new or revised accounting standards as other public companies that are not emerging growth companies.

We are also a smaller reporting company as defined in the Securities Exchange Act of 1934, as amended, or the Exchange Act. We may continue to be a smaller reporting company even after we are no longer an emerging growth company. We may take advantage of certain of the scaled disclosures available to smaller reporting companies and will be able to take advantage of these scaled disclosures for so long as (i) our voting and non-voting common shares held by nonaffiliates is less than \$250.0 million measured on the last business day of our second fiscal quarter or (ii) our annual revenue is less than \$100.0 million during the most recently completed fiscal year and our voting and non-voting common shares held by non-affiliates is less than \$700.0 million measured on the last business day of our second fiscal quarter.

Convertible Promissory Notes

On March 27, 2023, we entered into a note purchase agreement, or the Note Purchase Agreement, with RTW Investments, LP, or RTW, and certain of its affiliates. On March 29, 2023, we closed the transaction contemplated by the Note Purchase Agreement and issued and sold the \$50 million principal amount of 6.0% Convertible Senior Notes due 2029 to the holders in a private placement transaction.

The Notes are our senior secured obligations and are guaranteed on a senior secured basis by our wholly owned subsidiary, Milestone Pharmaceuticals USA, Inc. Interest at the annual rate of 6.0% is payable quarterly in cash or, at our option, payable in kind for the first three years. The maturity date for the Notes will be March 31, 2029, or the Maturity Date. The obligations under the Notes are secured by substantially all of our and our subsidiary guarantor's assets.

Each \$1,000 of principal of the Notes (including any interest added thereto as payment in kind) is convertible into 191.0548 shares of our common shares, equivalent to an initial conversion price of approximately \$5.23 per share, subject to customary anti-dilution adjustments. In addition, following a notice of redemption or certain corporate events that occur prior to the Maturity Date, we will, in certain circumstances, increase the conversion rate for a Holder who elects to convert its Notes in connection with such notice of redemption or corporate event.

Subject to specified conditions, on or after March 27, 2027, the Notes are redeemable by us if the closing sale price of the common shares exceeds 150% of the conversion price then in effect for at least 20 trading days (whether or not consecutive), including the trading day immediately preceding the date on which we provide notice of redemption, during any 30 consecutive trading day period ending on, and

including, the trading day immediately preceding the date on which we provide notice of redemption, at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date.

The Note Purchase Agreement contains customary terms and covenants, including negative covenants, such as limitations on indebtedness, liens, disposition of royalty interest and mergers. The Note Purchase Agreement also contains customary events of default, including defaults related to payment compliance, material inaccuracy of representations and warranties, covenant compliance, bankruptcy and insolvency proceedings, cross defaults to certain other agreements, judgment default and certain clinical trial failures.

RISK FACTORS

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, in addition to the other information, documents or reports included in or incorporated by reference into this prospectus you should carefully consider the risk factors in the section entitled “Risk Factors” contained in our most recent Annual Report on Form 10-K, as updated by our subsequent Quarterly Reports on Form 10-Q and other filings we make with the SEC, which are incorporated by reference herein, any prospectus supplement and any free writing prospectus that we may authorize. For additional information, see the section entitled “Where You Can Find Additional Information. The risks described in these documents are not the only ones we face, but those that we consider to be material. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. Past financial performance may not be a reliable indicator of future performance, and historical trends should not be used to anticipate results or trends in future periods. If any of these risks actually occur, our business, financial condition, results of operations, cash flows or prospects could be seriously harmed. This could cause the trading price of our common shares to decline, resulting in a loss of all or part of your investment. Please also read carefully the section below entitled “Note Regarding Forward-Looking Statements.”

Risks Related to this Offering

The sale or availability for sale of shares issuable upon conversion of the Notes may depress the price of our common shares and encourage short sales by third parties, which could further depress the price of our common shares.

To the extent that the selling stockholders sell our common shares issued upon conversion of the Notes, the market price of such shares may decrease due to the additional selling pressure in the market. In addition, the dilution from issuances of such shares may cause stockholders to sell their common shares, which could further contribute to any decline in the price of our common shares. Any downward pressure on the price of our common shares caused by the sale or potential sale of such shares could encourage short sales by third parties. Such sales could place downward pressure on the price of our common shares by increasing the number of our common shares being sold, which could further contribute to any decline in the market price of our common shares.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of common shares in this offering. The selling stockholders will receive all of the proceeds from this offering.

We will bear the out-of-pocket costs, expenses and fees incurred in connection with the registration of the common shares underlying the Notes to be sold by the selling stockholders pursuant to this prospectus. Other than registration expenses, the selling stockholders will bear the underwriting discounts, commissions, placement agent fees or other similar expenses payable with respect to the common shares underlying the Notes, if any.

DESCRIPTION OF SECURITIES

Description of Capital Stock

The following is a description of our common shares. The following description is intended as a summary only and is qualified in its entirety by reference to our articles of incorporation and amendments thereto and our bylaws and to the applicable provisions of the Business Corporations Act (Québec) (QBCA). Copies of our articles of incorporation and bylaws may be obtained as described under the heading “Where You Can Find Additional Information” in this prospectus.

General

Our authorized share capital consists of an unlimited number of common shares, no par value per share, and an unlimited number of preferred shares, no par value per share, which are issuable in one or more series.

Common Shares

Voting Rights

Under our articles of incorporation, the holders of common shares are entitled to one vote for each share held at any meeting of our shareholders.

Dividends

Subject to the prior rights of holders of our preferred shares, if applicable, the holders of common shares are entitled to receive dividends as and when declared by our board of directors. We have never declared or paid cash dividends on our share capital, and we do not currently intend to pay any cash dividends on our share capital in the foreseeable future. We currently intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business. Any future determination related to dividend policy will be made at the discretion of our board of directors, subject to applicable laws, and will depend upon, among other factors, our results of operations, financial condition, contractual restrictions and capital requirements. In addition, our ability to pay cash dividends on our share capital in the future may be limited by the terms of any future debt or preferred securities we issue or any credit facilities we enter into.

Liquidation

Subject to the prior payment to holders of our preferred shares, if any, in the event of our liquidation, dissolution or winding-up or other distribution of our assets among our shareholders, the holders of common shares are entitled to share pro rata in the distribution of the balance of our assets.

Rights and Preferences

The holders of common shares have no preemptive, conversion rights or other subscription rights. There are no redemption or sinking fund provisions applicable to our common shares. There is no provision in our articles of incorporation requiring the holders of common shares to contribute additional capital or permitting or restricting the issuance of additional securities or any other material restrictions. The rights, preferences and privileges of the holders of common shares may be subject to, and adversely affected by, the rights of the holders of any series of preferred shares that we may designate in the future.

As of May 11, 2023, 33,357,720 of our common shares were issued and outstanding.

Preferred Shares

We do not have any preferred shares outstanding. Under our articles of incorporation, we are authorized to issue, without shareholder approval, an unlimited number of preferred shares, issuable in one or more series, and, subject to the provisions of the QBCA, having such designations, rights, privileges, restrictions and conditions, including dividend and voting rights, as our board of directors may determine, and such

rights and privileges, including dividend and voting rights, may be superior to those of the common shares. The issuance of preferred shares, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of our company and might adversely affect the market price of our common shares and the voting and other rights of the holders of common shares. We have no current plans to issue any preferred shares.

Registration Rights

Holders of certain of the common shares issued upon the conversion of our preferred shares in connection with our initial public offering on May 13, 2019 are entitled to certain rights with respect to registration of any securities held by such investors, as well as any under the Securities Act. These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights pursuant to the terms of our third amended and restated registration rights agreement and are described below. The registration of common shares pursuant to the exercise of the registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses, other than underwriting discounts, selling commissions and share transfer taxes for the shares registered pursuant to the demand, piggyback and Form S-3 registrations described below. Expenses relating to underwriting discounts, selling commissions and share transfer taxes for the shares registered will be borne by us and the participating holders in proportion to the number of common shares sold by each, or, as between the participating holders, as such participating holders may otherwise agree.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions, to limit the number of shares the holders may include. The demand, piggyback and Form S-3 registration rights described below will expire upon the earliest of (i) the occurrence of certain mergers or consolidations of the company, (ii) the date on which the shares that are the subject to the agreement are publicly sold, or if they may be publicly sold: (x) pursuant to Rule 144 of the Securities Act and (y) Section 2.5 of Regulation 45-102 respecting Resale of Securities, as adopted by the Canadian Securities Administrators, and (iii) five years after the completion of our initial public offering.

Demand Registration Rights

Certain holders of the common shares issued upon conversion of our preferred shares are entitled to certain demand registration rights. These demand rights permit holders of at least 25% of the registrable securities then outstanding, on not more than two occasions, to request that we register all or a portion of their shares, subject to certain specified exceptions, pursuant to either the Securities Act, Regulation 41-101 respecting General Prospectus Requirements, as adopted by Canadian Securities Administrators or both.

