

NANOPHASE TECHNOLOGIES CORPORATION

Form S-1/A

June 08, 2012

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As filed with the Securities and Exchange Commission on June 8, 2012

Registration No. 333-181486

**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

**AMENDMENT NO. 1**  
**TO**  
**FORM S-1**  
**REGISTRATION STATEMENT**

*UNDER*

*THE SECURITIES ACT OF 1933*

**NANOPHASE TECHNOLOGIES CORPORATION**

(Exact name of registrant as specified in its charter)

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<b>Delaware</b> (State or other jurisdiction of incorporation or organization)	<b>3390</b> (Primary Standard Industrial Classification Code Number) 1319 Marquette Drive  Romeoville, Illinois 60446  (630) 771-6708	<b>36-3687863</b> (I.R.S. Employer Identification Number)
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(Address, including zip code, and telephone number, including area code of principal executive offices)

**Jess A. Jankowski**  
  
**Chief Executive Officer**  
  
**Nanophase Technologies Corporation**  
  
**1319 Marquette Drive**  
  
**Romeoville, Illinois 60446**  
  
**(630) 771-6708**

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

*Please send copies of all communications to:*

**David C. Worrell**  
  
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**Suite 600**  
  
**Indianapolis, Indiana 46240**  
  
**(317) 569-9600**

*Approximate date of commencement of proposed sale to the public:* As soon as practicable after the Registration Statement is declared effective.

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer  Accelerated filer   
Non-accelerated filer  (Do not check if a smaller reporting company) Smaller reporting company

**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 Securities and Exchange Commission, acting pursuant to said section 8(a), may determine.**

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**The information in this prospectus is not complete and may be changed. We may not sell these 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 it is not soliciting an offer to buy these securities in any state where the offer or sale is prohibited.**

**SUBJECT TO COMPLETION, DATED JUNE 8, 2012**

**PROSPECTUS**

**Subscription Rights to Purchase up to 7,250,000 Shares**

**of Common Stock of Nanophase Technologies Corporation at \$0.33 per Full Share**

We are distributing, at no charge, to holders of our common stock non-transferable subscription rights to purchase up to 7,250,000 shares of our common stock. You will receive one subscription right for each share of common stock owned at 5:00 p.m., New York City time, on June 13, 2012.

Each subscription right will entitle you to purchase 0.342 shares of our common stock at a subscription price of \$0.33 per full share, which we refer to as the basic subscription privilege. The per share price was determined by our board of directors after a review of recent closing sales and volume weighted average prices of our common stock and a number of other factors. If you fully exercise your basic subscription privilege and other stockholders do not fully exercise their basic subscription privileges, you may also exercise an over-subscription right to purchase additional shares of common stock that remain unsubscribed at the expiration of the rights offering, subject to the availability and pro rata allocation of shares among persons exercising this over-subscription right and limited to four times the number of shares you purchased under the basic subscription privilege. If all the rights were exercised, the total purchase price of the shares offered in this rights offering would be approximately \$2.4 million.

The subscription rights will expire if they are not exercised by 5:00 p.m., New York City time, on July 20, 2012, unless we extend the rights offering period. We have the option to extend the rights offering and the period for exercising your subscription rights for a period not to exceed 30 days, although we do not presently intend to do so. You should carefully consider whether to exercise your subscription rights prior to the expiration of the rights offering. All exercises of subscription rights are irrevocable, even if the rights offering is extended by our board of directors. However, if we amend the rights offering to allow for an extension of the rights offering for a period of more than 30 days or make a fundamental change to the terms set forth in this prospectus, you may cancel your subscription and receive a refund of any money you have advanced.

Our board of directors is making no recommendation regarding your exercise of the subscription rights. The subscription rights may not be sold, transferred or assigned and will not be listed for trading on any stock exchange or market, specifically including the OTCQB marketplace and the OTC Bulletin Board.

Our board of directors may cancel the rights offering at any time prior to the expiration of the rights offering for any reason. In the event the rights offering is cancelled, all subscription payments received by the subscription agent will be returned, without interest, as soon as practicable.

The shares of common stock are being offered directly by us without the services of an underwriter or selling agent.

Shares of our common stock are traded on the OTCQB marketplace under the symbol NANX. On June 5, 2012, the closing sales price for our common stock was \$0.42 per share. The shares of common stock issued in the rights offering will also trade on the OTCQB marketplace under the same symbol.

**The exercise of your subscription rights for shares of our common stock involves risks. See Risk Factors beginning on page 6 of this prospectus as well as the other information relating to risks in any documents we incorporate by reference into this prospectus to read about important factors you should consider before exercising your subscription rights.**

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**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.**

The date of this prospectus is [ ], 2012

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As permitted under the rules of the Securities and Exchange Commission, or the SEC, this prospectus incorporates important business information about Nanophase Technologies Corporation that is contained in documents that we file with the SEC, but that are not included in or delivered with this prospectus. You may obtain copies of these documents, without charge, from the website maintained by the SEC at [www.sec.gov](http://www.sec.gov), as well as other sources. See **Available Information** in this prospectus.

You should rely only on the information contained in or incorporated by reference into this prospectus. We have not authorized anyone to provide you with additional or different information from that contained in or incorporated by reference into this prospectus. You should assume that the information contained in or incorporated by reference into this prospectus is accurate only as of any date on the front cover of this prospectus or the date of the document incorporated by reference, as applicable, regardless of the time of delivery of this prospectus or any exercise of the subscription rights. Our business, financial condition, results of operations and prospects may have changed since those dates. We are not making an offer of these securities in any state or other jurisdiction where the offer is not permitted.

As used in this prospectus, Nanophase, the Company, we, us and our refer to Nanophase Technologies Corporation unless stated otherwise or the context requires otherwise.

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**QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING**

**What is the rights offering?**

We are distributing to holders of our common stock, at no charge, non-transferable subscription rights to purchase shares of our common stock. You will receive one subscription right for each share of common stock you owned as of 5:00 p.m., New York City time, on June 13, 2012, the record date. The subscription rights will be evidenced by rights certificates. Each subscription right will entitle the holder to a basic subscription privilege and an over-subscription privilege.

