- ---

- ---

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

/X/ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 1999 OR

/ / TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

COMMISSION FILE NO. 0-23556

INHALE THERAPEUTIC SYSTEMS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE	94-3134940
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

150 INDUSTRIAL ROAD, SAN CARLOS, CA 94070
(Address of principal executive offices and zip code)

(650) 631-3100
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act: NONE

Securities registered pursuant to Section 12(g) of the Act: COMMON STOCK, $0.0001 PAR VALUE

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes /X/ No / /

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. / /

The approximate aggregate market value of voting stock held by non-affiliates of the Registrant, based upon the last sale price of the Common Stock on March 1, 2000 as reported by Nasdaq National Market was approximately $1,860,035,885. Determination of affiliate status for this purpose is not a determination of affiliate status for any other purpose.

20,588,388

(Number of shares of common stock outstanding as of March 1, 2000)

DOCUMENTS INCORPORATED BY REFERENCE

Portions of Registrant's definitive Proxy Statement to be filed for its 2000 Annual Meeting of Shareholders are incorporated by reference into Part III hereof.

- ---

- ---

INHALE THERAPEUTIC SYSTEMS, INC.
1999 ANNUAL REPORT ON FORM 10-K
TABLE OF CONTENTS

PART I

ITEM 1. BUSINESS

OVERVIEW

Inhale Therapeutic Systems, Inc. ("Inhale") is 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. Inhale is using this system principally to enable non-invasive delivery of protein drugs currently administered by injection. Inhale's most advanced program, which is sponsored by Pfizer Inc. ("Pfizer"), is inhaleable insulin. Pfizer commenced dosing for its Phase III clinical trials in June 1999. In addition to its insulin program with Pfizer, Inhale has 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. Inhale also has early stage feasibility and research collaborations with several other companies and has tested seven drugs in 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, Inhale believes 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.

Inhale is 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, Inhale formulates and processes bulk drugs supplied by collaborative partners into dry powders which are packaged into individual dosing units referred to as blisters. The blisters are designed to be loaded into Inhale's device, which patients then activate to inhale the aerosolized drugs. Inhale has developed an inhalation device that is being used several times per day for several months in outpatient trials for insulin. In addition, Inhale has 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, Inhale believes 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. Inhale is 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 Inhale's business strategy is to work with collaborative partners to develop and commercialize drugs for deep lung delivery. In a typical collaboration, Inhale's partner will support the application of Inhale's technology to a particular drug by providing the drug, funding clinical development, and marketing the resulting commercial product. Inhale 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, Inhale has active development programs with several other corporate partners. Inhale's 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. Inhale is also engaged in development collaborations with Aventis Behring on alpha-1 proteinase inhibitor for genetic emphysema, and with Lilly for an undisclosed protein drug. Inhale is also engaged in early stage feasibility and research programs with respect to other compounds. Inhale anticipates that any product that may be developed would be commercialized with a collaborative partner and believes its partnering strategy will enable it to reduce the investment required to develop a large and diversified potential product portfolio.

In late 1999, Inhale completed the sale of approximately $108.5 million aggregate principal amount of 6 3/4% Convertible Subordinated Debentures due October 13, 2006. In early 2000, the Company entered into agreements with certain holders of these outstanding debentures to convert their debentures into common stock in exchange for a cash payment. To date, the Company has agreed to make cash payments of approximately $16.2 million in the aggregate in connection with agreements that provide for the conversion of approximately $94.2 million aggregate principal amount of outstanding debentures into approximately 2.9 million shares of common stock. Such amounts will be reflected as a charge to interest expense in the first quarter of 2000.

In February 2000, Inhale received approximately $222.4 million in net proceeds from the issuance of $230.0 million aggregate principal amount of convertible subordinated notes to certain qualified institutional buyers under Rule 144A of the Securities Act of 1933, as amended. Interest on the notes will accrue at a rate of 5.0% per year, subject to adjustment in certain circumstances. The notes will mature in 2007 and are convertible into shares of Inhale's common stock at a conversion price of $76.71 per share, subject to adjustment in certain circumstances.

Upon completion of the issuance of the February 2007 notes and the exchange of the October 2006 debentures, the Company expects to net approximately $206.2 million cash.

OPPORTUNITY FOR PULMONARY DRUG DELIVERY

MACROMOLECULES

Innovations in biotechnology and recombinant techniques have led to a large increase in the number of macromolecule drugs over the last several years. These drugs, which are identical or similar to the body's natural molecules, are enabling new therapies for many previously untreated or poorly treated diseases. Currently, approximately 35 biotechnology drugs are approved for marketing in the United States and approximately 120 additional biotechnology drugs are in clinical trials, many for chronic and subchronic diseases. Sales of genetically engineered protein drugs were estimated at $14 billion worldwide in 1997.

There are five typical routes of administration of drugs, four natural and one which bypasses natural barriers to entry of molecules into the body. The four natural routes are through the digestive tract (oral), the skin (transdermal), the mucosal surfaces (nasal and sublingual), and the lung (inhalation). Penetration of the skin by injection (subcutaneous, intramuscular, or intravenous) bypasses the major natural barrier to prevent molecules from entering the body.

Oral delivery is a common method of delivery for many small molecule drugs. However, macromolecules are typically extremely vulnerable to digestion and therefore are very poorly delivered by an oral route. In addition, Inhale believes that dosage reproducibility for oral delivery of macromolecules may be very poor because of their low oral bioavailability. While several companies are working on oral delivery for macromolecule drugs, no commercially viable system is currently being marketed.

The size of most macromolecules makes penetration of the skin inefficient or ineffective. Passive transdermal delivery using "patch" technology has not been successful to date since the skin is less

naturally permeable to macromolecules than the gastrointestinal tract. No macromolecule drugs have been approved for marketing in the United States utilizing patch technology. Certain peptides and proteins can be transported across the skin barrier into the bloodstream using high pressure "needle-less" injection devices. The devices, which inject proteins like insulin through the skin into the body, have been available for many years. However, Inhale believes these devices have not been well accepted due to patient discomfort and relatively high cost.

The nasal route of drug administration has been limited by low and variable bioavailability for proteins and peptides. As a result of these limitations, penetration enhancers are often used with nasal delivery to achieve higher bioavailability. These enhancers may cause local irritation to the nasal tissue and result in safety concerns with long-term use. Only a limited number of peptides have been approved for marketing in the United States utilizing nasal delivery. Inhale believes these same obstacles will affect sublingual drug delivery, which also relies on the penetration of similar tissue in the mouth.

The principal practical and efficient route of administration of macromolecules, particularly recombinant proteins, has been injections.. Drug injections administered in hospitals or doctors' offices can be expensive and inconvenient to patients. Many patients find self-injectable therapies unpleasant. As a result, such therapies for many chronic and subchronic diseases meet with varying degrees of patient acceptance and compliance with the prescribed regimens. Poor acceptance and compliance can lead to increased incidence of medical complications and potentially higher disease management costs. In addition, some elderly, infirm or pediatric patients cannot administer their own injections and require assistance, thereby increasing both inconvenience to these patients and the cost of therapy.

Delivery of drugs to the lungs via inhalation (pulmonary delivery) has the potential to be a much more effective route of administration of macromolecules, with a relatively higher absorption into the bloodstream (bioavailability) than all alternative routes except injection. As an alternative to the invasiveness of injection, Inhale believes a deep lung inhalation delivery system could increase patient acceptance and improve compliance and may enable new therapeutic uses of certain macromolecule drugs. Pulmonary delivery is already in use for a variety of small molecule drugs.

Existing pulmonary drug delivery systems such as metered-dose inhalers ("MDIs"), dry powder inhalers and nebulizers, are used primarily to deliver drugs to the upper airways of the lung for lung diseases. Approximately 35 drugs are approved for marketing by the FDA for delivery into the respiratory tract, but none of these pulmonary drug delivery devices were designed to optimize drug delivery to the deep lung for absorption into the bloodstream. MDIs, dry powder inhalers and nebulizers typically deliver only a fraction of the drug to the deep lung, with most of the drug being lost in the delivery device or in the mouth and throat. Consequently, Inhale believes that the total efficiency of such systems is generally not high enough to be commercially feasible for systemic delivery of most macromolecule drugs.

In addition, pulmonary drug delivery devices currently do not provide the dosage reproducibility and formulation stability generally needed for commercially viable systemic macromolecule drug delivery. Inhale believes that many MDI and dry powder systems do not provide the deep lung dosage reproducibility necessary for many systemic applications because the patient must coordinate the breathing maneuver with the generation of the aerosol. Further, Inhale believes that many macromolecules currently cannot be formulated for use in MDI systems, since macromolecule drugs could be denatured by the MDI formulating ingredients. In addition, Inhale believes that some macromolecules may be inactivated by nebulization and that many dry powder systems do not provide the protection needed for long-term stability that may be needed for macromolecule formulations.