Piggyback Registration Rights

Holders of certain of the common shares issued upon conversion of our preferred shares are entitled to include their shares of registrable securities in any registration statement we file in the event that we propose to register any of our securities under the Securities Act in an offering, either for our own account or for the account of other security holders, subject to specified conditions and limitations.

S-3 Registration Rights

Holders of certain of the common shares issued upon conversion of our preferred shares are entitled to certain Form S-3 registration rights. The holders of at least 25% of the registrable securities then outstanding may, on not more than two occasions within any 12-month period, request that we register all or a portion of their shares on Form S-3 or a form under the Canada-United States Multijurisdictional Disclosure System, or the MJDS, if we are qualified to file a registration statement on Form S-3 or the MJDS, as applicable, subject to specified exceptions. Such request for registration on Form S-3 must cover securities with an aggregate offering price which equals or exceeds \$10.0 million. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Indemnification

The third amended and restated registration rights agreement contains customary cross-indemnification provisions, pursuant to which we are obligated to indemnify the selling shareholders in the event of material misstatements or omissions in the registration statement attributable to us, and they are obligated to indemnify us for material misstatements or omissions in the registration statement attributable to them.

Transfer Agent and Registrar

Our transfer agent and registrar for our common shares is Computershare Investor Services Inc., with an address of 1500 Robert-Bourassa Boulevard, 7th Floor, Montréal, Quebec H3A 3S8.

Nasdaq Global Market Listing

Our common shares are listed on The Nasdaq Global Market under the trading symbol “MIST.”

**MATERIAL DIFFERENCES BETWEEN THE BUSINESS CORPORATIONS ACT (QUÉBEC) AND THE
DELAWARE GENERAL CORPORATION LAW**

We are governed by the QBCA, which is generally similar to laws applicable to U.S. corporations. Significant differences between the QBCA and the Delaware General Corporation Law, or DGCL, which governs companies incorporated in the State of Delaware, include the differences summarized below. This summary is not an exhaustive review of the two statutes, and reference should be made to the full text of both statutes for particulars of the differences.

	<u>Delaware</u>	<u>QBCA</u>
<i>Number and Election of Directors</i>	Under the DGCL, the board of directors must consist of at least one director. The number of directors shall be fixed by the bylaws of the corporation, unless the certificate of incorporation fixes the number of directors, in which case a change in the number of directors shall only be made by an amendment of the certificate of incorporation. Under the DGCL, directors are elected at annual stockholder meetings by plurality vote of the stockholders, unless a shareholder- adopted bylaw prescribes a different required vote.	Under the QBCA, the board of directors of a corporation must consist of at least three members, at least two of whom must not be officers or employees of the corporation or an affiliate of the corporation, so long as the corporation remains a “reporting issuer” for purposes of the QBCA, which includes a corporation that has made a distribution of securities to the public. Under the QBCA, directors are elected by the shareholders, in the manner and for the term, not exceeding three years, set out in the corporation’s bylaws. Our bylaws provide that our directors are elected at each annual meeting of shareholders at which such an election is required.
<i>Removal of Directors</i>	Under the DGCL, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors, except (i) unless the certificate of incorporation provides otherwise, in the case of a corporation whose board of directors is classified, stockholders may effect such removal only for cause, or (ii) in the case of a corporation having cumulative voting, if less than the entire board of directors is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire board of directors, or, if there are classes of	Under the QBCA, unless the articles of a corporation provide for cumulative voting (which is not the case for us), shareholders of the corporation may, by resolution passed by a majority of the vote cast thereon at a special meeting of shareholders, remove any or all directors from office and may elect any qualified person to fill the resulting vacancy.

	Delaware	QBCA
	<p>directors, at an election of the class of directors of which he is a part.</p>	
<i>Vacancies on the Board of Directors</i>	<p>Under the DGCL, vacancies and newly created directorships may be filled by a majority of the directors then in office (even though less than a quorum) or by a sole remaining director unless (i) otherwise provided in the certificate of incorporation or bylaws of the corporation or (ii) the certificate of incorporation directs that a particular class of stock is to elect such director, in which case a majority of the other directors elected by such class, or a sole remaining director elected by such class, will fill such vacancy.</p>	<p>Under the QBCA, vacancies that exist on the board of directors may generally be filled by the board if the remaining directors constitute a quorum. In the absence of a quorum, the remaining directors shall call a meeting of shareholders to fill the vacancy. If the directors refuse or fail to call a meeting or if there are no directors then in office, the meeting may be called by any shareholder.</p>
<i>Board of Director Quorum and Vote Requirements</i>	<p>Under the DGCL, a majority of the total number of directors shall constitute a quorum for the transaction of business unless the certificate of incorporation or bylaws require a greater number. The bylaws may lower the number required for a quorum to one-third the number of directors, but no less.</p> <p>Under the DGCL, the board of directors may take action by the majority vote of the directors present at a meeting at which a quorum is present unless the certificate of incorporation or bylaws require a greater vote.</p>	<p>Under the QBCA, subject to the corporation's bylaws, a majority of the directors in office constitutes a quorum at any meeting of the board. Our bylaws also provide that a majority of the directors in office constitutes a quorum at any meeting of the board.</p> <p>Under the QBCA, a quorum of directors may exercise all the powers of the directors despite any vacancy on the board.</p>
<i>Transactions with Directors and Officers</i>	<p>The DGCL generally provides that no transaction between a corporation and one or more of its directors or officers, or between a corporation and any other corporation or other organization in which one or more of its directors or officers, are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the board or</p>	<p>Under the QBCA, every director or officer of a corporation must disclose the nature and value of any interest he or she has in a contract or transaction to which the corporation is a party. For the purposes of this rule, "interest" means any financial stake in a contract or transaction that may reasonably be considered likely to influence decision-making. Furthermore, a proposed contract or a proposed transaction, including related</p>

Delaware	QBCA
<p>committee which authorizes the transaction, or solely because any such director's or officer's votes are counted for such purpose, if (i) the material facts as to the director's or officer's interest and as to the transaction are known to the board of directors or the committee, and the board or committee in good faith authorizes the transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum (ii) the material facts as to the director's or officer's interest and as to the transaction are disclosed or are known to the stockholders entitled to vote thereon, and the transaction is specifically approved in good faith by vote of the stockholders; or (iii) the transaction is fair as to the corporation as of the time it is authorized, approved or ratified, by the board of directors, a committee or the stockholders.</p>	<p>negotiations, is considered a contract or transaction. In addition, a director or an officer must disclose any contract or transaction to which the corporation and any of the following are a party: (i) an associate of the director or officer; (ii) a group of which the director or officer is a director or officer; or (iii) a group in which the director or officer or an associate of the director or officer has an interest. Such disclosure is required even for a contract or transaction that does not require approval by the board of directors. If a director is required to disclose his or her interest in a contract or transaction, such director is not allowed to vote on any resolution to approve, amend or terminate the contract or transaction or be present during deliberations concerning the approval, amendment or termination of such contract or transaction, unless the contract or transaction (i) relates primarily to the remuneration of the director or an associate of the director as a director, officer, employee or mandatory of the corporation or an affiliate of the corporation, (ii) is for indemnity or liability insurance under the QBCA, or (iii) is with an affiliate of the corporation, and the sole interest of the director is as a director or officer of the affiliate.</p> <p>If a director or officer does not disclose his or her interest in accordance with the QBCA, or (in the case of a director) votes in respect of a resolution on a contract or transaction in which he or she is interested contrary to the QBCA, the corporation or a shareholder may ask the court to declare the contract or transaction null and to require the director or officer to account to the corporation for any profit</p>

	Delaware	QBCA
<i>Limitation on Liability of Directors</i>	<p>Under the DGCL, a corporation's certificate of incorporation may include a provision eliminating or limiting the personal liability of a director to the corporation and its stockholders for damages arising from a breach of fiduciary duty as a director. However, no provision can limit the liability of a director for:</p> <ul style="list-style-type: none"> • breach of the director's duty of loyalty to the corporation or its stockholders; 	<p>or gain realized on it by the director or officer or the associates of the director or officer, and to remit the profit or gain to the corporation, according to the conditions the court considers appropriate. However, the contract or transaction may not be declared null if it was approved by the board of directors and the contract or transaction was in the interest of the corporation when it was approved, nor may the director or officer concerned, in such a case, be required to account for any profit or gain realized or to remit the profit or gain to the corporation. In addition, the contract or transaction may not be declared null if it was approved by ordinary resolution by the shareholders entitled to vote who do not have an interest in the contract or transaction, the required disclosure was made to the shareholders in a sufficiently clear manner and the contract or transaction was in the best interests of the corporation when it was approved, and if the director or officer acted honestly and in good faith, he or she may not be required to account for the profit or gain realized and to remit the profit or gain to the corporation.</p> <p>The QBCA does not permit the limitation of a director's liability as the DGCL does.</p>

