

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM S-3

REGISTRATION STATEMENT

*Under
The Securities Act of 1933*

MISONIX, INC.

(Exact name of Registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

84-1856018
(I.R.S. Employer
Identification Number)

1938 New Highway
Farmingdale, NY 11735
Telephone: (631) 694-9555

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

Joseph P. Dwyer, Chief Financial Officer
Misonix, Inc.

1938 New Highway
Farmingdale, NY 11735
Telephone: (631) 694-9555

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

Copies to:

Jon R. Beeson, Esq.
Jones Day
3161 Michelson Drive, Suite 800
Irvine, California 92612
(949) 553-7528

**Approximate date of commencement of proposed sale to the public:
From time to time, after the effective date of this Registration Statement.**

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, 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 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 non-accelerated filer, a smaller reporting company, or an emerging 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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
Emerging growth company	<input type="checkbox"/>		

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 Securities Act. []

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)(2)(3)	Proposed Maximum Offering Price Per Unit	Proposed Maximum Aggregate Offering Price (1)(2)	Amount of Registration Fee
Common Stock, \$0.0001 par value per share(4)				
Preferred Stock, \$0.0001 par value per share(4)				
Warrants(5)				
Units(6)				
Total(7)	\$ 100,000,000(8)	100%(8)	\$ 100,000,000	\$ 10,910

- (1) If any securities are issued in an amount denominated in a foreign currency or composite currency, such amount as shall result in an aggregate initial offering price equivalent thereto in United States dollars at the time of initial offering.
- (2) These figures are estimates made solely for the purpose of calculating the registration fee pursuant to Rule 457(o). The amount is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act.
- (3) Any securities registered hereunder may be sold separately or in combination with other securities registered hereunder. The proposed maximum offering price of the securities will be determined, from time to time, by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder. The securities being registered hereby may be convertible into or exchangeable or exercisable for other securities of any identified class. In addition to the securities that may be issued directly under this Registration Statement, there is being registered hereunder such indeterminate aggregate number or amount, as the case may be, of the securities of each identified class as may from time to time be issued upon the conversion, exchange, settlements or exercise of other securities offered hereby. Separate consideration may or may not be received for securities that are issued upon the conversion or exercise of, or in exchange for, other securities offered hereby.
- (4) In addition, pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of shares of common stock and preferred stock, as may be issued upon conversion or exchange of the securities issued hereunder.
- (5) Includes warrants to purchase shares of common stock and preferred stock.
- (6) Securities registered hereunder may be sold separately or as units with other securities registered hereby.
- (7) The proposed maximum offering price per unit will be determined by us in connection with the issuance of such securities. In no event will the aggregate offering price of all securities issued from time to time pursuant to this Registration Statement exceed \$100,000,000 or the equivalent thereof in one or more foreign currencies, foreign currency units or composite currencies. The aggregate amount of common stock registered hereunder is further limited to that which is permissible under Rule 415(a)(4) under the Securities Act, to the extent applicable.
- (8) We will determine the proposed maximum offering price per unit in connection with the issuance of the securities and it is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under 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 this Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

The information in this prospectus is not complete and may be changed. We may not sell the securities until the Registration Statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 22, 2021

PROSPECTUS

\$100,000,000

MISONIX, INC.

By this prospectus, we may offer, from time to time

- Common stock
- Preferred stock
- Warrants
- Units

All of the securities listed above may be sold separately or as units with other securities.

From time to time, we may offer up to \$100,000,000 of the securities described in this prospectus either individually or as units comprised of one or more of the other securities, or any combination thereof.

Our common stock is listed on the NASDAQ Global Market under the symbol "MSON." On April 16, 2021, the last reported sale price of our common stock on the NASDAQ Global Market was \$19.64 per share.

We will provide specific terms of these securities in supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, carefully before you purchase any of our securities.

Investing in our securities involves risks. You should carefully consider the risks described under "Risk Factors" on page 4 of this prospectus, as well as any similar section in the applicable prospectus supplement, any related free writing prospectus and other information contained or incorporated by reference in this prospectus and the applicable prospectus supplement, before making a decision to invest in our securities.

This Prospectus May Not Be Used To Offer And Sell Securities Unless Accompanied By A Prospectus Supplement.

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.

As of April 16, 2021, the aggregate market value of our common stock held by non-affiliates was approximately \$238 million based on 17,405,845 shares of outstanding common stock, of which 5,284,540 shares are held by affiliates, and a price of \$19.64 per share, which was the last reported sale price of our common stock as quoted on The Nasdaq Global Market on that date.

We are a "smaller reporting company" under the federal securities laws and are subject to reduced public company reporting requirements.

We may offer the securities in amounts, at prices and on terms determined at the time of offering. We may sell the securities directly to you, through agents we select, or through underwriters and dealers we select. If we use agents, underwriters or dealers to sell the securities, we will name them and describe their compensation in a prospectus supplement. For additional information regarding the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus.