Inhale believes that an efficient and reproducible deep lung delivery system for systemic macromolecule drugs used in the treatment of chronic and subchronic diseases represents a significant commercial opportunity. Such a system could improve patient acceptance of systemic macromolecule drug therapy and compliance with prescribed regimens, thereby improving therapeutic outcomes and reducing

the costs of administration and treatment of disease. Additionally, pulmonary delivery may enable new therapeutic uses of certain macromolecule drugs.

Inhale also believes that opportunities for a deep lung delivery system exist in the delivery of macromolecules for local lung diseases due to the limitations of current pulmonary devices. Biotechnology and pharmaceutical companies are developing new macromolecule drugs for pulmonary diseases such as asthma, cystic fibrosis, emphysema, lung cancer, pneumonia and bronchitis. Pulmonary delivery is the preferred route for treating most lung diseases since application of the drug directly to the site of action (lung) requires much less drug than systemic administration, thereby potentially reducing systemic side effects.

OTHER MOLECULES

In addition to developing a deep lung delivery system for macromolecules, Inhale is investigating opportunities for leveraging its technology for application to small molecules where there is a clear, demonstrable need for an alternative drug delivery system and where Inhale's existing technology can be applied without significant modification. Examples include molecules that require rapid systemic absorption for efficacy (i.e., analgesics and antiemetics), molecules that undergo massive first pass metabolism by the oral route or molecules used for local lung delivery for diseases such as asthma that are currently delivered by sub-optimal aerosol systems.

MDIs, existing dry powder inhalers and nebulizers have been used primarily to deliver drugs to the upper airways of the lung for local lung applications. Some of the problems associated with traditional small molecule aerosol delivery systems include poor reproducibility, low efficiency, low drug payload per puff, poor moisture barrier and, in the case of wet systems, long dosing time and potential for microbial growth.

Inhale believes that its technology could be used to address these problems by providing efficient dispersion of the drug into the lungs resulting in the reproducible delivery of a consistent amount of drug into the bloodstream. Inhale further believes its technology could potentially be applied economically in market segments where it is essential that significant drug doses reach the lung. Large amounts of drugs taken orally or through inefficient inhalers can result in side effects which could be avoided or reduced through more efficient and better targeted pulmonary delivery.

STRATEGY

Inhale's goal is to become the leading drug delivery company in the field of pulmonary delivery of macromolecules. In addition, Inhale is leveraging its technology base for other applications where its system can provide significant market advantages. Inhale's strategy incorporates the following principal elements:

- DEVELOP A BROADLY APPLICABLE PULMONARY DELIVERY SYSTEM. Inhale is developing its non-invasive deep lung drug delivery system to be applicable to a wide range of peptides, proteins and other molecules currently delivered by injection or poorly delivered by inhalation or other routes. Inhale intends to develop effective non-invasive delivery alternatives that can: (1) expand market penetration for existing therapeutics currently delivered by injection, infusion or other routes; (2) commercialize new indications by using deep lung delivery as a new route of administration; and (3) extend existing patents or seek new patents to gain important competitive advantages for Inhale and its partners.

- BUILD COMPETITIVE ADVANTAGE THROUGH AN INTEGRATED SYSTEMS APPROACH. Inhale is developing a commercially viable deep lung delivery system through an integrated systems solution. Inhale combines its expertise in pulmonary physiology and biology, aerosol science, powder science, chemical engineering, mechanical engineering and product design, protein formulation, fine powder processing and filling to build a proprietary, fully-integrated system for pulmonary delivery of therapeutic

drugs. Inhale believes that building expertise in technology across several disciplines provides it with a significant competitive advantage.

- PARTNER WITH PHARMACEUTICAL AND BIOTECHNOLOGY COMPANIES.Inhale's strategy is to market its proposed products through collaborative partners. Inhale is seeking to work with partners that have significant clinical development and marketing resources, and currently has collaborations with several large pharmaceutical and biotechnology companies. For patented drug products, Inhale intends to partner with owners or licensees from the outset of the project. For drugs that are off-patent or licensed-in, Inhale may perform initial feasibility screening work, formulations development and early stage clinical trials before entering into a partner relationship for further development. Inhale believes this partnering strategy enables it to reduce its cash requirements while developing a large and diversified potential product portfolio.

- FOCUS ON APPROVED OR LATE STAGE DRUGS. To date, Inhale has focused primarily on drugs that either have proven efficacy and are approved for marketing or are in late stage clinical trials. Inhale believes that working primarily with drugs with demonstrated efficacy reduces the technical risk of its projects. In the future, Inhale anticipates working on drugs at earlier stages of development.

- EXPAND MANUFACTURING CAPABILITY. Inhale intends to formulate, manufacture and package dry powders for most of its drugs and to subcontract manufacturing of its device. Inhale believes that this strategy will provide manufacturing economies of scale across a range of therapeutic products and expand capacity for additional partnerships and commercial scale production.

INHALE'S DEEP LUNG DRUG DELIVERY SYSTEM

Inhale believes that the following criteria are necessary for a commercially viable non-invasive deep lung drug delivery system:

- SYSTEM EFFICIENCY/COST: The system must attain a certain minimum efficiency in delivering a drug to the bloodstream as compared to injection. Bioavailability (the percentage of drug absorbed into the bloodstream from the lungs relative to that absorbed from injection) is the most important element of system efficiency. Total system efficiency is critical due to the high cost of macromolecule drugs. Total delivery 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. Inhale believes that for most systemic macromolecule drugs, a non-invasive delivery system must show total delivery system efficiency of at least 5% to 25% compared to injection for the system to be commercially viable.

- REPRODUCIBILITY: The system must deliver a consistent and predictable amount of drug to the lung and into the bloodstream.

- FORMULATION STABILITY: Formulations used in the system must remain physically and chemically stable over time and under a range of storage, shipping and usage conditions.

- SAFETY: The system should not introduce local toxicity problems during chronic or subchronic use by a wide population of patients.

- CONVENIENCE: The system must be convenient to the patient in terms of comfort, ease of operation, transportability and required dosage time.

Inhale approaches pulmonary drug delivery with the objective of maximizing overall delivery system efficiency while addressing commercial requirements for reproducibility, formulation stability, safety and convenience. To achieve this goal, Inhale's delivery system integrates customized drug formulations and packaging with its proprietary inhalation device. Inhale combines an understanding of lung biology, aerosol science, chemical engineering, mechanical engineering and protein formulations in its system development efforts. Inhale believes that this interdisciplinary capability provides an important competitive advantage.

Inhale has chosen to base its deep lung delivery system on dry powders for several reasons. Many proteins are more stable in dry powders than in liquids. In addition, dry powder aerosols can carry approximately five times more drug in a single breath than typical MDIs and, for many drugs, at least 25 times more than currently marketed liquid or nebulizer systems. Inhale believes that a dry powder system for drugs requiring higher doses, such as insulin and alpha-1 proteinase inhibitor, could decrease dosing time as compared with nebulizers.

Inhale takes bulk drugs supplied by partners and formulates and processes them into fine powders that are then packaged into individual blisters. The blisters are designed to be loaded into Inhale's device, which patients activate to inhale the aerosolized drugs. Once inhaled, the aerosol particles are deposited in the deep lung, dissolved in the alveolar fluid and absorbed into the bloodstream. Although Inhale is in the advanced stages of developing its system technologies, there can be no assurance that Inhale's products will ever be successfully commercialized.

FORMULATIONS

Each macromolecule drug poses different formulation challenges due to differing chemical and physical characteristics and dosing requirements. This requires significant optimization work for each specific drug. Inhale has assembled a team with expertise in protein formulation, powder science and aerosol science and is applying this expertise to develop proprietary techniques and methods that it believes will produce stable, fillable and dispersible dry powder drug formulations. Inhale has developed several protein powders which remain stable at room temperature in excess of one year. Through its work with numerous macromolecules, Inhale is developing an extensive body of knowledge on aerosol dry powder formulations, including knowledge relating to powder flow characteristics and solubility within the lung, as well as physical and chemical properties of various excipients. Inhale has filed and expects to continue to file patent applications on several of its formulations and, through strategic acquisitions, has acquired rights to certain U.S. and foreign patents and patent applications relating to stabilization of macromolecule drugs in dry formulations.

POWDER PROCESSING

Inhale is modifying standard powder processing equipment and developing custom techniques to enable it to produce fine dry powders with particle aerosol diameters of between one and five microns without degradation or significant loss of expensive bulk drug. Inhale has scaled up powder processing to levels sufficient for producing test powders for late stage clinical trials and small volume marketed products. Inhale is in the process of further scaling up its powder processing systems in order to produce quantities sufficient for commercial production of products Inhale believes it will need to supply in high volumes, such as insulin. However, there can be no assurance that Inhale will be successful in further scaling up its powder processing on a timely basis or at a reasonable cost, or that the powder processing system will be applicable for every drug.