	<u>Delaware</u>	<u>QBCA</u>
	<ul style="list-style-type: none"> • acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of the law; • intentional or negligent payment of unlawful dividends or stock purchases or redemptions; or • for any transaction from which the director derived an improper personal benefit. 	
<i>Indemnification of Directors and Officers</i>	<p>The DGCL permits indemnification for derivative suits only for expenses (including legal fees) and only if the person is not found liable, unless a court determines the person is fairly and reasonably entitled to the indemnification.</p>	<p>Under the QBCA, a corporation must indemnify a director or officer, a former director or officer or a person who acts or acted at the corporation's request as a director or officer, or an individual acting in a similar capacity of another group (who is referred to in this document as an indemnifiable person) against all costs, charges and expenses, including an amount paid to settle an action or satisfy a judgment, reasonably incurred by the indemnifiable person on the exercise of the person's functions or arising from any investigative or other proceeding in which the person is involved if:</p> <ul style="list-style-type: none"> • the person acted honestly and loyally in the interest of the corporation or other group, and • in the case of a proceeding enforceable by a monetary penalty, the person had reasonable grounds for believing the person's conduct was lawful. <p>In the case of a derivative action, indemnity may be made only with court approval.</p>
<i>Call and Notice of Shareholder Meetings</i>	<p>Under the DGCL, an annual or special stockholder meeting is held on such date, at such time and at such place as may be designated by the board of directors or any other person authorized to call such meeting</p>	<p>Under the QBCA, an annual meeting of shareholders must be held no later than 15 months after holding the last preceding annual meeting. Under the QBCA, the directors of a corporation may call a special</p>

	<u>Delaware</u>	<u>QBCA</u>
	<p>under the corporation's certificate of incorporation or bylaws. If an annual meeting for election of directors is not held on the date designated or an action by written consent to elect directors in lieu of an annual meeting has not been taken within 30 days after the date designated for the annual meeting, or if no date has been designated, for a period of 13 months after the later of the last annual meeting or the last action by written consent to elect directors in lieu of an annual meeting, the Delaware Court of Chancery may summarily order a meeting to be held upon the application of any stockholder or director.</p>	<p>meeting at any time. In addition, holders of not less than 10% of the issued shares of a corporation that carry the right to vote at a meeting sought to be held may requisition the directors to call a meeting of shareholders for the purposes stated in the requisition.</p>
<i>Shareholder Nominations and Proposals</i>	Not applicable.	<p>Under the QBCA, a shareholder entitled to vote at a shareholders' meeting may submit a shareholder proposal relating to matters which the shareholder wishes to propose and discuss at an annual shareholders' meeting and, subject to such shareholder's compliance with the prescribed time periods and other requirements of the QBCA pertaining to shareholder proposals, the corporation is required to include such proposal in the information circular pertaining to any annual meeting at which it solicits proxies, subject to certain exceptions. Notice of such a proposal must be provided to the corporation at least 90 days before the anniversary date of the</p>
<i>Shareholder Action by Written Consent</i>	<p>Under the DGCL, a majority of the stockholders of a corporation may act by written consent without a meeting unless such action is prohibited by the corporation's certificate of incorporation.</p>	<p>Under the QBCA, a written resolution signed by all the shareholders of a corporation who would have been entitled to vote on the resolution at a meeting is effective to approve the resolution.</p>

	Delaware	QBCA
<i>Shareholder Nominations and Proposals</i>	Not applicable.	<p>Under the QBCA, a shareholder entitled to vote at a shareholders' meeting may submit a shareholder proposal relating to matters which the shareholder wishes to propose and discuss at an annual shareholders' meeting and, subject to such shareholder's compliance with the prescribed time periods and other requirements of the QBCA pertaining to shareholder proposals, the corporation is required to include such proposal in the information circular pertaining to any annual meeting at which it solicits proxies, subject to certain exceptions. Notice of such a proposal must be provided to the corporation at least 90 days before the anniversary date of the notice of meeting for the last annual shareholders' meeting.</p> <p>In addition, the QBCA requires that any shareholder proposal that includes nominations for the election of directors must be signed by one or more holders of shares representing in the aggregate not less than five per cent of the shares or five per cent of the shares of a class of shares of the corporation entitled to vote at the meeting to which the proposal is to be presented.</p> <p>Our bylaws require shareholders wishing to nominate directors or propose business for a meeting of shareholders to give timely advance notice in writing, as described in our bylaws.</p>
<i>Shareholder Quorum and Vote Requirements</i>	Under the DGCL, quorum for a stock corporation is a majority of the shares entitled to vote at the meeting unless the certificate of incorporation or bylaws specify a different quorum, but in no event may a quorum be less than one-third of the shares entitled to vote. Unless the DGCL, certificate of incorporation or bylaws provide for a greater vote,	Under the QBCA, unless the bylaws otherwise provide, the holders of a majority of the shares of a corporation entitled to vote at a meeting of shareholders, whether present in person or represented by proxy, constitute a quorum.

	Delaware	QBCA
<i>Amendment of Certificate of Incorporation</i>	<p>generally the required vote under the DGCL is a majority of the shares present in person or represented by proxy, except for the election of directors which requires a plurality of the votes cast.</p> <p>Generally, under the DGCL, the affirmative vote of the holders of a majority of the outstanding stock entitled to vote is required to approve a proposed amendment to the certificate of incorporation, following the adoption of the amendment by the board of directors of the corporation, provided that the certificate of incorporation may provide for a greater vote. Under the DGCL, holders of outstanding shares of a class or series are entitled to vote separately on an amendment to the certificate of incorporation if the amendment would have certain consequences, including changes that adversely affect the rights and preferences of such class or series.</p>	<p>Under the QBCA, amendments to the articles generally require the approval of not less than two-thirds of the votes cast by shareholders entitled to vote on the resolution. Specified amendments may also require the separate approval of other classes of shares. If the amendment is of a nature affecting a particular class or series in a manner requiring a separate class or series vote, that class or series is entitled to vote on the amendment whether or not it otherwise carries the right to vote.</p>
<i>Amendment of Bylaws</i>	<p>Under the DGCL, after a corporation has received any payment for any of its stock, the power to adopt, amend or repeal bylaws shall be vested in the stockholders entitled to vote; provided, however, that any corporation may, in its certificate of incorporation, provide that bylaws may be adopted, amended or repealed by the board of directors. The fact that such power has been conferred upon the board of directors shall not divest the stockholders of the power nor limit their power to adopt, amend or repeal the bylaws.</p>	<p>Under the QBCA, the directors may, by resolution, make, amend or repeal any bylaws that regulates the business or affairs of the corporation. Where the directors make, amend or repeal a bylaw, they are required under the QBCA to submit that action to the shareholders at the next meeting of shareholders and the shareholders may ratify, reject or amend that action by ordinary resolution. If the action is rejected by shareholders, or the directors of a corporation do not submit the action to the shareholders at the next meeting of shareholders, the action in respect of the bylaws will cease to be effective, and no subsequent resolution of the directors to make, amend or repeal a bylaw having substantially the same</p>

	Delaware	QBCA
<i>Votes on Amalgamations, Mergers, Consolidations and Sales of Assets</i>	The DGCL provides that, unless otherwise provided in the certificate of incorporation or bylaws, the adoption of a merger agreement requires the approval of a majority of the outstanding stock of the corporation entitled to vote thereon.	<p>purpose or effect will be effective until it is confirmed.</p> <p>Under the QBCA, certain extraordinary corporate actions, such as amalgamations (other than with certain affiliated corporations), continuances and sales, leases or exchanges of the property of a corporation if as a result of such alienation the corporation would be unable to retain a significant part of its business activities, and other extraordinary corporate actions such as liquidations, dissolutions and (if ordered by a court) arrangements, are required to be approved by “special resolution.”</p> <p>A “special resolution” is a resolution passed by not less than two-thirds of the votes cast by the shareholders who voted in respect of the resolution or signed by all shareholders entitled to vote on the resolution. In specified cases, a special resolution to approve the extraordinary corporate action is also required to be approved separately by the holders of a class or series of shares, including in certain cases a class or series of shares not otherwise carrying voting rights.</p>
<i>Dissenter’s Rights of Appraisal</i>	Under the DGCL, a stockholder of a Delaware corporation generally has the right to dissent from, merger or consolidation in which the Delaware corporation is participating, subject to specified procedural requirements, including that such dissenting stockholder does not vote in favor of the merger or consolidation. However, the DGCL does not confer appraisal rights, in certain circumstances, including if the dissenting stockholder owns shares traded on a national securities exchange and will receive publicly traded shares in the merger or consolidation. Under the DGCL,	<p>The QBCA provides that shareholders of a corporation are entitled to exercise dissent rights (called “the right to demand the repurchase of shares”) and to be paid the fair value of their shares in connection with specified matters, including:</p> <ul style="list-style-type: none"> • amalgamation with another corporation (other than with certain affiliated corporations); • amendment to the corporation’s articles to add, change or remove any provisions restricting or constraining the transfer of shares;