This prospectus is dated April 22, 2021

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No person has been authorized to give any information or make any representations in connection with this offering other than those contained or incorporated by reference in this prospectus, any accompanying prospectus supplement or any free writing prospectus in connection with the offering described herein and therein, and, if given or made, such information or representations must not be relied upon as having been authorized by us. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither this prospectus nor any prospectus supplement nor any free writing prospectus shall constitute an offer to sell or a solicitation of an offer to buy offered securities in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. Neither the delivery of this prospectus or any prospectus supplement or any free writing prospectus nor any sale made hereunder shall under any circumstances imply that the information contained or incorporated by reference herein or in any prospectus supplement is correct as of any date subsequent to the date hereof or of such prospectus supplement or such free writing prospectus. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus, any related prospectus supplement, the documents incorporated by reference into this prospectus, and any free writing prospectus that we may authorize for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus captioned “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

This prospectus and any related prospectus supplement, including the information incorporated by reference into this prospectus and any related prospectus supplement, include trademarks, service marks and trade names owned by us or others. All trademarks, service marks and trade names included or incorporated by reference in this prospectus, any related prospectus supplement or any related free writing prospectus are the property of their respective owners.

PROSPECTUS SUMMARY

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission, or the SEC, using a “shelf” registration process. Under this shelf process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$100,000,000.

THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

You should read carefully both this prospectus and the applicable prospectus supplement, together with the additional information incorporated by reference herein as described under the heading “Information Incorporated by Reference,” before making an investment decision. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and in any applicable prospectus supplement, you should rely on the information in the applicable prospectus supplement. This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. The exhibits to our registration statement contain the full text of certain agreements and other important documents we have summarized in this prospectus. Since these summaries may not contain all the information that you may find important in deciding whether to purchase the securities we offer, you should review the full text of these documents. The registration statement and the exhibits can be obtained from the SEC as indicated under the heading “Where You Can Find More Information.”

References in this prospectus to the terms “Misonix,” “Company,” “we,” “our” and “us” refer to Misonix, Inc., a Delaware corporation, and its subsidiaries, unless we state otherwise or the context indicates otherwise.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. We are subject to the informational reporting requirements of the Exchange Act. We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available over the Internet at the SEC's website at www.sec.gov. In addition, the Nasdaq Stock Market maintains a Web site at <http://www.nasdaq.com> that contains reports, proxy statements and other information filed by us.

We make available free of charge on or through our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K, and amendments to these reports, as well as proxy statements on Schedule 14A, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the SEC. You may access these documents on the "Investor Relations" page of our website at www.misonix.com. We do not intend for information contained on or accessible through our website to be part of this prospectus, other than the documents that we file with the SEC that are incorporated by reference into this prospectus or any prospectus supplement.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus the information in documents we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. Any statement contained in any 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 which 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.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC (Commission File No. 001-10986):

- our annual report on Form 10-K for the fiscal year ended June 30, 2020, filed with the SEC on September 3, 2020;
- our quarterly reports on Form 10-Q for the fiscal quarters ended September 30, 2020 and December 31, 2020, filed with the SEC on November 5, 2020 and February 4, 2020, respectively;
- our current report on Form 8-K, filed with the SEC on December 17, 2020; and
- the description of our common stock set forth in our registration statement on Form 8-A (Registration No. 1-10986) filed with the SEC on January 22, 1992 under Section 12 of the Exchange Act and all amendments or reports filed by us for the purpose of updating that descriptions.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus, which will become a part of this prospectus from the date that such documents are filed with the SEC. We will not, however, incorporate by reference in this prospectus or any prospectus supplement any documents or portions thereof that are not deemed "filed" with the SEC, including any information furnished pursuant to Item 2.02 or Item 7.01 of our current reports on Form 8-K unless, and except to the extent, specified in such current reports.

We hereby undertake to provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request of any such person, a copy of any and all of the information that has been or may be incorporated by reference in this prospectus, other than exhibits to such documents, unless the exhibits are specifically incorporated by reference into the documents that this prospectus incorporates. Requests for such copies should be directed to our corporate secretary, at the following address or by calling the following telephone number:

Misonix, Inc.
Attention: Chief Financial Officer
1938 New Highway
Farmingdale, NY 11735
Telephone: (631) 694-9555

