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REGISTRATION NO. 333-32576

P R O S P E C T U S

# INHALE THERAPEUTIC SYSTEMS, INC.

180,099 SHARES

COMMON STOCK

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The selling stockholder, Alliance Pharmaceutical Corp., a New York Corporation, may sell up to 180,099 shares of common stock of Inhale Therapeutic Systems, Inc., a Delaware corporation. The selling security holder may sell the common stock described in this prospectus in a number of different ways and at varying prices. We will not receive any proceeds from the sale of these shares by Alliance.

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Our common stock is listed on the Nasdaq National Market under the symbol "INHL".

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We will not be paying any underwriting commissions or discounts in the offering of these shares.

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INVESTING IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 3.

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 March 27, 2000

## ABOUT OUR BUSINESS

THE FOLLOWING IS A SHORT SUMMARY OF OUR BUSINESS. YOU SHOULD CAREFULLY READ THE "RISK FACTORS" SECTION OF THIS PROSPECTUS AND OUR ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED 1999 FOR MORE INFORMATION ON OUR BUSINESS AND THE RISKS INVOLVED IN INVESTING IN OUR STOCK. IN ADDITION TO THE HISTORICAL INFORMATION CONTAINED IN THIS PROSPECTUS, THIS PROSPECTUS CONTAINS FORWARD-LOOKING STATEMENTS WITHIN THE MEANING OF SECTION 27A OF THE SECURITIES ACT AND SECTION 21E OF THE EXCHANGE ACT THAT INVOLVE RISKS AND UNCERTAINTIES. OUR ACTUAL RESULTS COULD DIFFER MATERIALLY FROM OUR EXPECTATIONS. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO SUCH DIFFERENCES ARE DISCUSSED IN "RISK FACTORS" BEGINNING AT PAGE 3 OF THIS PROSPECTUS AND IN "MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS" AND "BUSINESS" IN OUR ANNUAL REPORT.

We are creating a drug delivery system to easily and painlessly deliver a wide range of drugs, including peptides, proteins, nucleic acids and other molecules, by inhalation to the deep lung for treatment of systemic and respiratory diseases. We are using this system principally to enable non-invasive delivery of protein drugs currently administered by injection. Our most advanced program, which is sponsored by Pfizer Inc., is inhaleable insulin. Pfizer commenced dosing for its Phase III human clinical trials in June 1999. In addition to its insulin program with Pfizer, we have development collaborations with Biogen, Inc., Aventis Behring L.L.C. (formerly Centeon L.L.C., a joint venture of Hoechst AG and Rhone-Poulenc S.A., which have now merged to form Aventis S.A.), and Eli Lilly & Co. we also have early stage feasibility and research collaborations with several other companies and has tested seven drugs in human clinical trials.

Currently there are approximately 35 macromolecule drugs marketed in the United States and about 120 other such drugs in clinical trials. Sales of the top 15 genetically engineered protein drugs (a subset of macromolecule drugs) were estimated at $14 billion worldwide in 1997. Most of these drugs are currently delivered by injection. Injections are undesirable for numerous reasons including patient discomfort, inconvenience and risk of infection. Poor patient acceptance of, and compliance with, injectable therapies can lead to increased incidence of medical complications and higher disease management costs. Alternatives to injection such as oral, transdermal and nasal delivery have to date been commercially unattractive due to low natural bioavailability--the amount of drug absorbed from the delivery site into the bloodstream relative to injection. As an alternative to the invasiveness of injection, we believe a deep lung inhalation delivery system could expand the market for protein drug therapies by increasing patient acceptance and improving compliance and may enable new therapeutic uses of certain protein drugs.

We are creating a proprietary platform integrating customized formulation, dry powder processing and packaging with a proprietary inhalation device to enable efficient, reproducible delivery of drugs for systemic and local lung indications. For specific drug products, we formulate and processes bulk drugs supplied by collaborative partners into dry powders which are packaged into individual dosing units referred to as blister packs. The blister packs are designed to be loaded into our device, which patients then activate to inhale the aerosolized drugs. We have developed an inhalation device that is being used several times per day for several months in outpatient trials for insulin. In addition, we have demonstrated room temperature stability of a year or more for a number of protein drugs, and has scaled-up its powder processing and packaging for late stage clinical trials and small scale production for certain drugs.