POWDER FILLING AND PACKAGING

Powders made up of fine particles that do not behave in a granularly flowing way, are generally compressible, and hence require handling that is different than for powders comprised of larger particles. Currently available commercial filling and packaging systems are designed for filling powders of larger particle size and therefore must be re-engineered to dispense finer powders accurately and in the small quantities often required. Initially, during early stages of development, powder filling was performed manually. Inhale has since developed and qualified a proprietary automated filling system suitable for use in production of clinical trial supplies and commercial quantities for certain products. Inhale is further developing a high through-put system for use with products whose market requirements dictate increased capacity.

INHALATION DEVICE

Inhale's proprietary pulmonary delivery device is designed to provide deep lung delivery of therapeutic powders in a reproducible, safe and efficient manner. The first of a series of patents applied for covering the device was granted in the United States in October 1995. To achieve its objectives, Inhale has designed its pulmonary delivery device to perform the following:

- EFFECTIVELY DISPERSE FINE PARTICLES INTO AN AEROSOL CLOUD. Fine powders have different dispersion requirements or characteristics than large powders. Most current dry powder inhalers use larger powders and are not efficient in dispersing powders with aerosol diameters of one to five microns. Inhale has developed and is refining its dispersion system for its device specifically for fine powders. Inhale's device has been designed to efficiently remove powders from the packaging, effectively break up the powder particles and create an aerosol cloud while maintaining the integrity of the drug.

- EFFICIENTLY AND REPRODUCIBLY DELIVER THE AEROSOL CLOUD TO THE DEEP LUNG. Inhale is developing a proprietary aerosol cloud handling system in its device that is intended to facilitate deep lung powder deposition and reproducible patient dosing. The handling system design is intended to enable the aerosolized particles to be transported from the device to the deep lung during a patient's breath, reducing losses in the throat and upper airways. In addition, the aerosol cloud handling system, in conjunction with the dispersion mechanism and materials used in the device, is designed to reduce powder loss in the device itself.

- ELIMINATE THE USE OF PROPELLANTS TO AVOID ASSOCIATED ENVIRONMENTAL CONCERNS AND FORMULATION DIFFICULTIES. Unlike MDIs, the Inhale device does not use propellants. The oily surfactants required to stabilize propellant formulations can cause aggregation of macromolecules. Current chlorofluorocarbon propellants, which are used in most commercial MDI systems, are being phased out in many countries due to environmental concerns.

The success of Inhale's deep lung drug delivery system for any drug will depend upon Inhale achieving sufficient formulation stability, safety dosage reproducibility and total system efficiency (measured by the percentage of bulk drug entering the manufacturing process that eventually is absorbed into the bloodstream relative to injection for systemic indications, or the amount of drug delivered to the lung tissue for local lung indications). The initial screening determinant for the feasibility of pulmonary delivery of any systemic drug is pulmonary bioavailability, which measures the percentage of the drug absorbed into the bloodstream when delivered directly to the lungs. In addition, a certain percentage of each drug dose may be lost at various stages of the manufacturing process, (e.g., in drug formulation, dry powder processing, or powder filling and packaging) and in moving the drug from a delivery device into the lungs. Excessive drug loss at any one stage or cumulatively in the manufacturing and delivery process would render a drug commercially unfeasible for pulmonary delivery. Formulation stability (the physical and chemical stability of the formulated drug over time and under various storage, shipping and usage conditions) and safety will vary with each macromolecule and the type and amount of excipients, that are used in the formulation. Dose reproducibility (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) 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. There can be no assurance that Inhale will be able to successfully develop such an inhalation device or overcome such other obstacles to reproducible dosing.

CLINICAL STATUS SUMMARY

The following table sets forth, for both Inhale's partner development programs and Inhale's programs available for partnering, the drug currently in development, the indication(s) for the particular drug, its present stage of clinical development and, with respect to Inhale's partner development programs, the identity of Inhale's corporate partner for such drug.

PARTNER DEVELOPMENT PROGRAMS

DRUG	INDICATION(S)	CLINICAL STATUS(1)	PARTNER
Insulin	Type 1 and 2 Diabetes	Phase III	Pfizer
Alpha-1 Proteinase Inhibitor	Genetic Emphysema	Phase I	Aventis Behring
AVONEX-Registered Trademark-	Multiple Sclerosis	Preclinical	Biogen
Undisclosed Protein	Not Released	Preclinical	Lilly
PTH	Osteoporosis	Phase I	Lilly

PROGRAMS AVAILABLE OR EXPECTED TO BE AVAILABLE FOR PARTNERING

DRUG	INDICATION(S)	CLINICAL STATUS(1)
Calcitonin	Osteoporosis, Bone Pain, Paget's Disease	Phase I
Interleukin-1 Receptor	Asthma	Phase I/II
Undisclosed Non-Protein, Non-Peptide	Not Released	Phase II
Undisclosed Non-Protein, Non-Peptide	Not Released	Phase I
Undisclosed Non-Protein, Non-Peptide	Not Released	Preclinical

- ------------------------

(1) Clinical Status means:

Phase III - large-scale out-patient clinical trials conducted to obtain information regarding specific patient groups conducted following encouraging Phase II trial results.

Phase II - clinical trials to establish dosing and efficacy in patients

Phase I - clinical trials in healthy subjects to test safety, and for drugs with systemic applications, to test bioavailability compared with injection.

Preclinical - formulation development and animal testing in preparation for human trials

INHALE'S PARTNER DEVELOPMENT PROGRAMS

In general, Inhale's partnership arrangements provide funding for development, payments upon the achievement of certain milestones and royalty and manufacturing revenues upon the commencement of commercial sales. The arrangements are cancelable by the partner at any time without significant penalty.

INSULIN PROGRAM

Insulin is a protein hormone naturally secreted by the pancreas to induce the removal of glucose from the blood. Diabetes, the inability of the body to properly regulate blood glucose levels, is caused by insufficient production of insulin by the pancreas or insufficient use of the insulin that is secreted. Over

time, high blood glucose levels can lead to blindness, loss of circulation, kidney failure, heart disease or stroke. Insulin is currently marketed only in injectable form. Insulin is supplied by various manufacturers, including Lilly, Novo-Nordisk A/S and Aventis.

According to the United States Centers for Disease Control and Prevention, approximately 16 million people in the United States have diabetes (10.3 million are diagnosed with diabetes; another 5.4 million have undiagnosed diabetes) and 798,000 new cases are diagnosed each year. All Type 1 diabetics, estimated at between 5% and 15% of all diabetics, require insulin therapy. Type 1 diabetics require both a baseline treatment of long-acting insulin and multiple treatments of regular, or short acting, insulin throughout the day. Type 2 diabetics, depending on the severity of their case, may or may not require insulin therapy. Type 2 diabetics who use insulin are best treated with regular insulin and sometimes require long-acting insulin as well. Because of the inconvenience and unpleasantness of injections, many Type 2 patients who do not require insulin to survive, despite the fact that they would benefit from it, are reluctant to start treatment.

Regular insulin is generally administered 30 minutes before mealtimes and generally is given only twice a day. A ten-year study by the National Institutes of Health ("NIH"), however, demonstrated that the side effects of diabetes could be significantly reduced by dosing more frequently. The NIH study recommended dosing regular insulin three to four times per day, a regimen which would more closely mirror the action of naturally produced insulin in non-diabetics. Because of the risk of severe hypoglycemia, this course of treatment is not recommended for children, older adults, people with heart disease or with a history of frequent severe hypoglycemia. In addition, many patients are reluctant to increase their number of daily doses because they find injections unpleasant and inconvenient.

Pursuant to a collaborative agreement originally entered into in January 1995, Inhale and Pfizer are developing an inhaled version of regular insulin that can be administered in one to three blisters per dose using Inhale's deep lung delivery system. Inhale believes that its delivery system could provide increased user convenience and result in greater patient compliance by eliminating some injections for Type 1 and Type 2 patients and all injections for some Type 2 patients. In addition, Inhale believes that pulmonary delivery could yield medical advantages by providing a more rapid acting insulin than most currently marketed injectable products.

Through its collaboration with Inhale, Pfizer conducted Phase I and Phase IIa clinical trials which indicated that pulmonary insulin was absorbed systemically, reduced blood glucose levels and provided the same glycemic control as injected insulin. In October 1996, Pfizer initiated a multi-site Phase IIb outpatient trial to include up to 240 diabetes patients, the results of which were announced in June 1998. In 70 Type 1 diabetics treated with either inhaled or conventional injected insulin therapy for three months, blood levels of hemoglobin A1c, the best index of blood glucose control, were statistically equivalent. Virtually identical results were obtained in a group of Type 2 diabetics. In September 1998, Pfizer released additional Phase IIb data which indicated that results from 56 to 69 patients in a three-month trial showed that individuals with Type 2 diabetes can markedly improve their glycemic control without insulin injections by combining Inhale's pulmonary insulin with oral diabetes agents.