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Our disclosures and analysis in this prospectus and the materials we have filed or will file with the SEC, including documents incorporated by reference or deemed incorporated by reference herein or therein, as well as information included in our other written or oral statements, contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, or the Exchange Act. Forward-looking statements present our current forecasts and estimates of future events. These statements do not strictly relate to historical or current results and can be identified by words such as “anticipate,” “appear,” “assume,” “believe,” “estimate,” “expect,” “forecast,” “intend,” “likely,” “may,” “plan,” “project,” “seek,” “should,” “strategy,” “will” and other terms of similar meaning or import in connection with any discussion of future operating, financial or other performance. These forward-looking statements are subject to risks, uncertainties and other factors and actual results may differ materially from those results projected in the statements. These factors include general economic conditions, the impact of COVID-19, or other pandemics, including any increased rates in infection, and the impact of related governmental, individual and business responses. This includes our ability to obtain or forecast accurate surgical procedure volume in the midst of the COVID-19 pandemic; the risk that the COVID-19 pandemic could lead to further material delays and cancellations of, or reduced demand for, surgical procedures; curtailed or delayed capital spending by hospitals and surgical centers; potential closures of our facilities; delays in gathering clinical evidence; diversion of management and other resources to respond to the COVID-19 outbreak; the impact of global and regional economic and credit market conditions on healthcare spending; the risk that the COVID-19 virus disrupts local economies and causes economies in our key markets to enter prolonged recessions; the ability of our staff to travel to work, our ability to maintain adequate inventories and delivery capabilities, the impact on our customers and supply chain, and the impact on demand in general. These forward-looking statements are also subject to uncertainties and change resulting from delays and risks associated with the performance of contracts; risks associated with international sales and currency fluctuations; uncertainties as a result of research and development; acceptable results from clinical studies, including publication of results and patient/procedure data with varying levels of statistical relevancy; risks involved in introducing and marketing new products, potential acquisitions, consumer and industry acceptance, litigation and/or court proceedings, including the timing and monetary requirements of such activities, the timing of finding strategic partners and implementing such relationships; regulatory risks including clearance of pending and/or contemplated 510(k) filings; our ability to achieve and maintain profitability in the our business lines, and access to capital.

All forward-looking statements in this prospectus (including documents incorporated by reference or deemed incorporated by reference herein) should be considered in the context of the risks and other factors described above and in Item 1A—Risk Factors in Part I of our most recent Annual Report on Form 10-K and Item 1A—Risk Factors in Part II of our most recent Quarterly Report on Form 10-Q and other subsequent reports we file with the SEC as are incorporated by reference herein. Any forward-looking statements speak only as of the date the statement is made and we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by federal securities laws. It is not possible to identify all of the risks, uncertainties and other factors that may affect future results. There may be other unknown or unpredictable economic, business, competitive, regulatory or other factors that could have material adverse effects on our future results. In light of these risks and uncertainties, the forward-looking events and circumstances discussed in this prospectus and the documents incorporated or deemed incorporated by reference herein may not occur and actual results may differ materially from those anticipated or implied in the forward-looking statements. 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. Accordingly, users of this prospectus (including documents incorporated by reference or deemed incorporated by reference herein) are cautioned not to place undue reliance on the forward-looking statements.

ABOUT MISONIX, INC.

Misonix designs, manufactures, markets, sells and distributes minimally invasive surgical ultrasonic medical devices and markets, sells and distributes skin allografts and wound care products used to support healing of wounds, and which complement Misonix's ultrasonic medical devices. Misonix's ultrasonic products are used for precise bone sculpting, removal of soft and hard tumors and tissue debridement, primarily in the areas of neurosurgery, orthopedic surgery, general surgery, plastic surgery, wound care and maxillo-facial surgery.

In the United States, we sell our products through our direct sales force, in addition to a network of commissioned agents assisted by Misonix personnel. Outside of the United States, we sell BoneScalpel and SonaStar through distributors who then resell the products to hospitals. We sell to all major markets in the Americas, Europe, Middle East, Asia Pacific, and Africa.

We manufacture and sell our products in two global reportable business segments: the Surgical segment (consisting of our neXus, BoneScalpel and SonaStar products) and the Wound segment (consisting of our SonicOne, TheraSkin, Therion, and TheraGenesis products). Our sales force also operates as two segments, Surgical and Wound Care.

We are a Delaware corporation based in Farmingdale, New York. We were incorporated under the laws of Delaware in connection with our acquisition of Solsys, LLC in 2019 and became a successor to our current operating subsidiary, Misonix Op Co., which was incorporated in New York in 1967.

Our executive offices are located at 1938 New Highway, Farmingdale, New York 11735 and our telephone number is (631) 694-9555.

RISK FACTORS

An investment in our securities involves risk. Prior to making a decision about investing in our securities, and in consultation with your own financial, tax and legal advisors, you should carefully consider the risk factors incorporated by reference in this prospectus from our Annual Report on Form 10-K for the fiscal year ended June 30, 2020, and our Quarterly Reports on Form 10-Q for the quarterly periods ended September 30, 2020 and December 31, 2020 under the heading "Risk Factors" and any other information that we have incorporated by reference, including annual, quarterly and other reports filed with the SEC subsequent to the date hereof. You should also refer to the other information in this prospectus and the applicable prospectus supplement, including our financial statements and the related notes incorporated by reference in this prospectus. Additional risks and uncertainties that are not yet identified may also materially harm our business, operating results and financial condition and could result in a complete loss of your investment.