As an alternative to invasive delivery techniques, we believe that a deep lung delivery system could potentially expand the market for protein drug therapies by increasing patient acceptance and improving compliance, which in turn could decrease medical complications and the associated costs of disease management. Additionally, deep lung delivery may enable new therapeutic uses of certain protein drugs. We are focusing development efforts on applying its pulmonary delivery system primarily to drugs for systemic and local lung diseases that either have proven efficacy and are approved for delivery by injection or are in late stage clinical trials.

A cornerstone of our business strategy is to work with collaborative partners to develop and commercialize drugs for deep lung delivery. In a typical collaboration, our partner will support the application of our technology to a particular drug by providing the drug, funding clinical development, and

marketing the resulting commercial product. We typically will supply the delivery system and receive research and development and progress payments during development, and receive revenues from powder manufacturing, device supply, and royalties from sales of any commercial products.

In addition to Pfizer's sponsorship of the inhaleable insulin program, we have active development programs with several other corporate partners. Our most recent collaboration is with Biogen for pulmonary delivery of Interferon-Beta-1a, sold under the trade name AVONEX-Registered Trademark-, the leading drug worldwide for the treatment of Multiple Sclerosis. We are also engaged in development collaborations with Aventis Behring on alpha-1 proteinase inhibitor for genetic emphysema, and with Lilly for an undisclosed protein drug. We are also engaged in early stage feasibility and research programs with respect to other compounds. We anticipate that any product that may be developed would be commercialized with a collaborative partner and believe our partnering strategy will enable us to reduce the investment required to develop a large and diversified potential product portfolio.

## RISK FACTORS

ANY OF THE FOLLOWING RISKS COULD MATERIALLY ADVERSELY AFFECT OUR BUSINESS, OPERATING RESULTS AND FINANCIAL CONDITION AND COULD RESULT IN A COMPLETE LOSS OF YOUR INVESTMENT.

### WE DO NOT KNOW IF OUR DEEP LUNG DRUG DELIVERY SYSTEM IS COMMERCIALLY FEASIBLE.

We are in an early stage of development. There is a risk that our deep lung drug delivery technology will not be commercially feasible. Even if our deep lung delivery technology is commercially feasible, it may not be commercially accepted across a range of large and small molecule drugs. We have tested seven deep lung delivery formulations in humans, but many of our potential formulations have not been tested in humans.

Many of the underlying drug compounds contained in our deep lung formulations have been tested in humans by other companies using alternative delivery routes. Our potential products require extensive research, development and pre-clinical (animal) and clinical (human) testing. Our potential products also may involve lengthy regulatory review before they can be sold. We do not know if and cannot assure you that, any of our potential products will prove to be safe and effective or meet regulatory standards. There is a risk that any of our potential products will not be able to be produced in commercial quantities at acceptable cost or marketed successfully. Our failure to achieve commercial feasibility, demonstrate safety, achieve clinical efficacy, obtain regulatory approval or, together with partners, successfully market products will negatively impact our revenues and results of operations.

### WE DO NOT KNOW IF OUR DEEP LUNG DRUG DELIVERY SYSTEM IS EFFICIENT.

We may not be able to achieve the total system efficiency needed to be competitive with alternative routes of delivery. Total system efficiency is determined by the amount of drug loss during manufacture, in the delivery device, in reaching the site of absorption, and during absorption from that site into the bloodstream. Deep lung bioavailability is the percentage of a drug that is absorbed into the bloodstream when that drug is delivered directly to the lungs as compared to when the drug is delivered by injection. Bioavailability is the initial screen for whether deep lung delivery of any systemic drug is commercially feasible. We would not consider a drug to be a good candidate for development and commercialization if its drug loss is excessive at any one stage or cumulatively in the manufacturing and delivery process or if its deep lung bioavailability is too low.