In November 1998, Pfizer and Aventis announced that they entered into worldwide agreements to manufacture insulin and to co-develop and co-promote inhaleable insulin. Under the terms of the agreement, Pfizer and Aventis agreed to construct a jointly owned manufacturing plant in Frankfurt, Germany. Until its completion, Pfizer will provide Inhale with biosynthetic recombinant insulin for powder processing from Aventis's existing plant. Inhale will continue to have responsibility for manufacturing powders and supplying devices and will receive a royalty on inhaleable insulin products marketed jointly by Pfizer and Aventis. In November 1998, Pfizer held a meeting for 117 Phase III sites of the inhaleable insulin trials and in June 1999, Pfizer began dosing for the Phase III clinical trials.

In January 1995 and October 1996, Pfizer made two $5 million equity investments in Inhale at a 25% premium to the market price of Inhale stock at the time of each investment.

ALPHA-1 PROTEINASE INHIBITOR PROGRAM

In January 1997, Inhale entered into a collaborative agreement with Aventis Behring to develop a pulmonary formulation of alpha-1 proteinase inhibitor to treat patients with alpha-1 antitrypsin deficiency, or genetic emphysema. Alpha-1 proteinase inhibitor is approved in the United States and several European countries for augmentation treatment of alpha-1 antitrypsin deficiency. Current treatment is given by systemic intravenous infusion on a weekly basis. This "replacement therapy" consists of a concentrated form of alpha-1 proteinase inhibitor derived from human plasma. Under the terms of the collaboration, Aventis Behring will receive commercialization rights worldwide excluding Japan and Inhale will receive royalties on product sales, an up-front signing fee and up to an estimated $15 million in research and development funding and milestone payments.

The two companies have completed preclinical work that indicates Inhale's dry powder formulation of Aventis Behring's alpha-1 proteinase inhibitor has the potential to significantly improve the efficiency of delivery compared with current infusion therapy. Inhale believes its pulmonary delivery system could significantly reduce the amount of drug needed for genetic emphysema therapy since alpha-1 proteinase inhibitor could be delivered directly to the lung. Aventis Behring is currently negotiating to secure rights under patents that have been granted in Europe directed to aerosol formulations for the treatment of the lung containing serine protease inhibitors, including alpha-1 proteinase inhibitor. In December 1999, patient dosing began for Phase I clinical trials.

AVONEX-REGISTERED TRADEMARK- PROGRAM

In February 1999, Inhale entered into a collaborative agreement with Biogen to develop an inhaleable formulation of Biogen's proprietary Interferon-Beta-1a, marketed as AVONEX-Registered Trademark-, for the treatment of Multiple Sclerosis. Multiple Sclerosis is believed to be the most common chronic neurological condition of young adults in North America and Europe. It is estimated that over 250,000 people in the United States are currently affected by Multiple Sclerosis and that approximately 10,000 new cases are diagnosed annually in the United States. Under the terms of the agreement, Inhale will receive royalties on product sales, an up-front signing fee, and up to an estimated $25 million in research and development funding and potential progress payments. Biogen will provide bulk AVONEX-Registered Trademark- to Inhale for formulation into a dry powder which is stable at room temperature. Inhale will manufacture and package the dry powder and supply inhalation devices. Biogen will be responsible for clinical trials, marketing and commercialization.

PROPRIETARY MOLECULE PROGRAM WITH LILLY

In January 1998, Lilly and Inhale entered into a collaborative agreement to develop an inhaleable formulaton for an undisclosed protein product based on Inhale's deep lung drug delivery system. Under the terms of the agreement, Inhale will receive funding of up to $20 million in research, development and milestone payments. Lilly will receive global commercialization rights for the pulmonary delivery of the products with Inhale receiving royalties on sales of any marketed products. Inhale will manufacture packaged powders for, and supply inhalation devices to, Lilly.

PTH PROGRAM

In January 1997, Inhale entered into a collaborative agreement with Lilly to develop pulmonary delivery for parathyroid hormone (PTH 1-34) with the target indication of treatment and prevention of osteoporosis. At this time, osteoporosis was estimated to affect approximately 25 million Americans, mostly women. If not prevented or left untreated, osteoporosis can progress painlessly until a bone breaks. As many as 35,000 people die each year from a cause associated with hip fractures, primarily due to complications that result from surgery or from being confined to bed.

In late 1998, unexpected observations from a long-term test in rats of the injectable version of this PTH 1-34 led Lilly to suspend further clinical development of the injectable and pulmonary versions of this

drug pending further analysis. Inhale is maintaining a minimum development effort in its pulmonary program pending further direction from Lilly. Depending on the continued evaluations by Lilly, this inhalation program could be re-initiated, suspended for an extended period, or possibly terminated. Inhale does not currently believe that this program will be re-initiated by Lilly in the near future, if at all.

INHALE'S PROGRAMS AVAILABLE OR EXPECTED TO BE AVAILABLE FOR PARTNERING

CALCITONIN PROGRAM

Inhale is funding a proprietary program to develop a pulmonary formulation of calcitonin for the treatment of osteoporosis, bone pain and Paget's disease. Calcitonin is a peptide hormone secreted by the thyroid gland that inhibits bone resorption and lowers serum calcium. Calcitonin is available in two forms, fish and human. Calcitonin is administered daily or every other day by injection in the United States. In the United States, salmon calcitonin is approved for the treatment of postmenopausal osteoporosis, Paget's disease, hypercalcemia of cancer and bone pain. Human calcitonin is approved for Paget's disease and bone pain. Paget's disease is a chronic disorder of the adult skeleton, in which localized areas of bone become hyperactive and are replaced by a softened and enlarged bone structure. About 3% of Caucasians in the United States over age 60 have Paget's disease. Hypercalcemia occurs as a result of excessive serum calcium levels caused by hyperparathyroidism and malignancy. It occurs in approximately 10-20% of cancer patients.

In April 1997, Inhale announced the successful completion of Phase I trials to investigate the tolerability and bioavailability of pulmonary delivery of a dry powder, aerosolized form of salmon calcitonin as a potential treatment for osteoporosis, Paget's disease, hypercalcemia and other bone diseases. The single-dose study conducted in the United Kingdom with a total of 36 fasted healthy subjects indicated that the drug was systemically absorbed when delivered by the pulmonary route with Inhale's system. Inhale is continuing work on this program while it seeks a partner for further clinical development.

INTERLEUKIN-1 RECEPTOR PROGRAM

Interleukin-1 is a cytokine that helps initiate the inflammatory response to foreign pathogens and is believed to be a causative factor for asthma. The interleukin-1 receptor is a molecule which can block the inflammatory action of Interleukin-1. Inhale collaborated with Immunex to develop a pulmonary formulation of interleukin-1 receptor as a therapeutic product for asthma. Initial formulation development and animal toxicology have been completed, and the two companies successfully completed Phase I/II trials demonstrating pulmonary delivery. This program is awaiting further work and/or licensing by Immunex.

MOLECULE PROGRAMS FORMERLY PARTNERED WITH BAXTER

In March 1996, Inhale entered into a collaborative agreement with Baxter International Inc. to use Inhale's dry powder pulmonary delivery system as a technology platform for developing and launching therapeutic products. In connection with the collaboration, Baxter made a $20 million equity investment in Inhale at a 25% premium to the market price of Inhale stock at the time of the investment. At that time, Baxter received worldwide commercialization rights for four non-protein/peptide drugs in exchange for up to an estimated $60 million in research and development funding and progress payments.

In April 1998, Inhale announced that the first two compounds from its collaboration with Baxter had successfully completed Phase I and Phase II trials respectively. In addition, it was announced that the program would focus on the product that had completed Phase I as it was the product with the most commercial potential. The technology from one of the three remaining products was returned to Inhale, leaving the development of the other two compounds on hold. In October 1998, Inhale announced that it had reached an agreement with Baxter to amend their collaborative agreement to facilitate signing a new corporate partner to fund further development and commercialization of the undisclosed compound that

had been their focus since April 1998. Baxter's obligations under that amendment expired in September 1999. As a result, rights to the compounds reverted to Inhale and are now available for other partnering opportunities.

OTHER PROGRAMS

In addition to the above mentioned programs, Inhale has conducted and continues to conduct feasibility studies with respect to additional drug formulations both for its own account and in cooperation with potential partners. Inhale will continue to pursue these and other feasibility programs to determine the potential for collaborative development programs with respect to these drugs. Included among such studies is initial research on a long-acting inhaleable insulin. Some diabetic patients require a long-acting insulin to maintain baseline insulin levels. A long-acting, inhaleable form of insulin could be used by these patients as a supplement to short-acting, mealtime inhaleable insulin. This program is part of a broader sustained release program announced by Inhale in January 1999.