**What is the basic subscription privilege?**

The basic subscription privilege of each subscription right gives our stockholders the opportunity to purchase for each share of common stock owned as of the record date 0.342 shares of our common stock at a subscription price of \$0.33 per full share. We have granted to you, as a stockholder of record as of 5:00 p.m., New York City time, on the record date, one subscription right for each share of our common stock you owned at that time. For example, if you owned 100 shares of our common stock as of 5:00 p.m., New York City time, on the record date, you would receive 100 subscription rights and would have the right to purchase 34.2 shares of common stock (rounded down to 34 shares, with the total subscription payment being adjusted accordingly, as discussed below) at \$0.33 per full share with your basic subscription privilege. You may exercise the basic subscription privilege of any number of your subscription rights, or you may choose not to exercise any subscription rights.

If you hold your shares in the name of a broker, custodian bank, dealer or other nominee who uses the services of the Depository Trust Company, or DTC, DTC will issue one subscription right to the nominee for each share of our common stock you own at the record date. The basic subscription privilege of each subscription right can then be used to purchase 0.342 shares of common stock at \$0.33 per full share. As in the example above, if you owned 100 shares of our common stock on the record date, you would receive 100 subscription rights and would have the right to purchase 34.2 shares of common stock (rounded down to 34 shares, with the total subscription payment being adjusted accordingly, as discussed below) at \$0.33 per full share with your basic subscription privilege.

Fractional shares of our common stock resulting from the exercise of the basic subscription privilege will be eliminated by rounding down to the nearest whole share, with the total subscription payment being adjusted accordingly. Any excess subscription payments received by the subscription agent will be returned, without interest, as soon as practicable.

**What is the over-subscription privilege?**

We do not expect all of our stockholders to exercise all of their basic subscription privileges. The over-subscription privilege provides stockholders that exercise all of their basic subscription privileges the opportunity to purchase the shares that are not purchased by other stockholders. If you fully exercise your basic subscription privilege and other stockholders do not fully exercise their basic subscription privileges, you may also exercise an over-subscription right to purchase additional shares of common stock that remain unsubscribed at the expiration of the rights offering, subject to the availability and pro rata allocation of shares among persons exercising this over-subscription right, and limited to four times the number of shares purchased by that stockholder under the basic subscription privilege. To the extent the number of the unsubscribed shares is not sufficient to satisfy all of the properly exercised over-subscription rights requests, then the available shares will be prorated among those who properly exercised over-subscription rights based on the number of shares each rights holder subscribed for under the basic subscription privilege. If this pro rata allocation results in any stockholder receiving a greater number of common shares than the stockholder subscribed for pursuant to the exercise of the over-subscription privilege, then such stockholder will be allocated only that number of shares for which the stockholder oversubscribed, and the remaining common shares will be allocated among all other stockholders

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exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all shares have been allocated or all over-subscription exercises have been fulfilled, whichever occurs earlier.

In order to properly exercise your over-subscription privilege, you must deliver the subscription payment related to your over-subscription privilege prior to the expiration of the rights offering. Because we will not know the total number of unsubscribed shares prior to the expiration of the rights offering, if you wish to maximize the number of shares you purchase pursuant to your over-subscription privilege, you will need to deliver payment in an amount equal to the aggregate subscription price for the maximum number of shares of our common stock available to you, assuming that no stockholder other than you has purchased any shares of our common stock pursuant to their basic subscription privilege and over-subscription privilege. See [The Rights Offering](#) [The Subscription Rights](#) [Over-Subscription Privilege](#).

Fractional shares of our common stock resulting from the exercise of the over-subscription privilege will be eliminated by rounding down to the nearest whole share, with the total subscription payment being adjusted accordingly. Any excess subscription payments received by the subscription agent will be returned, without interest, as soon as practicable.

### **Are there any limits on the number of shares I may purchase in the rights offering or own as a result of the rights offering?**

Yes. Any purchases in the rights offering are inherently limited by the terms as described, including the total number of shares being issued as a limitation of the over-subscription privilege, as well as the over-subscription privilege limit of four times the number of shares purchased by that stockholder under the basic subscription privilege.

### **Why is the Company conducting the rights offering?**

We are conducting the rights offering to raise capital in a cost-effective manner that allows all stockholders to participate. We intend to use the net proceeds for general corporate purposes. It is a condition under the supply agreement with our largest customer, BASF Corporation ( [BASF](#) ) that we maintain at least \$2.0 million in cash or cash equivalents at the end of each quarterly reporting period. If successful, we believe that the rights offering will enhance our ability to maintain the minimum amount of liquidity required in this supply agreement.

### **How was the \$0.33 per full share subscription price determined?**

In determining the subscription price, our board of directors considered recent closing sales and volume weighted average prices of our common stock and a number of other factors, including: the likely cost of capital from other sources, the price at which our stockholders might be willing to participate in the rights offering, our need for liquidity and the desire to provide an opportunity to our stockholders to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, our board of directors also reviewed a range of discounts to market value represented by the subscription prices in various prior rights offerings of public companies. The subscription price was established at a price of \$0.33 per full share. The subscription price is not necessarily related to our book value, net worth or any other established criteria of value and may or may not be considered the fair value of our common stock to be offered in the rights offering. We cannot give any assurance that our common stock will trade at or above the subscription price in any given time period.

### **Am I required to exercise all of the subscription rights I receive in the rights offering?**

No. You may exercise any number of your subscription rights, or you may choose not to exercise any subscription rights. However, if you choose not to exercise your subscription rights in full, the relative percentage of our common stock that you own will decrease, and your voting and other rights will be diluted, to the extent shares are purchased by other stockholders in the rights offering. In addition, if you do not exercise your basic subscription privilege in full, you will not be entitled to participate in the over-subscription privilege.