### WE DO NOT KNOW IF OUR DEEP LUNG DRUG FORMULATIONS ARE STABLE.

We may not be able to identify and produce powdered versions of drugs that retain the physical and chemical properties needed to work with our delivery device. Formulation stability is the physical and chemical stability of the drug over time and under various storage, shipping and usage conditions. Formulation stability will vary with each deep lung formulation and the type and amount of ingredients that are used in the formulation. Problems with powdered drug stability would negatively impact our ability to develop and market our potential products or obtain regulatory approval.

### WE DO NOT KNOW IF OUR DEEP LUNG DRUG DELIVERY SYSTEM IS SAFE.

We may not be able to prove potential products to be safe. Our products require lengthy laboratory, animal and human testing. Most of our products are in preclinical testing or the early stage of human testing. If we find that any product is not safe, we will not be able to commercialize the product. The safety of our deep lung formulations will vary with each drug and the ingredients used in its formulation.

WE DO NOT KNOW IF OUR DEEP LUNG DRUG DELIVERY SYSTEM PROVIDES CONSISTENT DOSES OF MEDICINE.

We may not be able to provide reproducible dosages of stable formulations sufficient to achieve clinical success. Reproducible dosing is the ability to deliver a consistent and predictable amount of drug into the bloodstream over time both for a single patient and across patient groups. Reproducible dosing requires the development of:

- an inhalation device that consistently delivers predictable amounts of dry powder formulations to the deep lung;

- accurate unit dose packaging of dry powder formulations; and

- moisture resistant packaging.

We may not be able to develop reproducible dosing of any potential product. The failure to do so means that we would not consider it a good candidate for development and commercialization.

WE DEPEND ON PARTNERS FOR REGULATORY APPROVALS AND COMMERCIALIZATION OF OUR PRODUCTS.

Because we are in the business of developing technology for delivering drugs to the lungs and licensing this technology to companies that make and sell drugs, we do not have the people and other resources to do the following things:

- make bulk drugs to be used as medicines;

- design and carry out large scale clinical studies;

- prepare and file documents necessary to obtain government approval to sell a given drug product; and

- market and sell our products when and if they are approved.

When we sign a collaborative development agreement or license agreement to develop a product with a drug company, the drug company agrees to do some or all of the things described above. If our partner fails to do any of these things, we cannot complete the development of the product.

WE MAY NOT OBTAIN REGULATORY APPROVAL FOR OUR PRODUCTS ON A TIMELY BASIS, OR AT ALL.

There is a risk that we will not obtain regulatory approval for our products on a timely basis, or at all. Our product must undergo rigorous animal and human testing and an extensive review process mandated by the United States Food and Drug Administration ("FDA") and equivalent foreign authorities. This process generally takes a number of years and requires the expenditure of substantial resources; although the time required for completing such testing and obtaining such approvals is uncertain. We have not submitted any of our products to the FDA for marketing approval. We have no experience obtaining such regulatory approval.

In addition, we may encounter delays or rejections based upon changes in FDA policy, including policy relating to good manufacturing practice compliance, during the period of product development. We may encounter similar delays in other countries.

Even if regulatory approval of a product is granted, the approval may limit the indicated uses for which we may market our product. In addition, our marketed product, our manufacturing facilities and Inhale, as the manufacturer, will be subject to continual review and periodic inspections. Later discovery from such review and inspection of previously unknown problems may result in restrictions on our product or on us, including withdrawal of our product from the market. The failure to obtain timely regulatory

approval of our products, any product marketing limitations or a product withdrawal would negatively impact our revenues and results of operations.

WE DO NOT KNOW IF OUR TECHNOLOGIES CAN BE INTEGRATED SUCCESSFULLY TO BRING PRODUCTS TO MARKET.

We may not be able to integrate all of the relevant technologies to provide a deep lung drug delivery system. Our integrated approach to systems development relies upon several different but related technologies:

- dry powder formulations;

- dry powder processing technology;

- dry powder packaging technology; and

- deep lung delivery devices.

At the same time we must:

- establish collaborations with partners;

- perform laboratory and clinical testing of potential products; and

- scale-up our manufacturing processes.