USE OF PROCEEDS

Except as described in any prospectus supplement, we currently intend to use the net proceeds from the sale of shelf securities under this prospectus for potential acquisitions of, or investments in, companies and technologies that complement our businesses, although we have no present understandings, commitments or agreements to do so, or for general corporate purposes, including without limitation, additions to our working capital, and capital expenditures, or potentially for the repayment of indebtedness. The prospectus supplement with respect to an offering of the shelf securities may identify different or additional uses for the proceeds of that offering. Pending any such uses, we may temporarily invest the net proceeds.

DESCRIPTION OF CAPITAL STOCK

General

The following description of our capital stock is based upon our restated certificate of incorporation, or Certificate of Incorporation, and our bylaws, or Bylaws, each of which has been publicly filed with the SEC, and applicable provisions of law. We have summarized certain portions of the Certificate of Incorporation and Bylaws below. The summary is not complete. You should read the Certificate of Incorporation and Bylaws for the provisions that are important to you.

Our authorized capital stock consists of:

- 45,000,000 shares of common stock, par value \$0.0001 per share; and
- 2,000,000 shares of preferred stock, par value \$0.0001 per share.

As of April 16, 2021, there were 17,405,845 shares of our common stock issued and outstanding and no shares of our preferred stock were issued and outstanding.

Common stock

Dividend Rights

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of our common stock are entitled to receive ratably the dividends, if any, as may be declared from time to time by our Board of Directors, or the Misonix Board, out of funds legally available for that purpose.

Voting Rights

Each holder of our common stock is entitled to one vote for each share on all matters to be voted on by the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a plurality of the voting shares are able to elect all of the directors.

Liquidation

In the event of a liquidation, dissolution or winding up of Misonix, holders of our common stock would be entitled to share ratably in the net assets remaining after payment in full of all debts and other liabilities of Misonix and satisfaction of any liquidation preference granted to the holders of any then outstanding shares preferred stock.

Other Rights

Holders of our common stock have no preemptive, conversion, subscription or other rights, and there are no redemption or sinking fund provisions applicable to our common stock. The holders of our common stock will have and possess all rights pertaining to the capital stock of Misonix, subject to the preferences, qualifications, limitations, voting rights and restrictions with respect to any series of preferred stock of Misonix that may be issued with any preference or priority over the Misonix common stock.

Fully Paid and Nonassessable

All of the outstanding shares of our common stock are fully paid and nonassessable.

Listing

Our common stock is listed on the NASDAQ Global Market under the symbol "MSON." The transfer agent and registrar for the common stock is Continental Stock Transfer & Trust Company, New York, New York.

Preferred stock

This section describes the general terms of our preferred stock to which any prospectus supplement may relate. A prospectus supplement will describe the terms relating to any preferred stock to be offered by us in greater detail, and may provide information that is different from this prospectus. If the information in the prospectus supplement with respect to the particular preferred stock being offered differs from this prospectus, you should rely on the information in the prospectus supplement. A copy of our Certificate of Incorporation has been incorporated by reference from our filings with the SEC as an exhibit to the registration statement of which this prospectus is a part. A certificate of amendment to our Certificate of Incorporation will specify the terms of any preferred stock being offered, and will be filed or incorporated by reference from a report that we file with the SEC.

Our authorized shares of preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of the stock exchange on which our securities may be listed or traded. If the approval of our stockholders is not required for the issuance of shares of our preferred stock, the Misonix Board may determine to issue shares without seeking stockholder approval.

The Misonix Board is authorized, to the fullest extent permitted by law, to establish out of our authorized 2,000,000 shares of undesignated preferred stock, one or more classes or series of preferred stock, having such relative rights, preferences, privileges and restrictions thereof, including dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences and the number of shares constituting any series of the designation of such series, as the Misonix Board shall determine without further vote or action by the stockholders.

You should read the applicable prospectus supplement for the terms of the preferred stock offered. The terms of the preferred stock set forth in such prospectus supplement may include the following, as applicable to the preferred stock offered thereby:

- the designation of the series of preferred stock, which may be by distinguishing number, letter or title;
- the number of shares of such preferred stock offered, the liquidation preference per share and the offering price of such preferred stock;
- the dividend rate or rates of such shares, the date at which dividends, if declared, will be payable, and whether or not such dividends are to be cumulative and, if cumulative, the date or dates from which dividends shall be cumulative;
- the amounts payable on shares of such preferred stock in the event of voluntary or involuntary liquidation, dissolution or winding up;
- the redemption rights and price or prices, if any, for the shares of such preferred stock;
- the terms and amount of any sinking fund or analogous fund providing for the purchase or redemption of the shares of such preferred stock, if any;
- the voting rights, if any, granted to the holders of the shares of such preferred stock in addition to those required by Delaware law or the Certificate of Incorporation;
- whether the shares of preferred stock shall be convertible into shares of our common stock or any other class of our capital stock, and if convertible, the conversion price or prices, any adjustment thereof and any other terms and conditions upon which such conversion shall be made;
- any other rights, preferences, restrictions, limitations or conditions relating to the shares of preferred stock as may be permitted by Delaware law or the Certificate of Incorporation;
- any listing of such preferred stock on any securities exchange; and
- a discussion of federal income tax considerations applicable to such preferred stock.