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### **How soon must I act to exercise my subscription rights?**

The subscription rights may be exercised at any time beginning on the date of this prospectus and prior to the expiration of the rights offering, which is on July 20, 2012, at 5:00 p.m., New York City time. If you elect to exercise any rights, the subscription agent must actually receive all required documents and payments from you prior to the expiration of the rights offering. Although we have the option of extending the expiration of the rights offering for a period not to exceed 30 days, we currently do not intend to do so.

### **May I transfer my subscription rights?**

No. You may not sell or transfer your subscription rights to anyone.

### **Are we requiring a minimum subscription to complete the rights offering?**

No.

### **Are there any conditions to completing the rights offering?**

No.

### **Can our board of directors extend, cancel or amend the rights offering?**

Yes. We have the option to extend the rights offering and the period for exercising your subscription rights for a period not to exceed 30 days, although we do not presently intend to do so. If we elect to extend the expiration of the rights offering, we will issue a press release announcing such extension no later than 9:00 a.m., New York City time, on the next business day after the most recently announced expiration of the rights offering. We will extend the duration of the rights offering as required by applicable law or regulation and may choose to extend it if we decide to give investors more time to exercise their subscription rights in this rights offering. If we elect to extend the rights offering for a period of more than 30 days, then holders who have subscribed for rights may cancel their subscriptions and receive a refund of all money advanced.

Our board of directors may cancel the rights offering at any time prior to the expiration of the rights offering for any reason. In the event that the rights offering is cancelled, we will issue a press release notifying stockholders of the cancellation and all subscription payments received by the subscription agent will be returned, without interest or penalty, as soon as practicable.

Our board of directors also reserves the right to amend or modify the terms of the rights offering. If we should make any fundamental changes to the terms set forth in this prospectus, we will file a post-effective amendment to the registration statement in which this prospectus is included, offer potential purchasers who have subscribed for rights the opportunity to cancel such subscriptions and issue a refund of any money advanced by such stockholder and recirculate an updated prospectus after the post-effective amendment is declared effective with the SEC. In addition, upon such event, we may extend the expiration date of this rights offering to allow holders of rights ample time to make new investment decisions and for us to recirculate updated documentation. Promptly following any such occurrence, we will issue a press release announcing any changes with respect to this rights offering and the new expiration date. The terms of the rights offering cannot be modified or amended after the expiration date of the rights offering. Although we do not presently intend to do so, we may choose to amend or modify the terms of the rights offering for any reason, including, without limitation, in order to increase participation in the rights offering. Such amendments or modifications may include a change in the subscription price although no such change is presently contemplated.

### **Has the board of directors made a recommendation to our stockholders regarding the rights offering?**

The board of directors does not make any recommendation to stockholders regarding the exercise of rights under the rights offering. You should make an independent investment decision about whether or not to exercise

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your rights. Stockholders who exercise subscription rights risk investment loss on new money invested. We cannot assure you that the market price for our common stock will remain above the subscription price or that anyone purchasing shares at the subscription price will be able to sell those shares in the future at the same price or a higher price. If you do not exercise your rights, you will lose any value represented by your rights and your percentage ownership interest in us will be diluted. Please see **Risk Factors** for a discussion of some of the risks involved in investing in our common stock.

### **What will happen if I choose not to exercise my subscription rights?**

If you do not exercise any subscription rights, the number of shares of our common stock you own will not change; however, due to the fact that shares will be purchased by other stockholders in the rights offering, your percentage ownership after the completion of the rights offering will be diluted.

### **How do I exercise my subscription rights? What forms and payment are required to purchase the shares of our common stock?**

If you wish to participate in the rights offering, you must take the following steps:

deliver payment to the subscription agent using the methods outlined in this prospectus before 5:00 p.m., New York City time, on July 20, 2012; and

deliver a properly completed rights certificate to the subscription agent before 5:00 p.m., New York City time, on July 20, 2012. If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms, the payment received will be applied to exercise your subscription rights to the full extent possible based on the amount of the payment received, subject to the elimination of fractional shares.

### **When will I receive my new shares?**

If you purchase shares of our common stock through the rights offering, you will receive your new shares as soon as practicable after the closing of the rights offering.

### **After I send in my payment and rights certificate, may I cancel my exercise of subscription rights?**

No. All exercises of subscription rights are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your subscription rights and even if the rights offering is extended by our board of directors. However, if we amend the rights offering to allow for an extension of the rights offering for a period of more than 30 days or make a fundamental change to the terms set forth in this prospectus, you may cancel your subscription and receive a refund of any money you have advanced. You should not exercise your subscription rights unless you are certain that you wish to purchase additional shares of our common stock at a subscription price of \$0.33 per full share.

### **What should I do if I want to participate in the rights offering but my shares are held in the name of my broker, dealer, custodian bank or other nominee?**

If you hold your shares of our common stock in the name of a broker, dealer, custodian bank or other nominee, then your broker, dealer, custodian bank or other nominee is the record holder of the shares you own. The record holder must exercise the subscription rights on your behalf for the shares of our common stock you wish to purchase.

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If you wish to participate in the rights offering and purchase shares of our common stock, please promptly contact the record holder of your shares. We will ask your broker, dealer, custodian bank or other nominee to notify you of the rights offering. You should complete and return to your record holder the form entitled "Beneficial Owner Election." You should receive this form from your record holder with the other rights offering materials.

### **How many shares of our common stock will be outstanding after the rights offering?**

As of June 5, 2012, we had 21,208,162 shares of our common stock issued and outstanding and options to purchase 1,466,200 shares of our common stock outstanding. We expect to issue a maximum of 7,250,000 shares of our common stock in this rights offering through the exercise of subscription rights. Assuming no options are exercised prior to the expiration of the rights offering, we anticipate that we will have 28,458,162 shares of our common stock outstanding immediately after completion of the rights offering.

### **How much money will the Company receive from the rights offering?**

Assuming all the shares of common stock offered are sold, the gross proceeds from the rights offering will be approximately \$2.4 million. Please see "Use of Proceeds."