We must accomplish all of these steps without delaying any aspect of technology development. Any delay in one component of product or business development could delay our ability to develop, obtain approval of or market therapeutic products using our deep lung delivery technology.

WE MAY NOT BE ABLE TO MANUFACTURE OUR PRODUCTS IN COMMERCIAL QUANTITIES.

POWDER PROCESSING. We have no experience manufacturing products for commercial purposes. We have only performed powder processing on the small scale needed for testing formulations and for early stage and larger clinical trials. We may encounter manufacturing and control problems as we attempt to scale-up powder processing facilities. We may not be able to achieve such scale-up in a timely manner or at a commercially reasonable cost, if at all. Our failure to solve any of these problems could delay or prevent late stage clinical testing and commercialization of our products and could negatively impact our revenues and results of operations.

To date, we have relied on one particular method of powder processing. There is a risk that this technology will not work with all drugs or that the cost of drug production will preclude the commercial viability of certain drugs. Additionally, there is a risk that any alternative powder processing methods we may pursue will not be commercially practical for aerosol drugs or that we will not have, or be able to acquire the rights to use, such alternative methods.

POWDER PACKAGING. Our fine particle powders and small quantity packaging require special handling. We have designed and qualified automated filling equipment for small and moderate quantity packaging of fine powders. We face significant technical challenges in scaling-up an automated filling system that can handle the small dose and particle sizes of our powders in commercial quantities. There is a risk that we will not be able to scale-up our automated filling equipment in a timely manner or at commercially reasonable costs. Any failure or delay in such scale-up would delay product development or bar commercialization of our products and would negatively impact our revenues and results of operations.

INHALATION DEVICE. We face many technical challenges in further developing our inhalation device to work with a broad range of drugs, to produce such a device in sufficient quantities and to adapt the device to different powder formulations. In addition, we are attempting to develop a smaller inhalation device, which presents particular technical challenges. There is a risk that we will not successfully achieve any of

these challenges. Our failure to overcome any of these challenges would negatively impact our revenues and results of operations.

For late stage clinical trials and initial commercial production, we intend to use one or more contract manufacturers to produce our drug delivery device. There is a risk that we will not be able to enter into or maintain arrangements with any potential contract manufacturers or effectively scale-up production of our drug delivery devices through contract manufacturers. Our failure to do so would negatively impact our revenues and results of operations.

WE DEPEND ON SOLE OR EXCLUSIVE SUPPLIERS FOR OUR INHALATION DEVICE AND BULK DRUGS.

We plan to subcontract the manufacture of our pulmonary delivery device before commercial production of our first product. We have identified contract manufacturers that we believe have the technical capabilities and production capacity to manufacture our devices and which can meet the requirements of good manufacturing practices. We cannot be assured that we will be able to obtain and maintain satisfactory contract manufacturing on commercially acceptable terms, if at all. Our dependence on third parties for the manufacture of our inhalation device may negatively impact our cost of goods and our ability to develop and commercialize products on a timely and competitive basis.

We obtain the bulk drugs we use to formulate and manufacture the dry powders for our deep lung delivery system from sole or exclusive sources of supply. For example, with respect to our source of bulk insulin, we have entered into a collaborative agreement with Pfizer which has, in turn, entered into an agreement with Aventis to manufacture biosynthetic recombinant insulin. Under the terms of their agreement, Pfizer and Aventis agreed to construct a jointly owned manufacturing plant in Frankfurt, Germany. Until its completion, Pfizer will provide us with insulin from Aventis's existing plant. If our sole or exclusive source suppliers fail to provide bulk drugs in sufficient quantities when required, our revenues and results of operations will be negatively impacted.

WE DO NOT KNOW IF THE MARKET WILL ACCEPT OUR DEEP LUNG DRUG DELIVERY SYSTEM.

The commercial success of our potential products depends upon market acceptance by health care providers, third-party payors like health insurance companies and Medicare, and patients. Our products under development use a new method of drug delivery and there is a risk that our potential products will not be accepted by the market. Market acceptance will depend on many factors, including:

- the safety and efficacy of our clinical trials;

- favorable regulatory approval and product labeling;

- the frequency of product use;

- the availability of third-party reimbursement;

- the availability of alternative technologies; and

- the price of our products relative to alternative technologies.