	<u>Delaware</u>	<u>QBCA</u>
	<p>a stockholder asserting appraisal rights does not receive any payment for his or her shares until the court determines the fair value or the parties otherwise agree to a value. The costs of the proceeding may be determined by the court and assessed against the parties as the court deems equitable under the circumstances.</p>	<ul style="list-style-type: none"> • amendment to the corporation’s articles to add, change or remove any restriction upon the businesses or businesses that the corporation may carry on; • continuance under the laws of a jurisdiction other than Québec; • alienation of the property of the corporation or of its subsidiaries if, as a result of such alienation, the corporation is unable to retain a significant part of its business activity; • a court order permitting a shareholder to exercise his right to demand the repurchase of his shares in connection with an application to the court for an order approving an arrangement proposed by the corporation; • certain amendments to the articles of a corporation which require a separate class or series vote by a holder of shares of any class or series.
<i>Oppression Remedy</i>	<p>The DGCL does not provide for a similar remedy.</p>	<p>The QBCA provides an oppression remedy (called “rectification of abuse of power or iniquity”) that enables a court to make any order, whether interim or final, to rectify matters that are oppressive or unfairly prejudicial to the interests of any securityholder, director or officer of the corporation if an application is made to a court by an “applicant”. An “applicant” with respect to a corporation means any of the following:</p> <ul style="list-style-type: none"> • a present or former registered holder or beneficiary of securities of the corporation or any of its affiliates; • a present or former officer or director of the corporation or any of its affiliates; and • any other person who in the discretion of the court has the

	Delaware	QBCA
<i>Shareholder Derivative Actions</i>	<p>Under the DGCL, stockholders may bring derivative actions on behalf of, and for the benefit of, the corporation. The plaintiff in a derivative action on behalf of the corporation either must be or have been a stockholder of the corporation at the time of the transaction or must be a stockholder who became a stockholder by operation of law in the transaction regarding which the stockholder complains. A stockholder may not sue derivatively on behalf of the corporation unless the stockholder first makes demand on the corporation that it bring suit and the demand is refused, unless it is shown that making the demand would have been a futile act.</p>	<p>interest required to make the application.</p> <p>The oppression remedy provides the court with very broad and flexible powers to intervene in corporate affairs to protect shareholders and other complainants. While conduct that is in breach of fiduciary duties of directors or that is contrary to the legal right of a complainant will normally trigger the court’s jurisdiction under the oppression remedy, the exercise of that jurisdiction does not depend on a finding of a breach of those legal and equitable rights.</p> <p>Furthermore, the court may order a corporation to pay the interim expenses of an applicant seeking an oppression remedy, but the applicant may be held accountable for interim costs on final disposition of the complaint (as in the case of a derivative action as described in “Shareholder Derivative Actions” below).</p> <p>Under the QBCA, an applicant may apply to a Québec court for leave to bring an action in the name of, and on behalf of, the corporation or any subsidiary, or to intervene in an existing action to which the corporation or any of its subsidiaries is a party, for the purpose of prosecuting, defending or discontinuing an action on behalf of the corporation or its subsidiary. Under the QBCA, no action may be brought and no intervention in an action may be made unless a court is satisfied that:</p> <ul style="list-style-type: none"> the applicant has given the required 14-day notice to the directors of the corporation or the subsidiary of the shareholder’s intention to apply to the court if the directors do not bring, diligently prosecute

	Delaware	QBCA
<i>Anti-Takeover and Ownership Provisions</i>	<p>Unless an issuer opts out of the provisions of Section 203 of the DGCL, Section 203 generally prohibits a public Delaware corporation from engaging in a “business combination” with a holder of 15% or more of the corporation’s voting stock (as defined in Section 203), referred to as an interested stockholder, for a period of three years after the date of the transaction in which the interested stockholder became an interested stockholder, except as otherwise provided in Section 203. For these purposes, the term “business combination” includes mergers, assets sales and other similar transactions with an interested stockholder.</p>	<p>or defend or discontinue the action;</p> <ul style="list-style-type: none"> • the applicant is acting in good faith; and • it appears to be in the interests of the corporation or the relevant subsidiary that the action be brought, prosecuted, defended or discontinued. <p>Under the QBCA, the court in a derivative action may make any order it thinks fit. In addition, under the QBCA, a court may order the corporation or its relevant subsidiary to pay the applicant’s interim costs, including reasonable legal fees and disbursements.</p> <p>While the QBCA does not contain specific anti- takeover provisions with respect to “business combinations,” rules and policies of certain Canadian securities regulatory authorities, including Multilateral Instrument 61-101 — Protection of Minority Security Holders in Special Transactions contain requirements in connection with, among other things, “related party transactions” and “business combinations”, including, among other things, any transaction by which an issuer directly or indirectly engages in the following with a related party: acquires, sells, leases or transfers an asset, acquires the related party, acquires or issues treasury securities, amends the terms of a security if the security is owned by the related party or assumes or becomes subject to a liability or takes certain other actions with respect to debt.</p> <p>The term “related party” includes directors, senior officers and holders of more than 10% of the voting rights attached to all outstanding voting securities of the issuer or holders of a</p>

Delaware

QBCA

sufficient number of any securities of the issuer to materially affect control of the issuer.

Multilateral Instrument 61-101 requires, subject to certain exceptions, the preparation of a formal valuation relating to certain aspects of the transaction and more detailed disclosure in the proxy material sent to security holders in connection with a related party transaction including related to the valuation.

Multilateral Instrument 61-101 also requires, subject to certain exceptions, that an issuer not engage in a related party transaction unless the shareholders of the issuer, other than the related parties, approve the transaction by a simple majority of the votes cast.

SELLING STOCKHOLDERS

This prospectus covers the possible resale or other disposition from time to time by the selling stockholders identified in the table below of up to an aggregate of 13,888,850 of our common shares, no par value, of which (a) 9,552,740 common shares are issuable upon the conversion of the Notes and (b) 4,336,110 common shares, which represents the maximum number of additional common shares issuable in connection with an adjustment to the conversion rate of the Notes if a holder of Notes exercises its conversion right upon the occurrence of certain transactions.

On March 29, 2023, the Company closed the transaction contemplated by the Note Purchase Agreement and issued and sold the \$50 million principal amount of 6.0% Convertible Senior Notes due 2029 to the holders in a private placement transaction. The Notes are senior secured obligations and are guaranteed on a senior secured basis by our wholly owned subsidiary, Milestone Pharmaceuticals USA, Inc. Each \$1,000 of principal of the Notes (including any interest added thereto as payment in kind) is convertible into 191.0548 shares of our common shares, equivalent to an initial conversion price of approximately \$5.23 per share, subject to customary anti-dilution and other adjustments. Subject to specified conditions, on or after March 27, 2027, the Notes are redeemable by us subject to certain conditions, at a redemption price equal to 100% of the principal amount of the Notes to be redeemed, plus accrued and unpaid interest to, but excluding, the redemption date. This prospectus covers the resale or other disposition by the selling stockholders or their transferees of up to the total number of common shares issuable upon conversion of the Notes.

We are registering the above-referenced shares to permit the selling stockholders and its pledgees, donees, transferees or other successors-in-interest that receive their shares after the date of this prospectus to resell or otherwise dispose of the shares in the manner contemplated under “Plan of Distribution” herein.

The following table sets forth the name of the selling stockholders, the maximum number of shares issuable to each selling stockholder upon conversion of the Notes, the number of shares that may be offered under this prospectus and the number of common shares that would be beneficially owned by such selling stockholder assuming all of the shares registered for resale hereby are sold. The number of shares in the column “Number of Shares Being Offered” represents all of the shares that each selling stockholder may offer under this prospectus. The right to convert Notes to common shares may not be exercised if the holder of the Notes, together with its affiliates and any persons who are members of a Section 13(d) group with the holder, would beneficially own more than 9.99% of the number of common shares outstanding immediately prior to, and immediately after giving effect to, the conversion of all or any portion of the Notes (the “Beneficial Ownership Limitation”). By written notice to us, the holders of the Notes may increase or decrease the Beneficial Ownership Limitation to any other percentage not in excess of 9.99%. Any increase in the Beneficial Ownership Limitation would not be effective until 61 days after written notice is received by us. As a result of the Beneficial Ownership Limitation, the number of shares common shares that may be issued upon conversion of the Notes held by the selling stockholders may change depending upon changes in the outstanding common shares. The beneficial ownership amounts in the table below do not give effect to the Beneficial Ownership Limitation on the shares issuable upon conversion of the Notes solely for illustrative purposes. The selling stockholders disclaim beneficial ownership of any common shares the issuance of which would violate such Beneficial Ownership Limitation.