### **Are there risks in exercising my subscription rights?**

Yes. The exercise of your subscription rights involves risks. Exercising your subscription rights involves the purchase of additional shares of our common stock and should be considered as carefully as you would consider any other equity investment. Among other things, you should carefully consider the risks described under the headings "Risk Factors" in this prospectus.

### **May stockholders in all states participate in the rights offering?**

Although we intend to distribute the rights to all stockholders, we reserve the right in some states to require stockholders, if they wish to participate, to state and agree upon exercise of their respective rights that they are acquiring the shares for investment purposes only, and that they have no present intention to resell or transfer any shares acquired. Our securities are not being offered in any jurisdiction where the offer is not permitted under applicable local laws.

### **If the rights offering is not completed, will my subscription payment be refunded to me?**

Yes. The subscription agent will hold all funds it receives in a segregated bank account until completion of the rights offering. If the rights offering is not completed, all subscription payments received by the subscription agent will be returned, without interest, as soon as practicable. If you own shares in "street name," it may take longer for you to receive payment because the subscription agent will return payments through the record holder of the shares.

### **Will the subscription rights be listed on a stock exchange or national market?**

The subscription rights may not be sold, transferred or assigned and will not be listed or quoted for trading on any stock exchange or market, including the OTCQB marketplace or OTC Bulletin Board.

### **How do I exercise my subscription rights if I live outside the United States?**

We will not mail this prospectus or the rights certificates to stockholders whose addresses are outside the United States or who have an army post office or foreign post office address. The subscription agent will hold the rights certificates for their account. To exercise subscription rights, our foreign stockholders must notify the subscription agent and timely follow the procedures described in "The Rights Offering" Foreign Stockholders.

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**What fees or charges apply if I purchase shares of our common stock?**

We are not charging any fee or sales commission to issue subscription rights to you or to issue shares to you if you exercise your subscription rights. If you exercise your subscription rights through the record holder of your shares, you are responsible for paying any fees your record holder may charge you.

**What are the U.S. federal income tax consequences of exercising subscription rights?**

For U.S. federal income tax purposes, you generally should not recognize income or loss in connection with the receipt or exercise of subscription rights unless the rights offering is part of a disproportionate distribution within the meaning of applicable tax rules (in which case you may recognize taxable income upon receipt of the subscription rights). We believe that the rights offering should not be part of a disproportionate distribution but certain aspects of that determination are unclear. This position is not binding on the Internal Revenue Service (the IRS) or the courts, however. You are urged to consult your own tax advisor as to your particular tax consequences resulting from the receipt and exercise of subscription rights and the receipt, ownership and disposition of our common stock. For further information, please see Material U.S. Federal Income Tax Consequences.

**To whom should I send my forms and payment?**

If your shares are held in the name of a broker, dealer or other nominee, then you should send your subscription documents, rights certificate and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate and subscription payment by hand delivery, first class mail or overnight courier service to:

Broadridge Corporate Issuer Solutions, Inc.

1981 Marcus Avenue

Suite 100

Lake Success, NY 11042

Attention: Subscription Department

You are solely responsible for completing delivery to the subscription agent of your subscription documents, rights certificate and payment. We urge you to allow sufficient time for delivery of your subscription materials to the subscription agent.

**Whom should I contact if I have other questions?**

If you have other questions or need assistance, please contact Broadridge Corporate Issuer Solutions, Inc. at (800) 733-1121.

**Summary Financial Information**

The selected consolidated financial data presented below should be read in conjunction with our consolidated financial statements and the notes to the consolidated financial statements and Management's Discussion and Analysis of Financial Condition and Results of Operations included in our Quarterly Report on Form 10-Q for the three months ended March 31, 2012, and our Annual Report on Form 10-K for the year ended December 31, 2011, which are incorporated herein by reference.

Our total revenue and net loss for the periods indicated were as follows:

	<b>Quarter Ended March 31, 2012</b>	<b>Year Ended December 31, 2011</b>
Total revenue	\$ 2,409,338	\$ 9,650,787

Net loss	\$ (774,122)	\$ (3,363,537)
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**PROSPECTUS SUMMARY**

*This summary highlights information contained in or incorporated by reference into this prospectus. This summary may not contain all of the information that you should consider before deciding whether or not you should exercise your subscription rights. You should carefully read this prospectus, including the documents incorporated by reference, which are described under the heading *Incorporation by Reference* in this prospectus.*

**The Company**

Nanophase Technologies Corporation is a nanomaterials and applications developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterial for use in a variety of diverse existing and developing markets: personal care including sunscreens, architectural coatings, industrial coating ingredients, abrasion-resistant additives, plastics additives, medical diagnostics, architectural window cleaning and restoration, and a variety of polishing applications, including semiconductors and optics. We target markets in which we feel practical solutions may be found using nanoengineered products. We work closely with current and potential customers in these target markets to identify their material and performance requirements and market our materials to various end-use applications manufacturers. Recently developed technologies have made certain new products possible and opened potential new markets.

Nanophase has created a leading commercial approach to the application of its integrated nanomaterials technologies designed to deliver an optimal engineered nanomaterial solution for a target market or specific customer application. With respect to the products it makes, Nanophase has complete capability from application development and laboratory samples through pilot production and, finally, commercial production. Nanophase has development and application laboratories and manufacturing capacity in two locations in the Chicago area. The Company's manufacturing is based on Lean Six Sigma discipline and is certified to ISO 9001, American National Standard, Quality Management System Requirements; ISO 14001, American National Standard, Environmental Management System Requirements; and is compliant with current Good Manufacturing Practices for products under U.S. Food and Drug Administration regulation.

We have undergone a strategic shift toward penetrating key markets via interactive applications development with end-use customers in these markets. We believe this strategy leverages the applications development expertise we have cultivated over the last several years and best positions us to build direct sales to end-use customers, in addition to translating these advantages through our market partners.