MANUFACTURING

Inhale generally plans to formulate, manufacture and package the powders for its deep lung delivery products and to subcontract the manufacture of its proprietary pulmonary delivery devices. Under its collaborative agreement with Pfizer to develop inhaleable insulin, Inhale will manufacture insulin powders and Pfizer will be primarily responsible for filling blisters. The terms of the collaborative agreement with Pfizer provide that prior to the commercialization of its first products, Inhale must build and have validated a powder processing facility and must have validated a device manufacturer or manufacturers. Inhale believes its manufacturing strategy will enable it to achieve the following:

- provide economies of scale by utilizing manufacturing capacity for multiple products;

- improve its ability to retain any manufacturing know-how; and

- allow its customers to bring pulmonary delivery products to market faster.

Inhale has built a powder manufacturing and packaging facility in San Carlos, California capable of producing powders in quantities sufficient for clinical trial. This facility has been inspected and licensed by the State of California and is used to manufacture and package powders under current good manufacturing practices. Inhale is expanding its facility to meet its future commercial manufacturing commitments.

Inhale is working to further scale-up its powder processing to a larger production scale system and to further develop the necessary powder packaging technologies. Fine particle powders and small quantity packaging (such as those to be used in Inhale's delivery system) require special handling. Current commercial packaging systems are designed for filling larger quantities of larger particle powders and therefore must be modified to dispense finer particles in the small quantities required by Inhale. Inhale has developed and validated a proprietary prototype automated filling system which Inhale believes is capable of supporting its requirements through Phase III trials and into commercial production for some products. Inhale is developing a higher capacity automated filling unit capable of filling blisters on a production scale for moderate and large volume products. Inhale faces significant technical challenges in developing an automated, commercial-scale filling system that can accurately and economically handle the small dose and particle sizes of its powders. There can be no assurance that Inhale will be able to develop or acquire the technology necessary to develop successfully any such system in a timely manner or at commercially reasonable cost. Any failure or delay in developing such technology would delay product development or bar commercialization of Inhale's products and would have a material adverse effect on Inhale.

Inhale's proprietary inhalation device has been developed for commercial use and is being used in the Phase III insulin and other trials in 2000. Inhale plans to subcontract the manufacture of its pulmonary delivery device before commercial production of its first product. Inhale has identified contract manufacturers that it believes have the technical capabilities and production capacity to manufacture its devices

and which can meet the requirements of current good manufacturing practices. There can be no assurance that Inhale will be able to obtain and maintain satisfactory contract manufacturing on commercially acceptable terms, if at all. Inhale's dependence upon third parties for the manufacture of its inhalation device may adversely affect Inhale's cost of goods and its ability to develop and commercialize products on a timely and competitive basis.

GOVERNMENT REGULATION

The research and development, manufacture and marketing of pulmonary drug delivery systems are subject to regulation by the FDA in the United States and by comparable regulatory agencies in other countries. These national agencies and other federal, state and local entities regulate, among other things, research and development activities and the testing, manufacture, safety, effectiveness, labeling, storage, record keeping, approval, advertising and promotion of Inhale's products.

The process required by the FDA before a pulmonary drug delivery system may be marketed in the United States depends on whether the compound has existing approval for use in other dosage forms. If the drug is a new chemical entity that has not been approved, the process includes the following:

- extensive preclinical laboratory and animal testing;

- submission of an Investigational New Drug application ("IND");

- adequate and well-controlled human clinical trials to establish the safety and efficacy of the drug for the intended indication: and

- submission to the FDA for approval of a New Drug Application ("NDA") with respect to drugs or a Biological License Application ("BLA") with respect to biologics.

If the drug has been previously approved, the approval process is similar, except that certain preclinical tests relating to systemic toxicity normally required for the IND and NDA/BLA application may not be necessary.

Preclinical tests include laboratory evaluation of product chemistry and animal studies to assess the potential safety and efficacy of the product and its formulation. Pulmonary drug products must be formulated according to current good manufacturing practices, and pre-clinical safety tests must be conducted by laboratories that comply with FDA good laboratory practices regulations. The results of the pre-clinical tests are submitted to the FDA as part of an IND application and are reviewed by the FDA before clinical trials begin. Clinical trials may begin 30 days after receipt of the IND by the FDA, unless the FDA raises objections during that period.

Clinical trials involve the administration of the drug to healthy volunteers or to patients under the supervision of a qualified medical investigator. Clinical trials are conducted in accordance with protocols that detail the objectives of the study, the parameters to be used to monitor participant safety and efficacy or other criteria to be evaluated. Each protocol is submitted to the FDA as part of the IND. Each clinical study is conducted under the auspices of an independent Institutional Review Board ("IRB"). The IRB will consider, among other things, ethical factors, the potential risks to subjects participating in the trial and the possible liability of the institution.

Clinical trials are typically conducted in three sequential phases, but the phases may overlap. In Phase I, the initial introduction of the drug into healthy human subjects, the product generally is tested for tolerability, pharmacokinetics, absorption, metabolism and excretion. Phase II involves studies in a limited patient population to:

- determine the efficacy of the product for specific targeted indications;

- determine dosage tolerance and optimal dosage; and

- identify possible adverse effects and safety risks.

After Phase II trials demonstrate that administration of the drug by the pulmonary route is effective and has an acceptable safety profile, Phase III trials are undertaken to evaluate further clinical efficacy and safety within an expanded patient population at geographically dispersed clinical study sites. The FDA, the clinical trial sponsor, the investigators or the IRB may suspend clinical trials at any time if any one of them believe that study participants are being exposed to an unacceptable health risk.

The results of product development, pre-clinical studies and clinical studies are submitted to the FDA as an NDA/BLA for approval of the marketing and commercial shipment of the pulmonary drug product. The FDA may deny an NDA/BLA if applicable regulatory criteria are not satisfied or may require additional clinical testing. Even if such data are submitted, the FDA may ultimately decide that the NDA/BLA does not satisfy the criteria for approval. Product approvals may be withdrawn if compliance with regulatory standards are not maintained or if safety concerns arise after the product reaches the market. The FDA may require post marketing testing and surveillance programs to monitor the effect of pulmonary drug products that have been commercialized, and has the power to prevent or limit future marketing of the product based on the results of such programs.

Each domestic drug product manufacturing establishment must be registered with, and approved by, the FDA. Drug product manufacturing establishments located in California also must be licensed by the State of California. Establishments handling controlled substances must be licensed by the United States Drug Enforcement Administration ("DEA"). Domestic manufacturing establishments are subject to biennial inspections by the FDA for compliance with current good manufacturing practices compliance. Inhale is also subject to U.S. federal, state and local regulations regarding workplace safety, environmental protection and hazardous and controlled substance controls, among others.

Many of the drugs with which Inhale is working are already approved for marketing by the FDA. Inhale believes that when working with approved drugs, the approval process for delivery by pulmonary drug products may require less time and fewer tests than for new chemical entities. However, Inhale expects that its formulations often will use excipients not currently approved for pulmonary use. Use of these excipients will require additional toxicological testing that may increase the costs of, or lengthen the time in, gaining regulatory approval. In addition, regulatory procedures applicable to Inhale's products may change as regulators gain experience in the area of macromolecules, and any such changes may delay or increase the cost of regulatory approval.

For the products currently under development, Inhale's device is considered to be part of a drug/ device combination for deep lung delivery of each specific molecule. Prior to submission of an IND, the FDA Center and division within the FDA Center responsible for the review of the IND and NDA/BLA will be identified. In the case of Inhale's products, either the Center for Drug Evaluation and Research or the Center for Biologics Evaluation and Research, in consultation with the Center for Devices and Radiological Health, could be involved in the review. However, one Center is designated as the Center which has the lead responsibility for regulating the product. The jurisdiction within the FDA is based on the primary mode of action of the drug and is identified in the FDA's intercenter agreement.

Inhale expects that its partners generally will be responsible for clinical and regulatory approval procedures, but Inhale may participate in this process by submitting to the FDA a drug master file developed and maintained by Inhale which contains data concerning the manufacturing processes for the product. The clinical and manufacuturing development and regulatory review process generally takes a number of years and requires the expenditure of substantial resources. Inhale's ability to manufacture and sell products developed under contract depends upon the partner's completion of satisfactory clinical trials and obtaining marketing approvals. Inhale may prepare and submit an IND application and perform initial clinical studies before licensing the product to a partner. Inhale's business strategy contemplates performing more of these studies in the future.

Sales of Inhale's products outside the United States are subject to local regulatory requirements governing clinical trials and marketing approval for drugs and pulmonary delivery systems. Such requirements vary widely from country to country.

Prior to marketing a new dosage form of any drug, including one developed for use with Inhale's pulmonary drug delivery system, the product must undergo rigorous preclinical and clinical testing and an extensive review process mandated by the FDA and equivalent foreign authorities regardless of whether or not such drug was already approved for marketing in another dosage form. These processes generally take a number of years and require the expenditure of substantial resources. None of Inhale's proposed products has been submitted to the FDA for marketing approval. Inhale has no experience obtaining such regulatory approval, does not have the expertise or other resources to do so and intends to rely on its partners to fund clinical testing and to obtain product approvals.