The preferred stock offered will, when issued, be fully paid and nonassessable.

The issuance of preferred stock may have the effect of delaying or preventing a change in control of us without further action by our stockholders. The issuance of shares of preferred stock with voting and conversion rights may adversely affect the voting power of the holders of our common stock.

Delaware Anti-Takeover Law and Certain Certificate of Incorporation and Bylaw Provisions

Some provisions of Delaware law, our Certificate of Incorporation and our Bylaws contain provisions that could make the following transactions more difficult: acquisition of Misonix by means of a tender offer; acquisition of Misonix by means of a proxy contest or otherwise; or removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in Misonix's best interests, including transactions that might result in a premium over the market price for Misonix's shares of common stock.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of Misonix to first negotiate with the Misonix Board. Misonix believes that the benefits of increased protection of its potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure Misonix outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Undesignated Preferred Stock

The ability to authorize undesignated preferred stock makes it possible for the Misonix Board to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of Misonix. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control or management.

No Cumulative Voting

Delaware law provides that stockholders are not entitled to the right to cumulate votes in the election of directors unless the corporation's certificate of incorporation provides otherwise. Our Certificate of Incorporation does not expressly provide for cumulative voting. Without cumulative voting, a minority stockholder may not be able to gain as many seats on the Misonix Board as the stockholder would be able to gain if cumulative voting were permitted. The absence of cumulative voting makes it more difficult for a minority stockholder to secure a seat on the Misonix Board and thereby influence the Board of Director's decision regarding a takeover.

Election and Removal of Directors; Filling Directors

Because our stockholders do not have cumulative voting rights, our stockholders holding a majority of the shares of common stock outstanding are able to elect all of our directors or remove a director by a majority vote. Our Certificate of Incorporation and Bylaws provide that our business and affairs will be managed by the Misonix Board and that, subject to the rights, if any, of any series of preferred stock to elect additional directors under circumstances specified in a preferred stock designation, the number of directors that will constitute the Misonix Board be fixed exclusively by resolutions adopted by the whole Misonix Boards. In addition, our Certificate of Incorporation and Bylaws provide that any board vacancy may be filled solely by the affirmative vote of a majority of the remaining directors then in office and entitled to vote, except that a vacancy created by the removal of a director by stockholders for cause or without cause may be filled by the stockholders at the meeting at which the director is removed or, if not so filled, then by the remaining directors. Note that each amendment to the Certificate of Incorporation requires the same vote of the holders of two-thirds of the outstanding common stock for its repeal or further amendment.

Choice of Forum

Unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the exclusive forum for: any derivative action or proceeding brought on our behalf; any action asserting a breach of fiduciary duty; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law; or any action asserting a claim against us that is governed by the internal affairs doctrine. Notwithstanding the foregoing, this provision will not apply to any claims arising under the Securities Act or the Exchange Act, or any other claim for which the federal courts have exclusive jurisdiction. The enforceability of similar choice of forum provisions has been challenged in legal proceedings, and it is possible that, in connection with such actions or any future actions, a court could find the choice of forum provision to be inapplicable or unenforceable. It is possible that a court could find that such a choice of forum provision is inapplicable for a particular claim or action or that such provisions are unenforceable.

Section 203 of the General Corporation Law of the State of Delaware

We are subject to Section 203 of the Delaware General Corporation Law, which, subject to certain exceptions, prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years following the time that such stockholder became an interested stockholder, unless:

- prior to such time, the Misonix Board approved either the business combination or the transaction that resulted in the stockholder becoming an interested holder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned (a) by persons who are directors and also officers and (b) by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to such time, the business combination is approved by the Misonix Board and authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least two thirds of the outstanding voting stock which is not owned by the interested stockholder.

In general, Section 203 defines “business combination” to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines “interested stockholder” as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by such entity or person.

DESCRIPTION OF WARRANTS

General

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the warrants that we may offer under this prospectus. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of warrant agreement, which may include a form of warrant certificate, that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summary of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. We urge you to read the applicable prospectus supplement related to the particular series of warrants that we sell under this prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

We will describe in the applicable prospectus supplement the terms relating to warrants being offered including:

- the offering price and aggregate number of warrants offered;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants, if material;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the securities purchasable upon such exercise, including, in the case of warrants to purchase common stock or preferred stock, the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up of our affairs or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the securities that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering the warrant certificate representing the warrants to be exercised together with specified information, and paying the required amount to the warrant agent in immediately available funds, as provided in the applicable prospectus supplement. We intend to set forth in any warrant agreement and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent.