There is a risk that health care providers, patients or third-party payors will not accept our deep lung drug delivery system. If the market does not accept our potential products, our revenues and results of operations would be significantly and negatively impacted.

IF OUR PRODUCTS ARE NOT COST EFFECTIVE, GOVERNMENT AND PRIVATE INSURANCE PLANS MAY NOT PAY FOR OUR PRODUCTS.

In both domestic and foreign markets, sales of our products under development will depend in part upon the availability of reimbursement from third-party payors, such as government health administration authorities, managed care providers, private health insurers and other organizations. In addition, such third-party payors are increasingly challenging the price and cost effectiveness of medical products and services. Significant uncertainty exists as to the reimbursement status of newly approved health care products. Legislation and regulations affecting the pricing of pharmaceuticals may change before our proposed products are approved for marketing. Adoption of such legislation and regulations could further limit reimbursement for medical products. A government or third-party payor decision to not provide adequate coverage and reimbursements for our products would limit market acceptance of such products.

WE EXPECT TO CONTINUE TO LOSE MONEY FOR THE NEXT SEVERAL YEARS.

We have never been profitable and, through December 31, 1999, we have an accumulated deficit of approximately $94.5 million. We expect to continue to incur substantial and increasing losses over at least the next several years as we expand our research and development efforts, testing activities and manufacturing operations, and as we further expand our late stage clinical and early commercial production facility. All of our potential products are in research or in the early stages of development except for our insulin collaboration. We have generated no revenues from approved product sales. Our revenues to date have consisted primarily of payments under short-term research and feasibility agreements and development contracts. To achieve and sustain profitable operations, we must, alone or with others, successfully develop, obtain regulatory approval for, manufacture, introduce, market and sell products using our deep lung drug delivery system. There is a risk that we will not generate sufficient product or contract research revenue to become profitable or to sustain profitability.

WE MAY NEED TO RAISE ADDITIONAL CAPITAL THAT MAY NOT BE AVAILABLE.

We anticipate that our existing capital resources will enable us to maintain currently planned operations through at least the next 24 months. However, this expectation is based on our current operating plan, which is expected to change as a result of many factors, and we may need additional funding sooner than anticipated. In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of such securities could result in dilution to our stockholders.

We have no credit facility or other committed sources of capital. To the extent operating and capital resources are insufficient to meet future requirements, we will have to raise additional funds to continue the development and commercialization of our technologies. Such funds may not be available on favorable terms, or at all. In particular, our substantial leverage may limit our ability to obtain additional financing. If adequate funds are not available on reasonable terms, we may be required to curtail operations significantly or to obtain funds by entering into financing, supply or collaboration agreements on unattractive terms. Our inability to raise capital could negatively impact our business.

OUR PATENTS MAY NOT PROTECT OUR PRODUCTS AND OUR PRODUCTS MAY INFRINGE ON THIRD-PARTY PATENT RIGHTS.

We have filed patent applications covering certain aspects of our device, powder processing technology, and powder formulations and deep lung route of delivery for certain molecules, and we plan to file additional patent applications. We currently have 49 issued U.S. and foreign patents that cover certain aspects of our technology and we have a number of patent applications pending. There is a risk that many

of the patents applied for will not issue, or that any patents that issue or have issued will not be valid and enforceable. Enforcing our patent rights would be time consuming and costly.

Our access or our partners' access to the drugs to be formulated will affect our ability to develop and commercialize our technology. Many drugs, including powder formulations of certain drugs that are presently under development by us, are subject to issued and pending U.S. and foreign patents that may be owned by our competitors. We know that there are issued patents and pending patent applications relating to the deep lung delivery of large molecule drugs, including several for which we are developing deep lung delivery formulations. This situation is highly complex, and the ability of any one company, including Inhale, to commercialize a particular drug is unpredictable.