PATENTS AND PROPRIETARY RIGHTS

Inhale's policy is to apply for patent protection for the technology, inventions and improvements deemed important to the development of its business. Inhale also relies upon trade secrets, know-how, continuing technological innovations and licensing opportunities to maintain and further develop its competitive position. Inhale plans to defend aggressively its proprietary technology and any issued patents.

Inhale expects that its integrated system for pulmonary delivery of both large and small molecule drugs will yield innovations in dry powder formulations, powder processing, powder packaging and device design. It is Inhale's strategy to build proprietary positions in each of its technological areas. Inhale's success will depend in part upon its ability to protect its proprietary technology from infringement, misappropriation, duplication and discovery. Inhale has filed patent applications covering certain aspects of its device and powder processing technology and powder formulations and pulmonary route of delivery for certain molecules, and plans to file additional patent applications. There can be no assurance that any of the patents applied for by Inhale will issue, or that any patents that issue will be valid and enforceable. Even if such patents are enforceable, Inhale anticipates that any attempt to enforce its patents could be time consuming and costly.

Inhale currently has 49 issued U.S. and foreign patents covering certain aspects of its technology and has a number of patent applications pending. The United States Patent and Trademark Office (the "PTO") has issued the following patents to Inhale:

- Patent No. 5,458,135 (October 17, 1995) for certain claims covering the use of its device in a method for delivering aerosolized (including powder) formulations of drugs to the lung.

- Patent No. 5,607,915 (March 4, 1997) for pulmonary delivery of active fragments of parathyroid hormone (PTH) 1-34.

- Patent No. 5,654,007 (August 5, 1997) for a system and methods for processing fine dispersible powders for easier processing.

- Patent No. 5,740,794 (April 21, 1998) for a method and means to access a packaged drug, to break up a dry powder drug into particles with compressed air (aerosolize), and to transport the aerosolized drug into a holding chamber.

- Patent No. 5,775,320 (July 7, 1998) for a method and means for dispersing a dry-powder or liquid drug, and transferring the drug in its aerosolized "cloud" form to a holding chamber where it is held until a patient is ready to inhale, as well as a method and means to pull in atmospheric "chase" air following the initial inhalation to help push the drug into the deep lung.

- Patent No. 5,780,014 (July 14, 1998) for methods and means for pulmonary delivery of dry powder alpha1-antitrypsin, a proteinase inhibitor, for administration to a patient.

- Patent No. 5,785,049 (July 28, 1998) for approximately 50 claims directed to methods and means for aerosolizing dry powders through use of a high pressure gas stream to draw dry powder from a receptacle such as a blister pack and for which Inhale utilizes the design described therein to achieve efficient aerosolization of fine dry powders to enable deep lung delivery for systemic absorption.

- Patent No. 5,814,607 (September 29, 1998) for pulmonary delivery of active fragments of parathyroid hormone of between 34 and 38 amino acids in length.

- Patent No. 5,826,633 (October 27, 1998) relating to Inhale's powder handling technologies, including the process of transferring fine powder particles into blister packs in an un-compacted state so that they can be easily dispersed in Inhale's pulmonary delivery system.

- Patent No. 5,922,354 (July 13, 1999) for a method for preparing fine particles by agglomeration.

- Patent No. 5,928,469 (July 27, 1999) for a method for preparing storage stable compositions. In this method, a material to be stored and a glass forming substance are spray-dried to form stable particles.

- Patent No. 5,976,574 (November 2, 1999) for a process for spray-drying hydrophobic drugs in organic solvent suspensions.

- Patent No. 5,985,248 (November 16, 1999) for a process for spray-drying a hydrophobic drug and a hydrophilic excipient in an organic solvent and compositions formed by the process.

- Patent No. 5,993,783 (November 30, 1999) for a respirable alpha-1-antitrypsin dry powder having an areodynamic diameter of less than 5 Microns.

- Patent No. 5,994,314 (November 30, 1999) for dry powder nucleic acid compositions and methods for their preparation.

- Patent No. 5,997,848 (December 7, 1999) for pulmonary administration of dry powder insulin which is rapidly absorbed through the alveoli into the systemic circulation.

- Patent No. 6,001,336 (December 14, 1999) for a process for spray drying a hydrophobic drug in an aqueous suspension with a hydrophilic component.

In November, 1999, Inhale acquired from Alliance Pharmaceutical Corp. its PulmoSpheres-Registered Trademark- technology and other related assets for particle formulation and powder processing, subject to the terms and conditions of an asset purchase agreement. The PulmoSpheres-Registered Trademark- technology utilizes an emulsification process to produce a powder having characteristics that Inhale believes may improve efficiency and reproducibility for drugs delivered to the lung through alternative technologies such as MDIs as well as potentially improve drug delivery through Inhale's proprietary deep lung drug delivery system. The assets acquired included Alliance's intellectual property portfolio for PulmoSpheres-Registered Trademark- consisting of, among other things, several patent applications. With respect to applications of the PulmoSpheres-Registered Trademark- technology outside the respiratory field, Inhale has licensed the technology back to Alliance. While Alliance has made several representations in its agreement with Inhale regarding its ownership rights of the PulmoSpheres-Registered Trademark- technology, it is possible that third parties might assert claims challenging Alliance's rights, and thus Inhale's rights. Even if Inhale can defend its rights successfully, the uncertainty regarding the status of its rights during the time any such litigation is pending may prevent Inhale from using the underlying technology.

In March 1998, Inhale and Initiatech Inc. signed an agreement under which Inhale licensed technology, intellectual property, and patents for protecting biologically active compounds in the dry state. Inhale intends to use this technology to expand its current technology base in stabilizing dry powder aerosol formulations for peptides, proteins, and other macromolecules at room temperature. Inhale's license is exclusive for the fields of respiratory delivery of pharmaceutical products and for any delivery form of insulin. The license includes rights to two issued U.S. patents and a Canadian patent covering the

protection of biological materials from degradation in the dry state. Initiatech has licensed exclusive rights to this technology from the Boyce Thompson Institute for Plant Research, Inc.

In June 1997, Inhale acquired the intellectual property portfolio of the BioPreservation Division of Pafra. This portfolio includes issued U.S. and foreign Letters Patent and pending applications relating to the stabilization of macromolecule drugs in dry formulations. An application for reissue of the original U.S. patent included in this portfolio is pending in the PTO. There can be no assurance that Inhale will be successful in obtaining a reissued patent. A second U.S. patent from this portfolio issued to Inhale on July 27, 1999 and is noted above. A granted European patent included in this portfolio was the subject of an opposition proceeding before the European Patent Office. The opposition hearing was held on December 16, 1999. Inhale successfully defended the patent and its method claims relating to glass stabilization technology against four opposing parties. In addition, in late 1999, based on claims of this granted European patent, Inhale filed an infringement action in the courts of the United Kingdom against Quadrant Healthcare plc. There can be no assurance that any of the other Pafra patent applications will be held to be valid and enforceable. The inability to obtain or defend the Pafra patents could have a material adverse effect on Inhale.

Inhale has obtained license rights to certain know-how and patent applications owned by Genentech, Inc. covering formulations, powder processing and pulmonary delivery of certain molecules, which it believes could be important to the development of its business. These license rights are worldwide, nonexclusive, sublicensable and royalty free. In 1997, Genentech successfully defended an opposition proceeding involving a pending European patent licensed to Inhale. Recently, this decision was upheld on appeal. The pending patent covers the pulmonary delivery of cytokines and growth factors.

The patent positions of pharmaceutical, biotechnology and drug delivery companies, including Inhale, are uncertain and involve complex legal and factual issues. Additionally, the coverage claimed in a patent application can be significantly reduced before the patent is issued. As a consequence, Inhale does not know whether any of its patent applications will be granted with broad coverage or whether the claims that eventually issue will be circumvented. Since patent applications in the United States are maintained in secrecy until patents issue, and since publication of discoveries in scientific or patent literature often lag behind actual discoveries, Inhale cannot be certain that it was the first inventor of inventions covered by its issued patents or pending patent applications or that it was the first to file patent applications for such inventions. Moreover, Inhale may have to participate in interference proceedings declared by the PTO to determine priority of invention, which could result in substantial cost to Inhale, even if the eventual outcome is favorable. An adverse outcome could subject Inhale to significant liabilities to third parties, require disputed rights to be licensed from or to third parties or require Inhale to cease using the technology in dispute.

Inhale is aware of numerous pending and issued U.S. and foreign patent rights and other proprietary rights owned by third parties that relate to aerosol devices and delivery, pharmaceutical formulations, dry powder processing technology and the pulmonary route of delivery for certain powder formulations of macromolecules. Inhale cannot predict with any certainty which, if any, patent references will be considered relevant to its technology by authorities in the various jurisdictions where such rights exist, nor can Inhale predict with certainty which, if any, of these rights will or may be asserted against it by such third parties. There can be no assurance that Inhale can obtain any license to any technology that it determines it needs, on reasonable terms, if at all, or that Inhale could develop or otherwise obtain alternate technology. The failure to obtain licenses if needed would have a material adverse effect on Inhale.