The Company was incorporated in Illinois on November 25, 1989, and became a Delaware corporation on November 12, 1997. The Company's common stock trades on the OTCQB marketplace under the symbol NANX. Our principal office is located at 1319 Marquette Drive, Romeoville, Illinois 60446, and the telephone number at that address is (630) 771-6708. Our website address is www.nanophase.com. Except for those SEC filings incorporated by reference in this prospectus, none of the information contained on, or that may be accessed through, our website is a prospectus or constitutes part of, or is otherwise incorporated into, this prospectus.

**The Rights Offering**

*The following summary describes the principal terms of the rights offering, but is not intended to be complete. See the information under the heading *The Rights Offering* in this prospectus for a more detailed description of the terms and conditions of the rights offering.*

**Securities Offered**

We are distributing, at no charge, to holders of our common stock non-transferable subscription rights to purchase up to 7,250,000 shares of our common stock. You will receive one subscription right for each share of common stock owned at 5:00 p.m., New York City time, on June 13, 2012.

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Basic Subscription Privilege	The basic subscription privilege of each subscription right will entitle you to purchase 0.342 shares of our common stock at a subscription price of \$0.33 per full share.
Over-Subscription Privilege	If you fully exercise your basic subscription privilege and other stockholders do not fully exercise their basic subscription privileges, you may also exercise an over-subscription right to purchase additional shares of common stock that remain unsubscribed at the expiration of the rights offering, subject to the availability and pro rata allocation of shares among persons exercising this over-subscription right. To the extent the number of the unsubscribed shares is not sufficient to satisfy all of the properly exercised over-subscription rights requests, then the available shares will be prorated among those who properly exercised over-subscription rights based on the number of shares each rights holder subscribed for under the basic subscription privilege. If this pro rata allocation results in any stockholder receiving a greater number of common shares than the stockholder subscribed for pursuant to the exercise of the over-subscription privilege, then such stockholder will be allocated only that number of shares for which the stockholder oversubscribed, and the remaining common shares will be allocated among all other stockholders exercising the over-subscription privilege on the same pro rata basis described above. The proration process will be repeated until all shares have been allocated or all over-subscription exercises have been fulfilled, whichever occurs earlier.
Limitation on the Purchase of Shares	Any stockholder may exercise basic subscription and over-subscription privileges to the extent that any such exercise is the result of rights as described herein and that the total number of shares sold by the Company does not exceed 7,250,000. Additionally, over-subscription rights are restricted to the number of shares available in this offering and not purchased by stockholders in their basic subscription right, and further limited to four times the number of shares a stockholder purchases under its fully exercised basic subscription right.
Record Date	5:00 p.m., New York City time, on June 13, 2012.
Expiration of the Rights Offering	5:00 p.m., New York City time, on July 20, 2012.
Subscription Price	\$0.33 per full share, payable in cash. To be effective, any payment related to the exercise of a right must clear prior to the expiration of the rights offering.
Use of Proceeds	We intend to use the net proceeds for general corporate purposes, including enhancing our ability to maintain the minimum amount of liquidity required in the supply agreement with our largest customer.
Non-Transferability of Rights	The subscription rights may not be sold, transferred or assigned and will not be listed for trading on any stock exchange or market, including the OTCQB marketplace or the OTC Bulletin Board.

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No Board Recommendation	Our board of directors is making no recommendation regarding your exercise of the subscription rights. You are urged to make your decision based on your own assessment of our business and the rights offering. Please see Risk Factors for a discussion of some of the risks involved in investing in our common stock.
No Revocation	All exercises of subscription rights are irrevocable, even if you later learn information that you consider to be unfavorable to the exercise of your subscription rights and even if the rights offering is extended by our board of directors. However, if we amend the rights offering to allow for an extension of the rights offering for a period of more than 30 days or make a fundamental change to the terms set forth in this prospectus, you may cancel your subscription and receive a refund of any money you have advanced. You should not exercise your subscription rights unless you are certain that you wish to purchase additional shares of our common stock at a subscription price of \$0.33 per full share.
U.S. Federal Income Tax Considerations	For U.S. federal income tax purposes, you generally should not recognize income or loss in connection with the receipt or exercise of subscription rights unless the rights offering is part of a disproportionate distribution within the meaning of applicable tax rules (in which case you may recognize taxable income upon receipt of the subscription rights). We believe that the rights offering should not be part of a disproportionate distribution, but certain aspects of that determination are unclear. This position is not binding on the IRS or the courts, however. You are urged to consult your own tax advisor as to your particular tax consequences resulting from the receipt and exercise of subscription rights and the receipt, ownership and disposition of our common stock. For further information, please see Material U.S. Federal Income Tax Consequences.
Extension, Cancellation and Amendment	<p>We have the option to extend the rights offering and the period for exercising your subscription rights for a period not to exceed 30 days, although we do not presently intend to do so. If we elect to extend the expiration of the rights offering, we will issue a press release announcing such extension no later than 9:00 a.m., New York City time, on the next business day after the most recently announced expiration of the rights offering. We will extend the duration of the rights offering as required by applicable law or regulation and may choose to extend it if we decide to give investors more time to exercise their subscription rights in this rights offering. If we elect to extend the rights offering for a period of more than 30 days, then holders who have subscribed for rights may cancel their subscriptions and receive a refund of all money advanced.</p> <p>Our board of directors may cancel the rights offering at any time prior to the expiration of the rights offering for any reason. In the event that the rights offering is cancelled, we will issue a press release notifying stockholders of the cancellation and all subscription payments received by the subscription agent will be returned, without interest or penalty, as soon as practicable.</p>



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Our board of directors also reserves the right to amend or modify the terms of the rights offering. If we should make any fundamental changes to the terms set forth in this prospectus, we will file a post-effective amendment to the registration statement in which this prospectus is included, offer potential purchasers who have subscribed for rights the opportunity to cancel such subscriptions and issue a refund of any money advanced by such stockholder and recirculate an updated prospectus after the post-effective amendment is declared effective with the SEC. In addition, upon such event, we may extend the expiration date of this rights offering to allow holders of rights ample time to make new investment decisions and for us to recirculate updated documentation. Promptly following any such occurrence, we will issue a press release announcing any changes with respect to this rights offering and the new expiration date. The terms of the rights offering cannot be modified or amended after the expiration date of the rights offering. Although we do not presently intend to do so, we may choose to amend or modify the terms of the rights offering for any reason, including, without limitation, in order to increase participation in the rights offering. Such amendments or modifications may include a change in the subscription price although no such change is presently contemplated.