The selling stockholders may sell some, all or none of their shares. We do not know how long the selling stockholders will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale or other disposition of any of the shares. The shares covered hereby may be offered from time to time by the selling stockholders.

The information set forth below is based upon information obtained from the selling stockholders. The percentages of shares owned after the offering are based on 33,357,720 common shares outstanding as of May 11, 2023, plus the common shares registered for resale hereby.

Name of Selling Stockholder	Maximum Number of Common shares Beneficially Owned Prior to Offering ⁽¹⁾	Number of Shares Being Offered	Common shares Beneficially Owned After Offering ⁽²⁾⁽³⁾	
			Number	Percent
Entities affiliated with RTW Investments, LP ⁽⁴⁾	17,144,952	13,888,850	3,256,102	6.89%

- (1) “Beneficial ownership” is a term broadly defined by the SEC in Rule 13d-3 under the Exchange Act. A person would be deemed the beneficial owner of shares as to which such person has or shares voting and/or investment power. For purposes of this table, a person or group of persons is deemed to have “beneficial ownership” of any shares for which there is a right to acquire beneficial ownership within 60 days of May 11, 2023. As noted above, the beneficial ownership amounts in the table do not give effect to the Beneficial Ownership Limitation with respect to the conversion of Notes solely for illustrative purposes.
- (2) Assumes that all shares being registered in this prospectus are resold to third parties and that the applicable selling stockholder sells all common shares registered under this prospectus beneficially owned by such selling stockholder.
- (3) The right to convert Notes to common shares may not be exercised if the holder of the Notes, together with its affiliates and any persons who are members of a Section 13(d) group with the holder, would beneficially own more than 9.99% of the number of common shares outstanding immediately after giving effect to such conversion (the “Beneficial Ownership Limitation”). By written notice to us, the holders of the Notes may increase or decrease the Beneficial Ownership Limitation to any other percentage not in excess of 9.99%. Any increase in the Beneficial Ownership Limitation would not be effective until 61 days after written notice is received by us. As a result of the Beneficial Ownership Limitation, the number of common shares that may be issued upon conversion of shares of the Notes held by the selling stockholders may change depending upon changes in the outstanding common shares. The beneficial ownership amounts in the table above do not give effect to the Beneficial Ownership Limitation on the shares issuable upon conversion of the Notes solely for illustrative purposes. The selling stockholders and their respective affiliates disclaim beneficial ownership of any common shares the issuance of which would violate such Beneficial Ownership Limitation.
- (4) Consists of (i) a maximum of 9,552,740 common shares issuable upon conversion of the Notes; (ii) a maximum of 4,336,110 common shares issuable upon conversion of the Notes, representing the maximum number of common shares issuable in connection with an adjustment to the conversion rate of the Notes if a holder of Notes exercises its conversion right upon the occurrence of certain transactions; and (iii) 3,256,102 common shares, owned by each of (i) RTW, which is deemed the beneficial owner of securities held by RTW Master Fund, Ltd., RTW Venture Fund Limited and RTW innovation Master Fund, Ltd. (collectively, the “Funds”), which are investment funds managed by RTW, and (ii) Roderick Wong, M.D., who serves as the Managing Partner and Chief Investment Officer of RTW. Dr. Wong exercises voting and dispositive control over the securities held by RTW and is therefore deemed to be a beneficial owner of securities owned or controlled by RTW.

Each of RTW and Dr. Wong disclaim beneficial ownership of the reported securities held by the Funds, except to the extent of its or his pecuniary interest therein. The number of shares beneficially owned by RTW and the Funds, in the aggregate, is limited by certain beneficial ownership limitations, including the Beneficial Ownership Limitation. As a result of such limitations, the number of shares shown as beneficially owned in the table above (i) does not include any common shares issuable upon exercise of pre-funded warrants held by the Funds (which are subject to a beneficial ownership limitation substantially similar to the Beneficial Ownership Limitation) and (ii) includes an aggregate of approximately 13,804,044 shares of common stock that are not beneficially owned by the Funds due to the Beneficial Ownership Limitation that would otherwise be issuable upon conversion of the Notes, assuming the maximum adjustment of the conversion rate of the Notes if a holder of Notes exercises its conversion right upon the occurrence of certain transactions. The address of RTW and Dr. Wong is 40 10th Avenue, Floor 7, New York, New York, 10014.

Relationship with the Selling Stockholders

Pursuant to the Note Purchase Agreement, we agreed to prepare and file with the SEC a registration statement that permits the resale of the shares potentially issuable to the selling stockholders upon conversion of the Notes and, subject to certain exceptions, use commercially reasonable efforts to keep the registration statement of which this prospectus forms a part effective under the Securities Act. We have also agreed, among other things, to indemnify the selling stockholders and their officers, directors, members, employees and agents, successors and assigns under the registration statement from certain liabilities and to pay all fees and expenses (excluding any legal fees of the selling stockholders, and any underwriting discounts and selling commissions) incident to our obligations under the Note Purchase Agreement.

PLAN OF DISTRIBUTION

The selling stockholders, which shall include donees, pledgees, transferees or other successors-in-interest selling common shares or interests in common shares received after the date of this prospectus from a selling stockholder as a gift, pledge, partnership distribution or other transfer, may, from time to time, sell, transfer or otherwise dispose of any or all of their common shares or interests in common shares on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These dispositions may be at fixed prices, at prevailing market prices at the time of sale, at prices related to the prevailing market price, at varying prices determined at the time of sale, or at negotiated prices.

The selling stockholders may use any one or more of the following methods when disposing of shares or interests therein:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its own account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- through one or more underwritten offerings on a firm commitment or best efforts basis;
- “at the market” or through market makers or into an existing market for the shares;
- through the distribution of the common shares by the selling stockholders or its affiliates to their partners, members or stockholders;
- short sales effected after the date the registration statement of which this prospectus is a part is declared effective by the SEC;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- through agreements between broker-dealers and the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted by applicable law.

The selling stockholders may, from time to time, pledge or grant a security interest in some or all of the common shares owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the common shares, from time to time, under this prospectus, or under an amendment to this prospectus under Rule 424(b) or other applicable provision of the Securities Act amending the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer the common shares in other circumstances, in which case the pledgees, transferees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our common shares or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common shares in the course of hedging the positions they assume. The selling stockholders may also sell our common shares short and deliver these securities to close out their short positions, or loan or pledge the common shares to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into options or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to each such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The aggregate proceeds to the selling stockholders from the sale of the common shares offered by them will be the purchase price of the common shares less discounts or commissions, if any. Each selling stockholder reserves the right to accept and, together with its agents from time to time, to reject, in whole or in part, any proposed purchase of common shares to be made directly or through agents. We will not receive any of the proceeds from this offering.

The selling stockholders may also resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, provided that they meet the criteria and conform to the requirements of that rule.

The selling stockholders and any underwriters, broker-dealers or agents that participate in the sale of the common shares or interests therein may be “underwriters” within the meaning of Section 2(11) of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling stockholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act.

To the extent required, our common shares to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

In order to comply with the securities laws of some states, if applicable, the common shares may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states the common shares may not be sold unless it has been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

We have advised the selling stockholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of shares in the market and to the activities of each selling stockholder and its affiliates. In addition, to the extent applicable we will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholders may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

We have agreed to indemnify the selling stockholders against liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the shares offered by this prospectus.

We have agreed with the selling stockholders to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) such time as all of the shares covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or (2) the date on which all of the shares may be sold without restriction pursuant to Rule 144 of the Securities Act.

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference to the [Annual Report on Form 10-K for the year ended December 31, 2022](#) have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

LEGAL MATTERS

The validity of the securities in respect of which this prospectus, and any supplement thereto, is being delivered and certain legal matters with respect to Canadian law will be passed upon by Osler, Hoskin & Harcourt LLP, Montréal, Canada. Certain matters in respect of U.S. securities laws may be opined upon by Cooley LLP, Boston, Massachusetts.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows the Company to “incorporate by reference” the information that is filed by the Company with the SEC, which means that the Company can disclose important information to you by referring you to those documents. The documents incorporated by reference are:

1. [The Company’s Annual Report on Form 10-K for the year ended December 31, 2022, which was filed with the SEC on March 29, 2023;](#)
2. [The Company’s Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2023, which was filed with the SEC on May 11, 2023;](#)
3. The information specifically incorporated by reference in the Company’s [Annual Report on Form 10-K for the year ended December 31, 2022, which was filed with the SEC on March 29, 2023](#), from the Company’s [Definitive Proxy Statement on Schedule 14A relating to the Company’s 2023 Annual Meeting of Stockholders, which was filed with the SEC on April 28, 2023;](#)
4. The Company’s Current Reports on Form 8-K filed with the SEC on [March 27, 2023](#), [March 28, 2023](#) and [March 31, 2023](#); and
5. [The description of the Company’s common shares, which is contained in a registration statement on Form 8-A filed on May 6, 2019 \(File No. 001-38899\) under Section 12\(b\) of the Exchange Act, including any amendment or report filed for the purpose of updating such description.](#)

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, other than any information furnished pursuant to Item 2.02, Item 7.01 or Item 9.01 of any Current Report on Form 8-K (unless we specifically state in such Current Report that such information is to be considered “filed” under the Exchange Act, or otherwise specifically incorporate the information by reference into this prospectus supplement or any other filing under the Securities Act or the Exchange Act), on or after the date of this prospectus until the earlier of the date on which all of the securities registered hereunder have been sold or the registration statement of which this prospectus is a part has been withdrawn, shall be deemed incorporated by reference in this prospectus and to be a part of this prospectus from the date of filing of those documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. Except as set forth in the parenthetical in the immediately precedent paragraph, nothing in this prospectus shall be deemed to incorporate information furnished, but not filed, with the SEC pursuant to Item 2.02 or Item 7.01 of Form 8-K.