Upon receipt of the required payment and any warrant certificate or other form required for exercise properly completed and duly executed at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement, we will issue and deliver the securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant or warrant certificate are exercised, then we will issue a new warrant or warrant certificate for the remaining amount of warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

DESCRIPTION OF UNITS

As specified in the applicable prospectus supplement, we may issue units consisting of one or more of the following: shares of common stock and/or preferred stock, warrants, or any combination of such securities. The applicable prospectus supplement will describe:

- the terms of the units and of any of our common shares, preferred shares or warrants comprising the units, including whether and under what circumstances the securities comprising the units may be traded separately;
- a description of the terms of any unit agreement governing the units;
- a description of the provisions for the payment, settlement, transfer or exchange of the units; and
- if applicable, a discussion of any material United States federal income tax considerations.

PLAN OF DISTRIBUTION

We may sell the securities from time to time in one or more transactions:

- through one or more underwriters or dealers;
- directly to purchasers, including our existing stockholders in a rights offering;
- through agents; or
- through a combination of any of these methods of sale.

We may distribute the securities from time to time in one or more transactions:

- at a fixed price or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to prevailing market prices; or
- at negotiated prices.

We will describe the method of distribution of each series of securities in the applicable prospectus supplement.

We may determine the price or other terms of the securities offered under this prospectus by use of an electronic auction. We will describe how any auction will determine the price or any other terms, how potential investors may participate in the auction and the nature of the underwriters' obligations in the related supplement to this prospectus.

Underwriters, dealers or agents may receive compensation in the form of discounts, concessions or commissions from us or our purchasers as their agents in connection with the sale of the securities. These underwriters, dealers or agents may be considered to be underwriters under the Securities Act. As a result, discounts, commissions or profits on resale received by underwriters, dealers or agents may be treated as underwriting discounts and commissions. Each prospectus supplement will identify any underwriter, dealer or agent, and describe any compensation received by them from us. We may grant underwriters who participate in the distribution of securities an option to purchase additional securities to cover over-allotments, if any, in connection with the distribution.

We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities, including liabilities under the Securities Act. Underwriters, dealers and agents may engage in transactions with or perform services for us in the ordinary course of their businesses.

To the extent required, this prospectus may be amended and supplemented from time to time to describe a specific plan of distribution.

Agents

We may designate agents who agree to use their reasonable efforts to solicit purchases of our securities for the period of their appointment or to sell our securities on a continuing basis.

Underwriters

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. The underwriters will be obligated to purchase all the securities of the series offered if they purchase any of the securities of that series. We may change from time to time any initial public offering price and any discounts or concessions the underwriters allow or reallow or pay to dealers. We may use underwriters with whom we have a material relationship. We will describe the nature of any such relationship in any prospectus supplement naming any such underwriter.

Direct Sales

We may also sell securities directly to one or more purchasers without using underwriters or agents. Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act, and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation.

Trading Markets and Listing of Securities

Unless otherwise specified in the applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is listed on the NASDAQ Global Market. We may elect to list any other class or series of securities on any exchange or market, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

Stabilization Activities

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of these activities at any time.

Delayed Delivery Contracts

If we so indicate in the prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities from us at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The prospectus supplement will describe the commission payable for solicitation of those contracts.

Passive Market Marking

Any underwriters who are qualified market makers on the NASDAQ Global Market may engage in passive market making transactions in the securities on the NASDAQ Global Market in accordance with Rule 103 of Regulation M. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security. If all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon by Jones Day.

EXPERTS

The consolidated financial statements, and the related financial statement schedules, incorporated in this Prospectus by reference from Misonix, Inc.'s Annual Report on Form 10-K have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements and financial statement schedules have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

The consolidated financial statements and schedule as of June 30, 2019 and for the year then ended incorporated by reference in this Prospectus and in the Registration Statement have been so incorporated in reliance on the report of BDO USA, LLP, an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

PART II

INFORMATION NOT REQUIRED IN THE PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The aggregate estimated (other than the registration fee) expenses to be paid in connection with this offering are as follows:

Securities and Exchange Commission registration fee	\$	10,910
Accounting fees and expenses		•
Legal fees and expenses		•
Printing and engraving		•
Transfer agent fees and expenses		•
Miscellaneous		•
Total	\$	10,910

- These fees are calculated based on the securities offered and the number of issuances and, accordingly, cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law, or DGCL, provides that a Delaware corporation may indemnify any persons who are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative, or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person was an officer, director, employee, or agent of such corporation, or is or was serving at the request of such corporation as an officer, director, employee, or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit, or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who are, or are threatened to be made, a party to any threatened, pending, or completed action or suit by or in the right of the corporation by reason of the fact that such person was a director, officer, employee, or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee, or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against the expenses that such officer or director has actually and reasonably incurred. The Certificate of Incorporation provides for the indemnification of Misonix's directors and officers to the fullest extent permitted under the DGCL.

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends, unlawful stock purchase or redemption of shares; or
- breach of a director's duty of loyalty to the corporation or its stockholders.

Section 174 of the DGCL provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption may be held liable for such actions. A director who was either absent when the unlawful actions were approved, or dissented at the time, may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

The Certificate of Incorporation provides that Misonix shall indemnify its directors and officers to the full extent permitted by the DGCL. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by Misonix, provided such director must repay amounts in excess of the indemnification such director is entitled to.