We intend generally to rely on the ability of our partners to provide access to the drugs that are to be formulated by us for deep lung delivery. There is a risk that our partners will not be able to provide access to such drug candidates. Even if such access is provided, there is a risk that our partners or we will be accused of, or determined to be, infringing a third-party's patent rights and will be prohibited from working with the drug or be found liable for damages that may not be subject to indemnification. Any such restriction on access to drug candidates or liability for damages would negatively impact our revenues and results of operations.

OUR COMPETITORS MAY DEVELOP AND SELL BETTER DRUG DELIVERY SYSTEMS.

We are aware of other companies engaged in developing and commercializing pulmonary drug delivery systems and enhanced injectable drug delivery systems. Many of these companies have greater research and development capabilities, experience, manufacturing, marketing, financial and managerial resources than we do and represent significant competition for us. Acquisitions of or collaborations with competing drug delivery companies by large pharmaceutical companies could enhance our competitors' financial, marketing and other resources. Accordingly, our competitors may succeed in developing competing technologies, obtaining regulatory approval for products or gaining market acceptance before us. Developments by others could make our products or technologies uncompetitive or obsolete. Our competitors may introduce products or processes competitive with or superior to ours.

INVESTORS SHOULD BE AWARE OF INDUSTRY-WIDE RISKS.

In addition to the risks associated specifically with Inhale described above, investors should also be aware of general risks associated with drug development and the pharmaceutical industry. These include, but are not limited to:

- changes in and compliance with government regulations;

- handling of hazardous materials;

- hiring and retaining qualified people; and

- insuring against product liability claims.

WE EXPECT OUR STOCK PRICE TO REMAIN VOLATILE.

Our stock price is volatile. In the last twelve months, based on closing prices on the Nasdaq National Market, our stock price ranged from $23.00 to $126.62. We expect it to remain volatile. A variety of factors may have a significant effect on the market price of our common stock, including:

- fluctuations in our operating results;

- announcements of technological innovations or new therapeutic products;

- announcement or termination of collaborative relationships by Inhale or our competitors;

- governmental regulation;

- clinical trial results or product development delays;

- developments in patent or other proprietary rights;

- public concern as to the safety of drug formulations developed by Inhale or others; and

- general market conditions.

Any litigation brought against us as a result of this volatility could result in substantial costs and a diversion of our management's attention and resources, which could negatively impact our financial condition, revenues and results of operations.

OUR OUTSTANDING INDEBTEDNESS HAS INCREASED SUBSTANTIALLY.

As of December 31, 1999, we had approximately $113.3 million in long-term debt. Upon the closing of our sale of 5.0% convertible subordinated notes in early 2000, we incurred additional long-term indebtedness of $230.0 million. In early 2000, we entered into agreements with certain holders of the October 2006 debentures to reduce the principal amount of debentures outstanding by approximately $94.2 million. Upon closing of the offering of the notes, our long-term debt was approximately $249.2 million. This increased indebtedness has and will continue to impact us by:

- significantly increasing our interest expense and related debt service costs;

- making it more difficult to obtain additional financing; and

- constraining our ability to react quickly in an unfavorable economic climate.

Currently, we are not generating sufficient cash flow to satisfy the annual debt service payments that will be required as a result of the consummation of sale of the notes. This may require us to use a portion of the proceeds from the sales of the notes to pay interest or borrow additional funds or sell additional equity to meet our debt service obligations. If we are unable to satisfy our debt service requirements, substantial liquidity problems could result, which would negatively impact our future prospects.

## WHERE YOU CAN FIND MORE INFORMATION

Our principal executive offices are located at 150 Industrial Road, San Carlos, CA 94070. Our telephone number is (650) 631-3100. We maintain an Internet home page at www.Inhale.com The contents of our web page are not a part of this prospectus.

We have filed with the SEC a registration statement on Form S-3 to register the common stock offered by this prospectus. However, this prospectus does not contain all of the information contained in the registration statement and the exhibits and schedules to the registration statement. We strongly encourage you to carefully read the registration statement and the exhibits and schedules to the registration statement. We also file annual, quarterly and special reports, proxy statements and other information with the SEC.