Upon written or oral request, we will provide, without charge, to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon such person’s written or oral request, a copy of any and all of the information incorporated by reference in this prospectus, other than exhibits to such documents, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates. Requests should be directed to Milestone Investor Relations at Milestone Pharmaceuticals Inc., 1111 Dr. Frederik-Philips Boulevard, Suite 420 Montréal, Québec, Canada H4M 2X6, or send an email to Milestone Investor Relations at ir@milestonepharma.com. You may also find these documents in the “Investors & Media” section of our website, www.milestonepharma.com. The information on our website is not incorporated into this prospectus.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You should rely only on the information contained in this prospectus or incorporated by reference. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

You may read our SEC filings, including this registration statement, over the Internet at the SEC's website at www.sec.gov. We are subject to the information reporting requirements of the Exchange Act and we must file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information are available on the website of the SEC referred to above. We also maintain a website at www.milestonepharma.com, at which you may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following are the estimated expenses, other than the underwriting discounts and commissions, if any, relating to the registration of the offer and sale of the securities registered hereunder on Form S-3:

Registration Fee – Securities and Exchange Commission	\$ 5,893
Accountants Fees and Expenses	17,000
Legal Fees and Expenses	75,000
Printing Fees and Miscellaneous Expenses	15,000
Total	\$112,893

Item 15. Indemnification of Directors and Officers.

Under the QBCA and our bylaws, we must indemnify our current or former directors and officers, agents or any other individuals who act or have acted at our request as a director or officer of a related entity, against all costs, charges and expenses reasonably incurred by such individual in connection with any civil, criminal, administrative, investigative or other proceeding in which such individual is involved because of his or her association with us or such a related entity. The QBCA also provides that we must also make an advance payment to such individual for costs, charges and expenses reasonably incurred in connection with such a proceeding, provided, however, that such individual shall repay such advance payment if he or she does not fulfill the conditions described below.

The QBCA provides for such indemnification if the following conditions are met:

- the individual acted with honesty and loyalty in our interests, or, as the case may be, in the interests of the other entity for which the individual acted as director or officer or in a similar capacity at our request;
- in the case of a proceeding that is enforced by a monetary penalty, the individual had reasonable grounds for believing that his or her conduct was lawful; and
- the individual was not judged by the court to have committed an intentional or gross fault.

In the case of actions by or on behalf of the Company, the Company may make such advance payments or indemnify such individuals against all costs, charges and expenses reasonably incurred by such individual in connection with such actions, only if (i) the person fulfills the conditions set forth above and (ii) a court approves such advance payments or indemnification.

The QBCA and our bylaws authorize us to purchase and maintain insurance for the benefit of each of our current or former directors or officers and other agents and each person who acts or acted at our request as a director, officer or other agents or an individual acting in a similar capacity, of another entity.

In addition, we have entered, or intend to enter, into separate indemnity agreements with each of our directors and officers pursuant to which we agree to indemnify and hold harmless our directors and officers against any and all liability, loss, damage, cost or expense in accordance with the terms and conditions of the QBCA and our bylaws.

The Registrant has purchased and currently intends to maintain insurance on behalf of each and every person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

Item 16. Exhibit Index.

The following documents are filed herewith (unless otherwise indicated) and made a part of this registration statement.

Exhibit No.	Description
3.1	<u>Amended Articles of Incorporation (incorporated herein by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K (File No. 001-38899), filed with the SEC on May 15, 2019).</u>
3.2	<u>Amended and Restated Bylaws (incorporated herein by reference to Exhibit 3.2 to the Registrant's Current Report on Form 8-K (File No. 001-38899), filed with the SEC on May 15, 2019).</u>
4.1	<u>Form of Common Share Certificate (incorporated herein by reference to Exhibit 4.1 to Amendment No. 1 to the Registrant's Registration Statement on Form S-1 (File No. 333-230846), filed with the SEC on April 29, 2019).</u>
4.2	<u>Note Purchase Agreement, dated as of March 27, 2023, by and among the Company and RTW (incorporated herein by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K (File No. 001-38899), filed with the SEC on March 31, 2023).</u>
4.3	<u>Form of Note.</u>
5.1	<u>Opinion of Osler, Hoskin & Harcourt LLP.</u>
23.1	<u>Consent of Independent Registered Public Accounting Firm.</u>
23.2	<u>Consent of Osler, Hoskin & Harcourt LLP (included in Exhibit 5.1).</u>
24.1	<u>Power of Attorney (included on signature page).</u>
107	<u>Filing fee table.</u>

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) under the Securities Act that is part of the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act to any purchaser:
 - (i) If the registrant is relying on Rule 430B under the Securities Act:
 - (A) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in this registration statement; and
 - (B) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of this registration statement or made in any such document immediately prior to such effective date.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and
- (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d)

of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act, as amended, may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A under the Securities Act and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

* * *

<u>/s/ Debra K. Liebert</u> Debra K. Liebert	Director
<u>/s/ Richard Pasternak</u> Richard Pasternak	Director
<u>/s/ Michael Tomsicek</u> Michael Tomsicek	Director

FORM OF NOTE

[FORM OF FACE OF NOTE]

THIS NOTE AND THE COMMON SHARES, IF ANY, ISSUABLE UPON CONVERSION OF THIS NOTE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND ACCORDINGLY, PRIOR TO THE RESALE RESTRICTION TERMINATION DATE (AS DEFINED BELOW), MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT IN ACCORDANCE WITH THE FOLLOWING SENTENCE. BY ITS ACQUISITION HEREOF OR OF A BENEFICIAL INTEREST HEREIN, THE ACQUIRER:

(1) REPRESENTS THAT IT AND ANY ACCOUNT FOR WHICH IT IS ACTING IS A "QUALIFIED INSTITUTIONAL BUYER" (WITHIN THE MEANING OF RULE 144A UNDER THE SECURITIES ACT) AND THAT IT EXERCISES SOLE INVESTMENT DISCRETION WITH RESPECT TO EACH SUCH ACCOUNT, AND

(2) AGREES FOR THE BENEFIT OF MILESTONE PHARMACEUTICALS INC. (THE "COMPANY") THAT IT WILL NOT OFFER, SELL, PLEDGE OR OTHERWISE TRANSFER THIS NOTE OR ANY BENEFICIAL INTEREST HEREIN PRIOR TO THE RESALE RESTRICTION TERMINATION DATE (AS DEFINED BELOW), EXCEPT:

(A) TO THE COMPANY OR ANY SUBSIDIARY THEREOF, OR

(B) PURSUANT TO A REGISTRATION STATEMENT WHICH HAS BECOME EFFECTIVE UNDER THE SECURITIES ACT, OR

(C) TO A QUALIFIED INSTITUTIONAL BUYER IN COMPLIANCE WITH RULE 144A UNDER THE SECURITIES ACT, OR

(D) PURSUANT TO AN EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT OR ANY OTHER AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT.

THE "RESALE RESTRICTION TERMINATION DATE" MEANS THE DATE THAT IS AT LEAST ONE YEAR AFTER THE LAST ORIGINAL ISSUANCE DATE OF THE NOTES.

PRIOR TO THE REGISTRATION OF ANY TRANSFER IN ACCORDANCE WITH (2)(D) ABOVE, THE COMPANY RESERVES THE RIGHT TO REQUIRE THE DELIVERY OF SUCH LEGAL OPINIONS, CERTIFICATIONS OR OTHER EVIDENCE AS MAY REASONABLY BE REQUIRED IN ORDER TO DETERMINE THAT THE PROPOSED TRANSFER IS BEING MADE IN COMPLIANCE WITH THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS. NO REPRESENTATION IS MADE AS TO THE AVAILABILITY OF ANY EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT.

UNLESS PERMITTED UNDER SECURITIES LEGISLATION, THE HOLDER OF THIS SECURITY MUST NOT TRADE THE SECURITY BEFORE JULY 28, 2023.

Milestone Pharmaceuticals Inc.