Procedures for Exercising Rights

To exercise your subscription rights, you must complete the rights certificate and deliver it to the subscription agent, Broadridge Corporate Issuer Solutions, Inc., together with full payment for all the subscription rights you elect to exercise under the basic subscription privilege and over-subscription privilege. You may deliver the documents and payments by mail or commercial carrier. If regular mail is used for this purpose, we recommend using registered mail, properly insured, with return receipt requested.

Subscription Agent and Information Agent

Broadridge Corporate Issuer Solutions, Inc.

Shares Outstanding Before the Rights Offering

21,208,162 shares of our common stock were outstanding as of June 5, 2012.

Shares Outstanding After Completion of the Rights Offering

We expect to issue a maximum of 7,250,000 shares of our common stock in this rights offering. Assuming no options are exercised prior to the expiration of the rights offering, we anticipate that we will have 28,458,162 shares of our common stock outstanding immediately after completion of the rights offering.

Fees and Expenses

We will pay the fees and expenses related to the rights offering.

OTCQB Marketplace Trading Symbol

Shares of our common stock are traded on the OTCQB marketplace under the symbol NANX.

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Questions

If you have any questions about the rights offering, including questions about subscription procedures and requests for additional copies of this prospectus or other documents, please contact Broadridge Corporate Issuer Solutions, Inc. at (800) 733-1121.

Risk Factors

Before you invest in the rights offering, you should be aware that there are risks associated with your investment, including the risks described in the section entitled Risk Factors beginning on page 6 of this prospectus. You should carefully read and consider these risk factors together with all of the other information included in or incorporated by reference into this prospectus before you decide to exercise your subscription rights to purchase shares of our common stock.

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**RISK FACTORS**

*An investment in our common stock involves a high degree of risk. You should carefully consider the risks described below, together with the other information included or incorporated by reference in this prospectus before making a decision to invest in our common stock. If any of these risks actually occur, our business, results of operations and financial condition could suffer. In that case, the market price of our common stock could decline, and you may lose all or part of your investment.*

**Risks Related to Our Business**

*We have a history of losses that may continue in the future.*

We have incurred net losses in each year since our inception, with net losses of \$4.1 million in 2010, \$3.4 million in 2011, and \$774,122 in the first three months of 2012. As of March 31, 2012, we had an accumulated deficit of \$86.6 million and expect to incur a loss on an annual basis through at least the end of 2012. We believe that our business depends, among other things, on our ability to significantly increase revenue. If revenue fails to grow at anticipated rates or if operating expenses increase without a commensurate increase in revenue, or if we fail to adjust operating expense levels accordingly, then the imbalance between revenue and operating expenses will negatively impact our cash balances and our ability to achieve profitability in future periods.

*We depend on a few major customers for a high percentage of our sales, and the loss of orders from a significant customer could cause a decline in revenue and/or increases in the level of losses incurred.*

Sales to our customers are executed pursuant to purchase orders and long-term supply contracts; however, customers can cease doing business with us at any time with limited advance notice. It is possible that a significant portion of our future sales may remain concentrated within a limited number of strategic customers. We may not be able to retain our strategic customers, such customers may cancel or reschedule orders, or in the event of canceled orders, such orders may not be replaced by other sales or by sales that are on as favorable terms. In addition, sales to any particular customer may fluctuate significantly from quarter to quarter, which could affect our ability to achieve anticipated revenues on a quarterly basis.

Sales to our three largest customers accounted for 54%, 21% and 7%, respectively, of our total revenue in 2011, and 70%, 10% and 5%, respectively, in the first three months of 2012.

We plan to expand both our marketing and business development efforts and our production efficiency in order to address the issues of our dependence upon a limited amount of customers, enhancement of gross profit and operating cash flows, and the achievement of profitability. Given the special nature of our products, and the fact that markets for them are not yet fully developed, it is difficult to accurately predict when additional large customers will materialize. Going forward, our margins, as a percentage of revenue, will be dependent upon revenue mix, revenue volume, raw materials pricing, and our ability to continue to cut costs. The extent of the growth in revenue volume and the related gross profit that this revenue generates will be the main drivers in generating positive operating cash flows and, ultimately, net income.

*Any downturn in the product markets served by us would harm our business.*

A majority of our products are incorporated into products such as sunscreens, architectural coatings, polishing slurries, personal care, and to a lesser extent, medical diagnostics, abrasion-resistant coatings and other products. These markets have from time to time experienced cyclical, depressed business conditions, often in connection with, or in anticipation of, a decline in general economic conditions. These industry downturns often result in reduced product demand and declining average selling prices. Our business would be harmed by a continuation of the existing downturn and/or any future downturns in the markets that we serve.

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*Our products often have long adoption cycles, which could make it difficult to achieve market acceptance and makes it difficult to forecast revenues.*

Due to their often novel characteristics and the unfamiliarity with them that exists in the marketplace, our nanomaterials may require longer adoption cycles than existing materials technologies, to the point that adoption cycles are typically one to five years. Our nanomaterials have to receive appropriate attention within any potential customer's organization, then they must be tested to prove a performance advantage over existing materials, typically on a systems-cost basis. Once we have proven initial commercial viability, pilot scale production runs must be completed by the customer, followed by further testing. Once production-level commercial viability is established, then our nanomaterials can be introduced, often to a downstream marketplace that needs to be familiarized with them. If we are unable to demonstrate to our potential customers the performance advantages and economic value of our nanomaterials over existing and competing materials and technologies, we will be unable to generate significant sales. Our long adoption cycle makes it difficult to predict when sales will occur.