Misonix has also entered into indemnification agreements with each of its current directors and executive officers. These agreements require Misonix to indemnify these individuals to the fullest extent permitted under Delaware law against liabilities that may arise by reason of their service to Misonix, and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified. Misonix also intends to enter into indemnification agreements with its future directors and executive officers..

Item 16. Exhibits

The following exhibits are filed herewith or incorporated by reference herein:

Exhibit Number	Exhibit Title
1.1*	Form of Underwriting Agreement.
3.1	Restated Certificate of Incorporation of the Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K12B filed on September 27, 2019).
3.2	Bylaws of the Company (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K12B filed on September 27, 2019).
4.1*	Form of Certificate of Designation.
4.2*	Form of Preferred Stock Certificate.
4.3*	Form of Warrant Agreement.
4.4*	Form of Warrant Certificate.
4.5*	Form of Unit Agreement.
5.1	Opinion of Jones Day
23.1	Consent of Deloitte & Touche, LLP
23.2	Consent of BDO USA, LLP
23.3	Consent of Jones Day (included in Exhibit 5.1).
24.1	Power of Attorney of certain directors and officers of Misonix, Inc. (included on the signature page of the Registration Statement).

* To be filed by amendment or as an exhibit to a report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended and incorporated herein by reference.

Item 17. Undertakings

(a) 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 of 1933;

- (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 a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and
 - (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 (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the Registration Statement is on Form S-3 or Form F-3 and 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 Securities Exchange Act of 1934 that are incorporated by reference in the Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the Registration Statement.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 of 1933 to any purchaser:
- (i) 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 the registration statement; and
 - (ii) 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 of 1933 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 the registration statement or made in any such document immediately prior to the effective date.

- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 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 and 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 be 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.
- (b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of our employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement 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.
- (e) The undersigned registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X are not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.
- (h) Insofar as indemnification for liabilities arising under the Securities Act 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 Securities and Exchange Commission 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.
- (j) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under section 305(b)(2) of the Trust Indenture Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Farmingdale, State of New York, on the 22 day of April, 2021.

MISONIX, INC.

By: /s/ Joseph P. Dwyer

Joseph P. Dwyer

Chief Financial Officer, Treasurer and Secretary

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Stavros G. Vizirgianakis and Joseph P. Dwyer and each of them, his or her true and lawful attorney-in-fact and agent, with full power and substitution and resubstitution, for him or her or its and in his or her name, place and stead, in any and all capacities to sign any and all amendments (including, without limitation, post-effective amendments) to this Registration Statement and any registration statement filed under Rule 462 under the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and other documents in connection therewith, with authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Stavros G. Vizirgianakis</u> Stavros G. Vizirgianakis	Chief Executive Officer and Director (Principal Executive Officer)	April 22, 2021
<u>/s/ Joseph P. Dwyer</u> Joseph P. Dwyer	Chief Financial Officer, Treasurer and Secretary (Principal Financial and Accounting Officer)	April 22, 2021
<u>/s/ Michael Koby</u> Michael Koby	Director	April 22, 2021
<u>/s/ Thomas M. Patton</u> Thomas M. Patton	Director	April 22, 2021
<u>/s/ Paul LaViolette</u> Paul LaViolette	Director	April 22, 2021

JONES DAY

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TELEPHONE: +1.949.851.3939 • FACSIMILE: +1.949.553.7539

April 22, 2021

Misonix, Inc
1938 New Highway
Farmingdale, NY 11735

Re: Registration Statement on Form S-3 Filed by Misonix, Inc.

Ladies and Gentlemen:

We have acted as counsel for Misonix, Inc., a Delaware corporation (the “**Company**”), in connection with the authorization of the possible issuance and sale from time to time, on a continuous or delayed basis, by the Company of up to \$100,000,000 in initial aggregate offering price of: (i) shares of common stock, par value \$0.0001 per share, of the Company (the “**Common Stock**”); (ii) shares of preferred stock, par value \$0.0001 per share, of the Company (the “**Preferred Stock**”), in one or more series, certain of which may be convertible into or exchangeable for shares of Common Stock; (iii) warrants to purchase shares of Common Stock or Preferred Stock (the “**Warrants**”); and (iv) units consisting of one or more of the securities described in clauses (i) through (iii) above (the “**Units**” and, collectively with the Common Stock, the Preferred Stock and the Warrants, the “**Securities**.”), in each case as contemplated by the Company’s Registration Statement on Form S-3 to which this opinion is filed as an exhibit (as the same may be amended from time to time, the “**Registration Statement**”). The Securities and the Shares may be offered and sold from time to time pursuant to Rule 415 under the Securities Act of 1933 (the “**Securities Act**”).