You may inspect and copy such material at the public reference facilities maintained by the SEC at Room 1024, 450 Fifth Street, N.W., Washington, D.C. 20549, as well as at the SEC's regional offices at 500 West Madison Street, Suite 1400, Chicago, Illinois 60661 and 7 World Trade Center, Suite 1300, New York, New York 10048. You may also obtain copies of such material from the SEC at prescribed rates by writing to the Public Reference Section of the SEC, 450 Fifth Street, N.W., Washington, D.C. 20549.

Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms. Our SEC filings are also available to the public from the SEC's Website at www.sec.gov.

The SEC allows us to "incorporate by reference" the information contained in documents that we file with them, 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 part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus, while information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act :

1. Our Annual Report on Form 10-K for the fiscal year ended December 31, 1999, filed on March 10, 2000, including all material incorporated by reference therein;

2. Our Current Report on Form 8-K, filed on February 1, 2000;

3. Our Current Report on Form 8-K, filed on February 9, 2000;

4. Our Current Report on Form 8-K, filed on February 24, 2000;

5. All other reports filed by us pursuant to Section 13(a) or 15(d) of the Exchange Act since December 31, 1999, including all material incorporated by reference therein; and

6. The description of the common stock contained in our Registration Statement on Form 8-A as filed on May 2, 1994.

You may request a copy of these filings, at no cost to you, by writing or telephoning us at:

Inhale Therapeutic Systems, Inc.
Attention: Investor Relations
150 Industrial Road, San Carlos, CA 94070
Telephone (650) 631-3100.

Our common stock is quoted on the Nasdaq National Market under the symbol "INHL". The last reported sales price of the common stock on the Nasdaq National Market ("Nasdaq") on March 13, 2000 was $114.0625 per share. You may inspect reports and other information concerning us at the offices of the National Association of Securities Dealers, Inc., 1735 K Street, N.W., Washington, D.C. 20006.

You should rely only on the information incorporated by reference or provided in this prospectus. We have authorized no one to provide you with different information. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front of the document.

## USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares of common stock offered hereby.

## DIVIDEND POLICY

We have never paid cash dividends. We currently intend to retain any earnings for use in our business and do not anticipate paying any cash dividends in the foreseeable future.

## SELLING STOCKHOLDER

All of the shares of our common stock offered pursuant to this prospectus are held by Alliance. The shares are being registered to permit public trading of the shares, and Alliance may offer the shares for resale from time to time. Alliance may sell the shares offered through this Prospectus from time to time at prevailing prices in the over-the-counter market or in privately negotiated transactions. We agreed to prepare and file such amendments and supplements to the Registration Statement as may be necessary to keep the Registration Statement effective until the earlier of November 4, 2000 or the date on which such

shares are no longer, by reason of Rule 144 under the Securities Act or any rule of similar effect, required to be registered for the sale thereof by Alliance.

The following table sets forth the number of shares of common stock owned beneficially by Alliance as of the date of this Prospectus and the number of shares that may be offered pursuant to this Prospectus. This information is based upon information provided to us by Alliance. Applicable percentage of ownership is based on 20,588,388 shares of common stock outstanding on March 1, 2000. There are currently no agreements, arrangements or understandings with respect to the sale of any of the shares. Because Alliance may offer all or some portion of the common stock, no estimate can be given as to the amount of common stock that will be held by Alliance upon termination of any sales.

| | SHARES BENEFICIALLY OWNED PRIOR TO THE OFFERING | | MAXIMUM NUMBER OF SHARES BEING | SHARES BENEFICIALLY OWNED AFTER THE OFFERING | |
|---|---|---|---|---|---|
| NAME | NUMBER | PERCENT | OFFERED | NUMBER | PERCENT |
| Alliance Pharmaceutical Corp..... | 180,099 | 0.87% | 180,099 | -- | -- |

Neither Alliance nor any of its affiliates, officers, directors or principal equity holders has held any position or office or has had any material relationship with us within the past three years. Alliance acquired the common stock from us in a private transaction on November 4, 1999. All of the shares of common stock purchased by Alliance were "restricted securities" under the Securities Act prior to this registration.