*We frequently depend on collaborative development relationships with our customers. We also have relationships with distributor entities in certain market areas (such as personal care including sunscreens) and geographic areas where our limited direct sales force would not be effective. If we are unable to initiate or sustain such collaborative relationships or if the terms of our relationships with distributors in these market and geographic areas limit the distribution of our products, or if our strategic partners are unable to distribute our products efficiently, then we may be unable to successfully develop, manufacture or market our current and future nanomaterials or applications.*

We have established, and will continue to pursue, strategic relationships with many of our customers and do not have a substantial direct sales force or an established distribution network (other than distribution arrangements for research samples). Through these relationships, we seek to develop new applications for our nanomaterials and share development and manufacturing resources. We also seek to coordinate the development, manufacture and marketing of our nanomaterials products, particularly as a result of our selling additives that must be integrated into complete formulations by the customer. Future success will depend, in part, on our continued relationships with these customers and our ability to enter into similar strategic relationships with other customers. Our customers may not continue in these collaborative development relationships, may not devote sufficient resources to the development or sale of our materials or may enter into strategic development relationships with our competitors. These customers may also require a share of control of these collaborative programs. While less prevalent than in the past, some of our agreements with these customers limit our ability to license our technology to others and/or limit our ability to engage in certain product development or marketing activities with others. These relationships generally can be terminated unilaterally by customers.

If we are unable to initiate or sustain such collaborative relationships or if the terms of these relationships materially limit our access to distribution channels for our products, then we may be unable to successfully develop, manufacture or market our current and future nanomaterials or applications.

*If commodity metal prices increase at such a rate that we are unable to recover lost margins on a timely basis or that our products became uncompetitive in their current marketplaces, our financial and liquidity position and results of operations would be substantially harmed.*

Many of our significant raw materials come from commodity metal markets that may be subject to rapid price increases. While we generally are able to pass a significant portion of commodity price-related increases on to our customers, it is possible that, given our limited customer base and the limited control we have over it, commodity metal prices could increase at such a rate that could hinder our ability to recover lost margins from our customers. It is also possible that such drastic cost increases could render some of our materials uncompetitive in their current marketplaces when considered relative to other materials on a cost benefit basis. If either of these potential results occurred, our financial and liquidity position and results of operations would be substantially harmed.

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Beginning in 2010, the availability of one of the materials we use, cerium oxide, a rare earth material, was constrained by a change in Chinese export policy, causing a dramatic increase in material cost. New sources of materials, a lack of further restrictions, and other factors have reduced the availability and cost issues substantially from their 2011 peak, but the cost of this material remains significantly higher than it was during the first half of 2010. While cerium oxide continues to be used for many applications, and polishing applications in our case, customers are more inclined to look for alternative solutions today as they consider the supply (including cost) risk of this material. Failure of customers to either adopt solutions utilizing cerium oxide or continue to use solutions containing cerium oxide could harm one of our business areas, and thus negatively impact our financial and liquidity position and results of operations.

### ***Protection of our intellectual property is limited and uncertain.***

Our intellectual property is important to our business. We seek to protect our intellectual property through patent, trademark, trade secret protection and confidentiality or license agreements with our employees, customers, suppliers and others. Our means of protecting our intellectual property rights in the United States or abroad may not be adequate and others, including our competitors, may use our proprietary technology without our consent. We may not receive the necessary patent protection for any applications pending with the U.S. Patent and Trademark Office ( USPTO ) and any of the patents that we currently own or license may not be sufficient to keep competitors from using our materials or processes. In addition, patents that we currently own or license may not be held valid if subsequently challenged by others and others may claim rights in the patents and other proprietary technology that we own or license. Additionally, others may have already developed or may subsequently develop similar products or technologies without violating any of our proprietary rights. If we fail to obtain or maintain patent protection or preserve our trade secrets, we may be unable to effectively compete against others offering similar products and services. In addition, if we fail to operate without infringing the proprietary rights of others or lose any license to technology that we currently have or will acquire in the future, we may be unable to continue making the products that we currently make.

Moreover, at times, attempts may be made to challenge the prior issuance of our patents. Furthermore, litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement or invalidity. Such litigation could result in substantial costs and diversion of resources and could harm our business, operating results and financial condition. Such litigation might occur with parties that have substantially greater resources, and thus more capability to engage and continue litigation. In addition, if others assert that our technology infringes their intellectual property rights, resolving the dispute could divert our management team and financial resources.

Due to the expanding length of time required in order to obtain a patent, and the inherent ongoing risks of the protections truly provided by any patent, we made a decision during 2008 that we could no longer place a value on these intangible assets. In the future, we may license certain of our intellectual property, such as trademarks, to third parties. While we would attempt to ensure that any licensees maintain the quality and value of our brand, these licenses might diminish this quality and value.

### ***If a catastrophe strikes either of our manufacturing facilities or if we were to lose our lease for either facility due to non-renewal or other unforeseen events, we may be unable to manufacture our materials to meet customers' demands.***

Our manufacturing facilities are located in Romeoville and Burr Ridge, Illinois. These facilities and some of our manufacturing and testing equipment would be difficult to replace in a timely manner. Therefore, any material disruption at one of our facilities due to a natural or man-made disaster or a loss of lease due to non-renewal or other unforeseen events could have a material adverse effect on our ability to manufacture products to meet customers' demands. While we maintain property insurance, this insurance may not adequately compensate us for all losses that we may incur in the event of a material interruption in our business.

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***If we are unable to expand our production capabilities to meet unexpected demand, we may be unable to manage our growth and our business would suffer.***

Our success will depend, in part, on our ability to manufacture nanomaterials in significant quantities, with consistent quality and in an efficient and timely manner. We expect to be able to expand our current facilities or obtain additional facilities in the future, and outsource production aspects as necessary, available and appropriate, in order to respond to unexpected demand for existing materials or for new materials that we do not currently make in quantity. Such unplanned demand, if it resulted in rapid expansion, could create a situation where growth could become difficult to manage, which could cause us to lose potential revenue.