Inhale also relies upon trade secret protection for its confidential and proprietary information. No assurance can be given that others will not independently develop substantially equivalent proprietary information and techniques or otherwise gain access to Inhale's trade secrets or disclose such technology, or that Inhale can meaningfully protect its trade secrets.

Third parties from time to time have asserted or may assert that Inhale is infringing their proprietary rights based upon issued patents, trade secrets or know-how that they believe cover Inhale's technology. In addition, future patents may issue to third parties which Inhale's technology may infringe. Inhale could incur substantial costs in defending itself and its partners against any such claims. Furthermore, parties making such claims may be able to obtain injunctive or other equitable relief which could effectively block Inhale's ability to further develop or commercialize some or all of its products in the United States and abroad, and could result in the award of substantial damages. In the event of a claim of infringement, Inhale and its partners may be required to obtain one or more licenses from third parties. There can be no assurance that Inhale or its partners will be able to obtain such licenses at a reasonable cost, if at all. Defense of any lawsuit or failure to obtain any such required license could have a material adverse effect on Inhale.

Inhale's ability to develop and commercialize its technology will be affected by its or its partners' access to the drugs which are to be formulated. Many biopharmaceutical drugs, including some of those which are presently under development by Inhale, are subject to issued and pending United States and foreign patent rights which may be owned by competing entities. There are issued patents and pending patent applications relating to the pulmonary delivery of macromolecule drugs, including several for which Inhale is developing pulmonary delivery formulations. Inhale intends generally to rely on the ability of its partners to provide access to the drugs which are to be formulated for pulmonary delivery. There can be no assurance, however, that Inhale's partners will be able to provide access to drug candidates for formulation for pulmonary delivery or that, if such access is provided, Inhale or its partners will not be accused of, or determined to be, infringing a third party's rights and will not 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 or liability for damages would have a material adverse effect on Inhale.

It is Inhale's policy to require its employees and consultants, outside scientific collaborators, sponsored researchers and other advisors who receive confidential information from Inhale to execute confidentiality agreements upon the commencement of employment or consulting relationships with Inhale. These agreements provide that all confidential information developed or made known to the individual during the course of the individual's relationship with Inhale is to be kept confidential and not disclosed to third parties except in specific circumstances. The agreements provide that all inventions conceived by an employee shall be the property of Inhale. There can be no assurance, however, that these agreements will provide meaningful protection or adequate remedies for Inhale's trade secrets in the event of unauthorized use or disclosure of such information.

COMPETITION

Inhale believes that products developed using its technology will compete on the basis of system efficiency, dosage reproducibility, safety, patient convenience and cost. There is intense competition to develop a solution to the non-invasive delivery of drugs from several drug delivery and pharmaceutical companies, many of which are much larger and have far greater resources than Inhale. These include companies working on developing systems for other non-invasive routes of delivery, such as oral, transdermal, bucal, nasal, and needle-less injections, as well as companies working on pulmonary delivery systems. In addition, several companies are working on sustained release injectable systems. While these latter systems involve injections, the lower number of injections could be competitive with Inhale's pulmonary delivery technology in certain applications. Inhale believes its technology and integrated pulmonary delivery systems approach provides it with important competitive advantages in the delivery of drugs compared with currently known alternatives. However, new drugs or further developments in alternative drug delivery methods may provide greater therapeutic benefits for a specific drug or indication, or may offer comparable performance at lower cost than Inhale's proprietary deep lung drug delivery system.

With respect to pulmonary delivery, several companies are marketing and developing dry powder, MDI, liquid and nebulizer devices that could have applications for drug delivery, including Dura Pharmaceuticals, Inc. and Aradigm Corporation, which also have collaborative arrangements with corporate partners for the development of pulmonary delivery systems for insulin. Several of these companies may have or may be developing dry powder devices that could be used for pulmonary delivery of proteins and other macromolecules. There can be no assurance that competitors will not introduce products or processes competitive with or superior to those of Inhale. Inhale intends to monitor competitive device activities and continue to focus its activities on those products for which Inhale believes it has and can maintain a competitive advantage. If a device is developed that is superior to Inhale's for certain applications, Inhale may seek to obtain a license to allow Inhale's partners to use such device with Inhale-developed powders, although there can be no assurance that Inhale would be able to do so.

Inhale's success depends upon maintaining a competitive advantage in the development of products and technologies for pulmonary delivery of pharmaceutical drugs. If a competing company were to develop or acquire rights to a better system for efficiently and reproducibly delivering macromolecule drugs to the deep lung, a non-invasive drug delivery system which is more attractive for delivery drugs to the deep lung, a non-invasive delivery system which is more attractive for the delivering of drugs than pulmonary delivery, or an invasive delivery system which overcomes some of the drawbacks of current invasive systems for chronic or subtonic indications (such as sustained release systems), Inhale's business would be negatively impacted.

Inhale is in competition with pharmaceutical, biotechnology and drug delivery companies, hospitals, research organizations, individual scientists and nonprofit organizations engaged in the development of alternative drug delivery systems or new drug research and testing, as well as with entities producing and developing injectable drugs. Inhale is aware of a number of companies currently seeking to develop new products and non-invasive alternatives to injectable drug delivery, including oral delivery systems, intranasal delivery systems, transdermal systems, bucal and colonic absorption systems. Several of these companies may have developed or are developing dry powder devices that could be used for pulmonary delivery of macromolecules. Many of these companies and entities have greater research and development capabilities, experience, manufacturing, marketing, financial and managerial resources than Inhale and represent significant competition for Inhale. Acquisitions of competing drug delivery companies by large pharmaceutical companies could enhance competitors' financial, marketing and other resources. Accordingly, Inhale's competitors may succeed in developing competing technologies, obtaining FDA approval for products or gaining market acceptance more rapidly than Inhale. Developments by others may render Inhale's products or technologies noncompetitive or obsolete.

EMPLOYEES AND CONSULTANTS

As of December 31, 1999, Inhale had 339 employees, of which 252 were engaged in research and development (including manufacturing) activities and 87 in general administration and business development. One hundred twenty-five of the employees hold advanced degrees, of which 88 are Ph.D.s. Inhale employs scientists and engineers with expertise in the areas of pulmonary biology, aerosol science, powder technology, mechanical engineering, protein chemistry and chemical engineering. None of Inhale's employees are covered by a collective bargaining agreement and Inhale has experienced no work stoppages. Inhale believes that it maintains good relations with its employees.

To complement its own expertise, Inhale utilizes specialists in regulatory affairs, pulmonary toxicology, process engineering, manufacturing, quality assurance, device design, clinical trial design and business development. These individuals include certain of Inhale's scientific advisors as well as independent consultants. See "Management."

RISK FACTORS

THE FOLLOWING RISK FACTORS SHOULD BE READ CAREFULLY IN CONNECTION WITH EVALUATING INHALE'S BUSINESS. ANY OF THE FOLLOWING RISKS COULD MATERIALLY ADVERSELY AFFECT INHALE'S BUSINESS AND OPERATING RESULTS OR FINANCIAL CONDITION.

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.

THE NOTES ARE SUBORDINATED TO ANY EXISTING AND FUTURE SENIOR DEBT.

The notes are contractually subordinated in right of payment to our existing and future Senior Debt. As of December 31, 1999, we had approximately $4.9 million of Senior Debt. Upon the closing of our sale of 6 3/4% Convertible Subordinated Debentures in late 1999, we incurred additional indebtedness of approximately $108.5 million. In early 2000, we entered into agreements with certain holders of such debentures to reduce the principal amount of debentures outstanding by approximately $94.2 million. The indenture does not limit the creation of additional Senior Debt (or any other indebtedness). In connection with the expansion of our facilities, we expect that we may significantly increase our Senior Debt in the near future. Any significant additional Senior Debt incurred may materially adversely impact our ability to service our debt, including the notes. Due to the subordination provisions, in the event of our insolvency, funds which we would otherwise use to pay the holders of the notes will be used to pay the holders of Senior Debt to the extent necessary to pay the Senior Debt in full. As a result of these payments, our general creditors may recover less, ratably, than the holders of our Senior Debt and such general creditors may recover more, ratably, than the holders of our notes or our other subordinated indebtedness. In addition, the holders of our Senior Debt may, under certain circumstances, restrict or prohibit us from making payments on the notes.

OUR OUTSTANDING INDEBTEDNESS HAS INCREASED SUBSTANTIALLY WITH THE ISSUANCE OF THE 5% CONVERTIBLE NOTES.

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.