## PLAN OF DISTRIBUTION

The shares offered hereunder may be sold from time to time by Alliance in one or more transactions at fixed prices, at market prices at the time of sale, at varying prices determined at the time of sale or at negotiated prices. Alliance may offer their shares of common stock in one more of the following transactions:

- on any national securities exchange or quotation service on which the common stock may be listed or quoted at the time of sale, including the Nasdaq National Stock Market;

- in the over-the-counter market;

- in private transactions;

- by pledge to secure debts and other obligations; or

- a combination of any of the above transactions.

Under the Securities Exchange Act, any person engaged in the distribution of the shares may not simultaneously engage in market making activities with respect to our common stock for a period of two business days prior to the commencement of such distribution. In addition, Alliance will be subject to applicable provisions of the Securities Exchange Act, which provisions may limit the timing of purchases and sales of shares of common stock by Alliance Pharmaceutical Corp. or any other such person.

If Alliance notifies Inhale of any material arrangement that it has entered into with a broker or dealer for selling shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, Inhale will file a supplemental prospectus, if required, pursuant to Rule 424 (c) under the Securities Act. In that supplemental prospectus, Inhale will disclose:

- the name of each such broker-dealer;

- the number of shares involved;

- the price at which such shares were sold;

- the commissions paid of discounts or concessions allowed to such broker-dealer(s), where applicable;

- that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, as supplemented; and

- any other facts material to the transaction.

Alliance may from time to time offer shares of common stock to or through underwriters, broker/ dealers or agents. Alliance and any underwriters, broker/dealers or agents that participate in the distribution of the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act of 1933. Any profits on the resale of shares of common stock and any compensation received by any underwriter, broker/dealer or agent may be deemed to be underwriting discounts and commissions under the Securities Act.

Any or all of the sales or other transactions involving the shares described above, whether effected by Alliance, any broker-dealer or others, may be made pursuant to this Prospectus. In addition, any shares that qualify for sale pursuant to Rule 144 under the Act may be sold under Rule 144 rather than pursuant to this Prospectus.

To comply with the securities laws of certain jurisdictions, if applicable, the common stock must be offered or sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain jurisdictions the common stock may not be sold unless it has been registered or qualified for sale or an exemption is available and is complied with.

We will pay substantially all of the expenses incurred by Alliance incident to the preparation and filing with the SEC of the registration statement. Alliance will bear essentially all of the expenses incurred incident to the sale of the common stock.

We entered into a registration rights agreement for the benefit of Alliance to register its common stock under applicable federal and state securities laws under specific circumstances and at specific times. The registration rights agreement provides for cross-indemnification of the Alliance and us and their and our respective directors, officers and controlling persons against specific liabilities in connection with the offer and sale of the common stock, including liabilities under the Securities Act.

## LEGAL MATTERS

The validity of the Common Stock offered hereby will be passed upon for us by Cooley Godward LLP, Menlo Park, California.

## ERNST & YOUNG LLP, INDEPENDENT AUDITORS

Ernst & Young LLP, independent auditors, have audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 1999, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in this registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WE HAVE AUTHORIZED NO ONE TO GIVE ANY INFORMATION OR TO MAKE ANY REPRESENTATIONS THAT ARE NOT CONTAINED IN THIS PROSPECTUS. YOU SHOULD RELY ONLY ON THE INFORMATION PROVIDED IN THIS PROSPECTUS OR INCORPORATED BY REFERENCE THEREIN. YOU MUST NOT RELY ON ANY UNAUTHORIZED INFORMATION.

THIS PROSPECTUS DOES NOT OFFER TO SELL OR BUY ANY SHARES OF COMMON STOCK IN ANY JURISDICTION WHERE IT IS UNLAWFUL. YOU SHOULD NOT ASSUME THAT THE INFORMATION IN THIS PROSPECTUS IS ACCURATE AS OF ANY DATE OTHER THAN THE DATE ON THE FRONT OF THE DOCUMENT.

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180,099 SHARES
OF COMMON STOCK