In connection with the opinions expressed herein, we have examined such documents, records and matters of law as we have deemed relevant or necessary for purposes of this opinion. Based on the foregoing and subject to the further assumptions, qualifications and limitations set forth herein, we are of the opinion that:

1. The shares of Common Stock, upon receipt by the Company of such lawful consideration therefor having a value not less than the par value thereof as the Company’s Board of Directors (or an authorized committee thereof) may determine, will be validly issued, fully paid and nonassessable.
2. The shares of Preferred Stock, upon receipt by the Company of such lawful consideration therefor having a value not less than the par value thereof as the Company’s Board of Directors (or an authorized committee thereof) may determine, will be validly issued, fully paid and nonassessable.
3. The Warrants, upon receipt by the Company of such lawful consideration therefor as the Company’s Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

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4. The Units, upon receipt by the Company of such lawful consideration therefor as the Company's Board of Directors (or an authorized committee thereof) may determine, will constitute valid and binding obligations of the Company.

In rendering the foregoing opinions, we have assumed that: (i) the Registration Statement, and any amendments thereto, will have become effective (and will remain effective at the time of issuance of any Securities thereunder); (ii) a prospectus supplement describing each class and/or series of Securities offered pursuant to the Registration Statement, to the extent required by applicable law and relevant rules and regulations of the Securities and Exchange Commission (the "**Commission**"), will be timely filed with the Commission; (iii) the definitive terms of each class and/or series of Securities will have been established in accordance with the authorizing resolutions adopted by the Company's Board of Directors (or an authorized committee thereof), the Company's Restated Certificate of Incorporation (the "**Certificate of Incorporation**") and applicable law; (iv) the Company will issue and deliver the Securities in the manner contemplated by the Registration Statement, and any Securities that consist of shares of capital stock will have been authorized and reserved for issuance, in each case within the limits of the then remaining authorized but unissued and unreserved amounts of such capital stock; (v) the resolutions authorizing the Company to issue, offer and sell the Securities will have been adopted by the Company's Board of Directors (or an authorized committee thereof) and will be in full force and effect at all times at which the Securities are offered or sold by the Company; (vi) all Securities will be issued in compliance with applicable federal and state securities laws; and (vii) any Warrant Agreement (as defined below) or Unit agreement will be governed by and construed in accordance with the laws of the State of New York and will constitute a valid and binding obligation of each party thereto other than the Company.

With respect to any Securities consisting of Preferred Stock, we have further assumed that the Company will issue and deliver the shares of the Preferred Stock being issued and delivered after either (i) the filing with the Secretary of State of the State of Delaware of a certificate of designation to the Certificate of Incorporation or (ii) the adoption by the Company's Board of Directors of a resolution or resolutions, in each case in a form approved by us, establishing the designations, preferences and rights of the class or series of the Preferred Stock being issued and delivered.

With respect to any Securities consisting of Warrants, we have further assumed that: (i) the warrant agreement, approved by us, relating to the Warrants (the "**Warrant Agreement**") to be entered into between the Company and an entity selected by the Company to act as the warrant agent (the "**Warrant Agent**") will have been authorized, executed and delivered by the Company and the Warrant Agent; and (ii) the Warrants will be authorized, executed and delivered by the Company and the Warrant Agent in accordance with the provisions of the Warrant Agreement.

With respect to any Securities consisting of Units, we have further assumed that each component of such Unit will be authorized, validly issued, fully paid and nonassessable (to the extent applicable) and will constitute a valid and binding obligation of the Company or any third party (to the extent applicable) as contemplated by the Registration Statement and the applicable Unit agreement, if any.

Misonix, Inc.
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The opinions expressed herein are limited by bankruptcy, insolvency, reorganization, fraudulent transfer and fraudulent conveyance, voidable preference, moratorium or other similar laws and related regulations and judicial doctrines from time to time in effect relating to or affecting creditors' rights generally, and by general equitable principles and public policy considerations, whether such principles and considerations are considered in a proceeding at law or at equity.

As to facts material to the opinions and assumptions expressed herein, we have relied upon oral or written statements and representations of officers and other representatives of the Company and others. The opinions expressed herein are limited to the General Corporation Law of the State of Delaware and the laws of the State of New York, in each case as currently in effect, and we express no opinion as to the effect of the laws of any other jurisdiction.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to Jones Day under the caption "Legal Matters" in the prospectus constituting a part of the Registration Statement. In giving such consent, we do not thereby admit that we are included in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Very truly yours,

/s/ Jones Day

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-3 of our report dated September 3, 2020 relating to the consolidated financial statements of Misonix, Inc., appearing in the Annual Report on Form 10-K of Misonix, Inc. for the year ended June 30, 2020. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ DELOITTE & TOUCHE LLP

Jericho, New York
April 22, 2021

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Misonix, Inc.
Farmingdale, New York

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement on Form S-3 of our report dated September 5, 2019, except for the segment information included in Notes 1 and 13, as to which the date is September 3, 2020, relating to the consolidated financial statements and schedule appearing in the Company's Annual Report on Form 10-K for the year ended June 30, 2020.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, LLP

Melville, New York

April 22, 2021