***Our industry is experiencing rapid changes in technology. If we are unable to keep pace with these changes, our business will not grow.***

Rapid changes have occurred, and are likely to continue to occur, in the development of advanced materials and processes. Our success will depend, in large part, upon our ability to keep pace with advanced materials technologies, industry standards and market trends and to develop and introduce new and improved products on a timely basis. We expect to commit substantial resources to develop our technologies and product applications and, in the future, to expand our commercial manufacturing capacity as volume grows. Our development efforts may be rendered obsolete by the research efforts and technological advances of others and other advanced materials may prove more advantageous than those we produce.

***The markets we serve are highly competitive, and if we are unable to compete effectively, then our business will not grow.***

The advanced materials industry is new, rapidly evolving and intensely competitive, and we expect competition to intensify in the future. The market for materials having the characteristics and potential uses of our nanomaterials is the subject of intensive research and development efforts by both governmental entities and private enterprises around the world. We believe that the level of competition will increase further as more product applications with significant commercial potential are developed. The nanomaterials product applications that we are developing will compete directly with products incorporating both conventional and advanced materials and technologies. While we are not currently aware of the existence of commercially available competitive products with the same attributes as those we offer, other companies may develop and introduce new or competitive products. Our competitors may succeed in developing or marketing materials, technologies and better or less expensive products than the ones we offer. In addition, many of our potential competitors have substantially greater financial and technical resources, and greater manufacturing and marketing capabilities than we do. If we fail to improve our current and potential nanomaterials product applications at an acceptable price, or otherwise compete with producers of conventional materials, we will lose market share and revenue to our competitors.

***We may need to raise additional capital in the future. If we are unable to obtain adequate funds, we may be required to delay, scale-back or eliminate some of our manufacturing and marketing operations or we may need to obtain funds through arrangements on less favorable terms or we may be required to sell key production equipment to our largest customer.***

We expect to expend significant resources on research, development and product testing, and in expanding current capacity or capability for new business. In addition, we may incur significant costs in preparing, filing, prosecuting, maintaining and enforcing our patents and other proprietary rights. If necessary, we may seek funding through public or private financing and through contracts with governmental entities or other companies. Additional financing may not be available on acceptable terms or at all. If we are unable to obtain adequate funds, we may be required to delay, scale-back or eliminate some of our manufacturing and marketing operations or we may need to obtain funds through arrangements on less favorable terms. If we obtain funding on unfavorable terms, we may be required to relinquish rights to some of our intellectual property.

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To raise additional funds in the future, we would likely sell our equity or debt securities or enter into loan agreements. To the extent that we issue debt securities or enter into loan agreements, we may become subject to financial, operational and other covenants that we must observe. In the event that we were to breach any of these covenants, then the amounts due under such loans or debt securities could become immediately payable by us, which could significantly harm us. To the extent that we sell additional shares of our equity securities, our stockholders may face economic dilution and dilution of their percentage of ownership.

We currently have a supply agreement with BASF that contains provisions which could potentially result in a mandatory license of technology and/or sale of production equipment to BASF, providing capacity sufficient to meet BASF's production needs. Under our supply agreement with BASF, a triggering event also would occur:

if our earnings for a twelve month period ending with our most recently published quarterly financial statements are less than zero and our cash, cash equivalents and certain investments are less than \$2,000,000, or

upon the acceleration of any debt maturity having a principal amount of more than \$10,000,000, or if we become insolvent as defined in the supply agreement.

In the event of a triggering event where we are required to sell to BASF production equipment providing capacity sufficient to meet BASF's production needs, the equipment would be sold at the greater of 30% of the original book value of such equipment, and any associated upgrades to it, or 115% of the equipment's net book value.

If we were determined to have materially breached certain other provisions of our supply agreement with BASF, we similarly could be subject to a triggering event that potentially could result in a mandatory license of technology and/or sale of certain production equipment to the customer.

We believe that the net proceeds from the rights offering together with our current cash balances and other assets that might be monetized if and as needed will be sufficient to avoid the first triggering event under the BASF supply agreement for the foreseeable future, and because we are debt-free, the second triggering event is not currently applicable to us.

If a triggering event were to occur and BASF elected to proceed with the license and related sale mentioned above, we would lose both significant revenue and the ability to generate significant revenue to replace that which was lost in the near term. Replacement of necessary equipment that would be purchased and removed by the customer pursuant to this triggering event could take in excess of 12 months. Any additional capital outlays required to rebuild capacity would probably be greater than the proceeds from the purchase of the assets pursuant to our agreement with BASF. This potential shortfall might put us in a position where it would be difficult to secure additional funding given what would then be an already tenuous cash position. Such an event would also likely result in the loss of many of our key staff and line employees due to economic realities. We believe that our employees are a critical component of our success and would be difficult to quickly replace and train. Upon the occurrence of such an event, we might not be able to hire and retrain skilled employees given the stigma relating to such an event and its impact on us. We might elect to effectively reduce our size and staffing to a point where we could remain a going concern in the near term.

### ***We depend on key personnel, and their unplanned departure could harm our business.***

Our success will depend, in large part, upon our ability to attract and retain highly qualified research and development, management, manufacturing, marketing and sales personnel on favorable terms. Due to the specialized nature of our business, we may have difficulty locating, hiring and retaining qualified personnel on favorable terms. If we were to lose the services of any of our key executive officers or other key personnel, or if we are unable to attract and retain other skilled and experienced personnel on acceptable terms in the future, or if we are unable to implement a succession plan to prepare qualified individuals to assume key roles upon any loss of our key personnel, then our business, results of operations and financial condition could be materially harmed.

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*We face potential product liability risks which could result in significant costs that exceed our insurance coverage, damage our reputation and harm our business.*

We may be subject to product liability claims in the event that any of our nanomaterials product applications are alleged to be defective or cause harmful effects to humans or physical environments. Because our nanomaterials are used in other companies' products, to the extent our customers become subject to suits relating to their products, such as cosmetic, skin-care, architectural coatings and personal-care products, these claims may also be a