6.0% Convertible Senior Secured Notes due 2029

Principal Amount \$ []

Milestone Pharmaceuticals Inc., a corporation existing under the Business Corporations Act (Québec), (the "**Company**"), promises to pay to [] or registered assigns, the principal amount of [*add principal amount in words*] \$[], on March 31, 2029 (the "**Maturity Date**").

[FORM OF REVERSE OF NOTE]

Milestone Pharmaceuticals Inc.

6.0% Convertible Senior Secured Notes due 2029

This Note is one of a duly authorized issue of securities of the Company (herein called the “**Notes**”), issued under the Note Purchase Agreement dated as of March 27, 2023 (the “**Note Purchase Agreement**”) by and among the Company, the Purchasers party thereto, and Acquiom Agency Services LLC, as collateral agent for the Purchasers, and reference is hereby made to the Note Purchase Agreement for a statement of the respective rights, limitations of rights, duties and immunities thereunder of the Company and the holders of the Notes and of the terms upon which the Notes are, and are to be, authenticated and delivered. In the event of a conflict between the terms of the Note Purchase Agreement and this Note, the terms of the Note Purchase Agreement shall govern.

The Notes will bear cash interest at a rate of 6.0% per year until maturity (the “**Cash Interest**”) except as otherwise provided in Section 10.5(h). Interest on the Notes will accrue from, and including, the most recent date on which interest has been paid or duly provided for or, if no interest has been paid or duly provided for, from, and including, the Closing Date. Interest will be computed on the basis of a 360-day year comprised of twelve 30- day months. Interest will be paid quarterly in arrears on each Interest Payment Date. Notwithstanding the foregoing, until March 31, 2026, the Company may elect to defer payment of accrued but unpaid interest on the unpaid principal amount of the Notes and the amount of such deferred accrued but unpaid interest shall be added to the principal amount of the outstanding Notes (the “**PIK Interest**”). The Company shall be required to give written notice to the Principal Purchaser to elect no later than three (3) Business Days prior to each Interest Payment Date prior to the third anniversary of the Closing Date whether it shall pay Cash Interest or PIK Interest. If the Company fails to give timely written notice to elect a form of interest payment, then the Company will be deemed to have elected PIK Interest for such Interest Payment Date. Any PIK Interest on the Notes will increase the principal amount of the Notes by an amount equal to the amount of PIK Interest for the applicable period (rounded up to the nearest whole dollar). Any references to the principal amount of any Note herein shall mean the then current principal amount as increased by any PIK Interest, and references to accrued but unpaid interest shall not include any interest provided for as PIK Interest. Following an increase in the principal amount of the outstanding Notes as a result of PIK Interest, the Notes will bear interest on such increased principal amount from and after the date of such increase. Notwithstanding anything to the contrary in this Note Purchase Agreement or the Notes, the payment of accrued and unpaid interest in connection with any redemption of the Notes pursuant to Section 10.5 or on the Maturity Date shall be made solely in cash.

This Note does not benefit from a sinking fund.

As provided in and subject to the provisions of the Note Purchase Agreement, upon the occurrence of a Fundamental Change the holder of this Note will have the right, at such holder’s option, to require the Company to purchase this Note, or any portion of this Note such that the principal amount of this Note that is not purchased equals \$1,000 or an integral multiple of \$1.00 in excess thereof, on the Fundamental Change Purchase Date at a price equal to the Fundamental Change Purchase Price for such Fundamental Change Purchase Date.

As provided in and subject to the provisions of the Note Purchase Agreement, the holder hereof has the right, at its option, to convert this Note or a portion of this Note such that the principal amount of this Note that is not converted equals \$1,000 or an integral multiple of \$1.00 in excess thereof, into an amount of Common Shares and cash in lieu of fractional interests in Common Shares as determined in accordance with Article 4 of the Note Purchase Agreement. Accrued but unpaid interest on a Note will be paid in respect of Notes submitted for conversion in accordance with Section 4.3 of the Note Purchase Agreement.

As provided in and subject to the provisions of the Note Purchase Agreement, the Company has the right to redeem the Notes.

The Company will pay cash amounts in money of the United States that at the time of payment is legal tender for payment of public and private debts.

The Note Purchase Agreement permits, with certain exceptions as therein provided, the amendment thereof and the modification of the rights and obligations of the Company and the rights of the holders of the Notes to be effected under the Note Purchase Agreement at any time by the Company, the Principal Purchaser and the Requisite Purchasers. The Note Purchase Agreement also contains provisions permitting the Requisite Purchasers to waive certain past defaults under the Note Purchase Agreement and their consequences. Any such waiver by the holder of this Note shall be conclusive and binding upon such holder and upon all future holders of this Note and of any Note issued upon the registration of transfer hereof or in exchange hereof or in lieu hereof, whether or not notation of such consent or waiver is made upon this Note.

As provided in and subject to the provisions of the Note Purchase Agreement, the holder of this Note shall not have the right to institute any proceeding with respect to the Note Purchase Agreement, or for the appointment of a receiver or trustee, or for any other remedy thereunder, unless such holder shall have previously given the Principal Purchaser written notice of a continuing Event of Default with respect to the Note, Purchasers holding at least 25% of the aggregate principal amount of the then Outstanding Notes deliver to the Principal Purchaser a written request that the Principal Purchaser pursue a remedy with respect to such Event of Default and offered the Principal Purchaser indemnity satisfactory to it, and the Principal Purchaser shall have failed to institute any such proceeding, for 60 days after receipt of such notice, request and offer of indemnity, and shall not have received from the Requisite Purchasers a direction inconsistent with such request. The foregoing shall not apply to any suit instituted by the holder of this Note for the enforcement of any payment of the principal hereof, premium, if any, or interest hereon, the Fundamental Change Purchase Price, and the amount of Common Shares due upon conversion of this Note or after the respective due dates expressed in the Note Purchase Agreement.

No reference herein to the Note Purchase Agreement and no provision of this Note or of the Note Purchase Agreement shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay or deliver, as the case may be, the principal of (including the Fundamental Change Purchase Price), premium, interest on and the amount of Common Shares due upon conversion of this Note at the time, place and rate, and in the coin and currency herein prescribed.

As provided in the Note Purchase Agreement and subject to certain limitations therein set forth, the transfer of this Note is registrable in the Register, upon surrender of this Note for registration of transfer to the Company, duly endorsed by, or accompanied by a written instrument of transfer in form satisfactory to the Company duly executed by, the holder hereof or its attorney duly authorized in writing, and thereupon a new Note of this series and of like tenor for the same aggregate principal amount will be issued to the designated transferee.

The Notes are issuable only in registered form without coupons in denominations of \$1,000 and integral multiples of \$1.00 in excess thereof. As provided in the Note Purchase Agreement and subject to certain limitations therein set forth, the Notes are exchangeable for a like aggregate principal amount of Notes and of like tenor of a different authorized denomination, as requested by the holder surrendering the same.

Prior to due presentment of this Note for registration of transfer, the Company and any agent of the Company may treat the Person in whose name the Note is registered as the owner hereof for all purposes, whether or not this Note be overdue, and neither the Company nor any such agent shall be affected by notice to the contrary.

The Notes will be secured by the Collateral on the terms and subject to the conditions set forth in the Note Purchase Agreement and the Collateral Documents. The Notes are guaranteed as set forth in the Guarantee and Collateral Agreement.

Customary abbreviations may be used in the name of a holder or an assignee, such as TEN COM (= tenants in common), TEN ENT (= tenants by the entirety), JT TEN (= joint tenants with rights of survivorship and not as tenants in common), CUST (= custodian) and U/G/M/A (= Uniform Gift to Minors Act).

No service charge shall be made for any such registration of transfer or exchange, but the Company may require proof of payment of any transfer tax or other governmental charge payable in connection therewith.

All defined terms used in this Note that are defined in the Note Purchase Agreement shall have the meanings assigned to them in the Note Purchase Agreement. If any provision of this Note limits, qualifies or conflicts with a provision of the Note Purchase Agreement, such provision of the Note Purchase Agreement shall control.

[FORM OF NOTICE OF CONVERSION]

To: Milestone Pharmaceuticals Inc.

The undersigned owner of this Note hereby irrevocably exercises the option to convert this Note, or a portion hereof (whose principal amount equals \$1,000 or an integral multiple of \$1.00 in excess thereof) below designated, into an amount of Common Shares and cash in lieu of fractional interests in Common Shares in accordance with the terms of the Note Purchase Agreement referred to in this Note, and directs that any cash payable and any Common Shares issuable and deliverable upon conversion, together with any Notes representing any unconverted principal amount hereof, be paid and/or issued and/or delivered, as the case may be, to the registered holder hereof unless a different name is indicated below.

Subject to certain exceptions set forth in the Note Purchase Agreement, if this notice is being delivered during the period after the Close of Business on a regular Record Date to the Open of Business on the Interest Payment Date corresponding to such regular Record Date, this notice must be accompanied by payment of an amount equal to the interest payable on such Interest Payment Date on the principal amount of this Note to be converted. If any Common Shares is to be issued in the name of a Person other than the undersigned, the undersigned will pay all transfer taxes payable with respect to such issuance and transfer as set forth in the Note Purchase Agreement.

Principal amount to be converted (if less than all):

\$

Dated:

Signature(s)

(Sign exactly as your name appears on the other side of this Note)

Fill in if a check is to be issued, or Common Shares or Notes are to be registered, otherwise than to or in the name of the registered holder of this Note.

(Name)

(Address)

Please print name and address
(including zip code)

(Social Security or other Taxpayer
Identifying Number)

Dated:

Signature(s)

(Sign exactly as such Person's name appears above)



[FORM OF FUNDAMENTAL CHANGE PURCHASE NOTICE]

To: Milestone Pharmaceuticals Inc.

The undersigned registered owner of this Note hereby requests and instructs Milestone Pharmaceuticals Inc. to pay to the registered holder hereof, in accordance with the applicable provisions of the Note Purchase Agreement referred to in this Note, the Fundamental Change Purchase Price on the Fundamental Change Purchase Date pursuant to Section 10.1 of such Note Purchase Agreement.

Principal amount to be purchased (if less than all):

\$

Certificate number (if Notes are in certificated form)

Dated:

Signature(s)

(Sign exactly as your name appears on the other side of this Note)

Social Security or Other Taxpayer Identification Number

[FORM OF ASSIGNMENT AND TRANSFER]

For value received,

hereby sell(s), assign(s) and transfer(s) unto

(Please insert social security or Taxpayer Identification Number of assignee) the within Note, and hereby irrevocably constitutes and appoints to transfer the said Note on the books of the Company, with full power of substitution in the premises.

The undersigned hereby certifies that such transfer complies with Section 13.3 of the Note Purchase Agreement.

In connection with any transfer of the within Note occurring prior to the Resale Restriction Termination Date, as defined in such Note, the undersigned confirms that such Note is being transferred:

To Milestone Pharmaceuticals Inc. or a subsidiary thereof; or

Pursuant to a registration statement which has become effective under the Securities Act of 1933, as amended; or

To a qualified institutional buyer in compliance with Rule 144A under the Securities Act of 1933, as amended; or

Pursuant to an exemption from registration provided by Rule 144 under the Securities Act of 1933, as amended, or any other available exemption from the registration requirements of the Securities Act of 1933, as amended.

TO BE COMPLETED BY PURCHASER IF THE THIRD BOX ABOVE IS CHECKED

The undersigned represents and warrants that it is purchasing this Note for its own account or an account with respect to which it exercises sole investment discretion and that it and any such account is a "qualified institutional buyer" within the meaning of Rule 144A under the Securities Act and is aware that the sale to it is being made in reliance on Rule 144A and acknowledges that it has received such information regarding the Company as the undersigned has requested pursuant to Rule 144A or has determined not to request such information and that it is aware that the transferor is relying upon the undersigned's foregoing representations in order to claim the exemption from registration provided by Rule 144A.

Date:

Signed:

Unless one of the above boxes is checked, the Company will refuse to register any of the Notes evidenced by this certificate in the name of any Person other than the registered holder thereof, provided that if the fourth box is checked, the Company may require, prior to registering any such transfer of the Notes, in its sole discretion, such legal opinions, certifications and other information as the Company may reasonably request to confirm that such transfer is being made pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act.

If none of the foregoing boxes is checked, the Company shall not be obligated to register this Note in the name of any Person other than the holder hereof unless and until the conditions to any such transfer of registration set forth herein shall have been satisfied.

Dated:

Signature(s)

(Sign exactly as your name appears on the other side of this Note)

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

The logo for Osler, Hoskin & Harcourt LLP, featuring the word "OSLER" in a large, serif, reddish-brown font.

May 12, 2023

Milestone Pharmaceuticals Inc.
1111 Dr. Frederik-Philips Boulevard
Suite 420
Montreal, Québec
H4M 2X6

Dear Sirs/Mesdames:

Re: Milestone Pharmaceuticals Inc. - Registration Statement on Form S-3

We have acted as Canadian counsel to Milestone Pharmaceuticals Inc. (the “**Corporation**”), a corporation governed by the *Business Corporations Act (Québec)*, in connection with the Registration Statement on Form S-3 (the “**Registration Statement**”) filed by the Corporation on the date hereof with the Securities and Exchange Commission (the “**SEC**”) relating to the proposed offering and resale by the selling shareholders identified in the prospectus included in the Registration Statement (the “**Prospectus**”) of up to an aggregate of 13,888,850 common shares of the Corporation (“**Shares**”), of which (a) 9,552,740 Shares are issuable upon the conversion of the Corporation’s senior secured convertible promissory notes (“**Notes**”), and (b) 4,336,110 Shares representing the maximum number of additional Shares issuable in connection with an adjustment to the conversion rate of the Notes if a holder of the Notes exercises its conversion right upon the occurrence of certain transactions, the whole in accordance with the Securities Act of 1933, as amended (the “**Securities Act**”). The Notes were issued and sold to accredited investors in a private placement which closed on March 29, 2023.

We have examined the Registration Statement, the Prospectus, the Notes 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 opinions 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.

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

Montréal Toronto Calgary Ottawa Vancouver New York

osler.com

We have also assumed (a) 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 and (b) the completeness, truth and accuracy of all facts set forth in the official public records, certificates and documents supplied by public officials or otherwise conveyed to us by public officials.

Where our opinion expressed herein refers to the Shares having been issued as being “fully-paid and non-assessable” common shares of the Corporation, such opinion assumes that all required consideration (in whatever form) has been paid or provided. No opinion is expressed as to the adequacy of any consideration received.

We express no opinion to the extent that, notwithstanding the Corporation’s current reservation of the Shares as of the date hereof, future issuances of securities of the Corporation, including the Shares, and/or antidilution adjustments to outstanding securities of the Corporation, including the Notes, may cause the Notes to be exercisable for more common shares of the Corporation than the number that then remain authorized but unissued.

On the basis of the foregoing, we are of the opinion that the Shares, when issued and paid for upon exercise of the Notes in accordance with the terms of the Notes, will be validly issued, fully paid and non-assessable.

Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. Our opinion is based on these laws as in effect on the date hereof, and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein.

We consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption “Legal Matters” in the Prospectus.

Yours very truly,

/s/ Osler, Hoskin & Harcourt LLP

Osler, Hoskin & Harcourt LLP



Consent of Independent Registered Public Accounting Firm

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of Milestone Pharmaceuticals Inc. of our report dated March 29, 2023 relating to the consolidated financial statements, which appears in Milestone Pharmaceuticals Inc.'s Annual Report on Form 10-K for the year ended December 31, 2022.

We also consent to the reference to us under the heading "Experts" in this Registration Statement.

/s/ PricewaterhouseCoopers LLP

Montréal, Canada
May 15, 2023

PricewaterhouseCoopers LLP/s.r.l./s.e.n.c.r.l.
1250 René-Lévesque Boulevard West, Suite 2500, Montréal, Québec, Canada H3B 4Y1
T: +1 514 205 5000, F: +1 514 876 1502, www.pwc.com/ca

"PwC" refers to PricewaterhouseCoopers LLP/s.r.l./s.e.n.c.r.l., an Ontario limited liability partnership.

Calculation of Filing Fee Table

Form S-3
(Form Type)

Milestone Pharmaceuticals Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Title of Each Class of Securities to Be Registered	Fee Calculation Rule	Amount To Be Registered	Proposed Maximum Offering Price Per Share⁽²⁾	Proposed Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
Fees to be paid	Common Shares, no par value, Underlying Convertible Notes	457(c)	13,888,850	\$3.85	\$53,472,072.50	0.00011020	\$5,892.62
			Total Offering Amounts		\$53,472,072.50		\$5,892.62
			Total Fee Offsets		—		—
			Net Fee Due				\$5,892.62

- (1) Consists of (a) 9,552,740 of the registrant's common shares issuable upon the conversion of the registrant's senior secured convertible promissory notes (the "Notes") and (b) 4,336,110 of the registrant's common shares, which represents the maximum number of additional shares of common stock issuable in connection with an adjustment to the conversion rate of the Notes if a holder of Notes exercises its conversion right upon the occurrence of certain transactions. Pursuant to Rule 416(a) of the Securities Act of 1933, as amended, this registration statement also covers such additional shares of the registrant's common stock as may hereafter be offered or issued to prevent dilution resulting from stock splits, stock dividends, recapitalizations or certain other capital adjustments.
- (2) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(c) under the Securities Act of 1933, as amended. The price per share and aggregate offering price are based on the average of the high and low prices of the registrant's common stock on May 9, 2023, as reported on the Nasdaq Stock Market LLC.