ITEM 2. PROPERTIES

Inhale currently leases approximately 156,000 square feet in San Carlos, California, 20,000 square feet in Palo Alto, California and 8,000 square feet in Belmont, California. The Palo Alto facility is used for research, development and administration; the lease has a five-year term, and expires on May 31, 2003. The Belmont facility is used for administration; the lease has a 30-month term and expires on June 30, 2003.

The San Carlos facility is leased pursuant to a 15-year lease agreement. The San Carlos facility serves as the Company's corporate headquarters and is used for research, development, manufacturing and administration. The lease provides Inhale with an option to lease approximately 69,000 additional square feet in the same facility. This manufacturing facility operates under current good manufacturing practices and has been approved and licensed by the State of California to manufacture clinical supplies for use in clinical trials.

In October 1998, Inhale acquired 4.7 acres of land adjacent to its San Carlos facility. Inhale intends to use this property to expand future operations. In October 1999, Inhale commenced construction of an 85,000 square foot facility on this site to expand its administrative offices and research and development capacity.

ITEM 3. LEGAL PROCEEDINGS

Not applicable.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

No matters were submitted to a vote of Inhale's shareholders in the quarter ended December 31, 1999.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED SHAREHOLDER MATTERS

PRICE RANGE OF COMMON STOCK

Inhale's Common Stock trades on the Nasdaq National Market under the symbol INHL. The table below sets forth the high and low closing sales prices for Inhale's Common Stock (as reported on the Nasdaq National Market) during the periods indicated.

	PRICE RANGE OF COMMON STOCK	
YEAR ENDED DECEMBER 31, 1998:	HIGH	LOW
1(st) Quarter	$ 34.250	$25.250
2(nd) Quarter	34.000	23.125
3(rd) Quarter	29.875	21.750
4(th) Quarter	33.375	21.500
YEAR ENDED DECEMBER 31, 1999:		
1(st) Quarter	$ 34.625	$23.875
2(nd) Quarter	29.688	23.000
3(rd) Quarter	34.875	23.625
4(th) Quarter	43.688	26.875
YEAR ENDED DECEMBER 31, 2000:		
1(st) Quarter (through March 9, 2000)	$126.625	$41.688

As of December 31, 1999, there were approximately 225 holders of record of Inhale's Common Stock. Inhale has not paid any cash dividends since its inception and does not intend to pay any cash dividends in the foreseeable future.

In February 2000 we issued $230,000,000 aggregate principal amount of convertible subordinated notes, which are convertible at the option of the holder, at any time on or prior to maturity into shares of our common stock. The notes were sold only in the United States to certain qualified institutional buyers under an exemption from registration provided by Rule 144A of the Securities Act of 1933, as amended. The notes are convertible at a conversion price of $76.71 per share, which is equal to a conversion rate of approximately 13.037 shares per $1,000 principal amount of notes, subject to adjustment. Interest on the debentures will accrue at a rate of 5.0% per year subject to adjustment in certain circumstances . We will pay interest on the notes on February 8 and August 8 of each year, beginning August 8, 2000. The notes mature on February 8, 2007. We may redeem some or all of the notes at any time before February 8, 2003 at a redemption price of $1,000 per $1,000 principal amount of notes, plus accrued and unpaid interest, if any, to the redemption date, if the closing price of our common stock has exceeded 150% of the conversion price then in effect for at least 20 trading days within a period of 30 consecutive trading days ending on the trading day before the date of mailing of the provisional redemption notice. We will make additional payment in cash with respect to the notes, call for provisional redemption in an amount equal to $13.93 per $1,000 principal amount of notes, less the amount of any interest actually paid on the notes before the call for redemption. We may redeem some or all of the notes at any time after February 8, 2003. The notes are unsecured and subordinated to our existing and future senior indebtedness. Merrill Lynch & Co. served as the sole bookrunner for the offering and received approximately $7,187,500 in discounts and commissions.

In October and November of 1999 we issued $108,450,000 aggregate principal amount of convertible subordinated debentures, which are convertible at the option of the holder, at any time on or prior to maturity into shares of our common stock. The debentures were sold only in the United States to certain qualified institutional buyers under an exemption from registration provided by Rule 144A of the Securities Act of 1933, as amended. The debentures are convertible at a conversion price of $32.0075 per share, which is equal to a conversion rate of approximately 31.2427 shares per $1,000 principal amount of notes, subject to adjustment. Interest on the debentures will accrue at a rate of 6 3/4% per year subject to adjustment in certain circumstances . We will pay interest on the notes on April 13 and October 13 of each year, beginning April 13, 2000. The debentures mature on October 13, 2006. We may redeem some or all of the debentures after October 13, 2002 at the following prices (expressed in percentage of the principal amount), together with accrued and unpaid interest to, but excluding, the date fixed for redemption:

DURING THE TWELVE MONTHS COMMENCING	REDEMPTION PRICE
October 13, 2002	103.375%
October 13, 2003	102.250%
October 13, 2004	101.125%
October 13, 2005	100.000%

The debentures are unsecured and subordinated to our existing and future senior indebtedness. The initial purchasers of the debentures, Lehman Brothers Inc., Deutsche Bank Securities Inc. and U.S. Bancorp Piper Jaffray Inc., received an aggregate of approximately $3,253,500 in discounts and commissions relating to this offering. On January 26, 2000 a shelf registration statement for the debentures and the shares of common stock issuable upon conversion of the debentures was declared effective by the SEC. In early, 2000, we entered into agreements with certain holders of these outstanding debentures to convert their debentures into shares of our common stock in exchange for a cash payment made by Inhale. To date, we have agreed to make cash payments of approximately $16.2 million in the aggregate in connection with agreements that provide for the conversion of approximately $94.2 million aggregate principal amount of outstanding debentures.

On November 4, 1999 we issued to Alliance Pharmaceutical Corp. 180,099 shares of our common stock having a market value of $5.0 million in a private placement exempt from registration under Section 4(2) of the Securities Act of 1933, as amended. We issued these shares and paid $15.0 million in cash to Alliance in exchange for acquiring Alliance's PulmoSpheres-Registered Trademark-technology and other related assets

for particle formation and powder processing. Alliance is a sophisticated, qualified investor and defined as an "accredited investor" under Rule 501(a) of the Securities Act, as amended, and acquired these shares in the ordinary course of its business for its own account for investment and not with a view to, or any arrangements or understandings regarding, any subsequent distributions. Alliance signed a Stock Purchase Agreement in which it made certain representations and warranties to us that they met the criteria to be eligible for this exemption from registration. No underwriters were involved in this offering and no commissions or remuneration was paid in connection with the sales of these shares.

On December 9, 1998 we issued 1,200,000 shares of our common stock to two affiliated entities, Smallcap World Fund, Inc. and American Variable Insurance Series Growth Fund, which are managed by Capital Research and Management Company, at a purchase price of $31 per share, for an aggregate amount of $37.2 million in cash in a private placement exempt from registration under Section 4(2) of the Securities Act of 1933, as amended. These purchasers of shares of our common stock are qualified investors and institutions defined as "accredited investors" under Rule 501(a) of the Securities Act, as amended, and acquired these shares in the ordinary course of their business for their own account for investment and not with a view to, or any arrangements or understandings regarding, any subsequent distributions. These purchasers signed a Stock Purchase Agreement in which they made certain representations and warranties to us that they met the criteria to be eligible for this exemption from registration. Volpe Brown Whelan & Company served as the exclusive placement agent in connection with this offering and received $1,886,040 in payment of certain fees and commissions. On February 11, 1999, a shelf registration statement for these shares of common stock was declared effective by the SEC.

On April 13, 1998 we issued an aggregate of 5,781 shares of our common stock to several individuals who are affiliated with Boyce Thompson Institute for Plant Research, Inc. and Initiatech, Inc. in partial consideration for Inhale signing an agreement with Initiatech, Inc. under which Inhale licenses technology, intellectual property, and patents for protecting biologically active compounds in the dry state. Initiatech has licensed exclusive rights to this technology from the Boyce Thompson Institute for Plant Research, Inc. These shares were sold in a private placement exempt from registration under Section 4(2) of the Securities Act of 1933, as amended. No underwriters were involved in this offering and no commissions or remuneration was paid in connection with the sales of these shares.

On February 7, 1997 we issued 1,800,000 shares of our common stock at a purchase price of $18 per share, for an aggregate amount of $32.4 million in cash in private transactions exempt from registration under Rule 506 of Regulation D promulgated under the Securities Act of 1933, as amended to selected institutions qualified as "accredited investors" under Rule 501(a) of Regulation D. These purchasers acquired our shares in the ordinary course of their business for their own account for investment and not with a view to, or any arrangements or understandings regarding, any subsequent distributions. These purchasers each signed a Purchase Agreement in which they made certain representations and warranties to us that they met the criteria to be eligible for this exemption from registration. Vector Securities International, Inc. served as the exclusive placement agent in connection with this offering and received $1,782,000 in payment of certain fees and commissions. On February 7, 1997 a shelf registration statement for these shares of common stock was declared effective by the SEC.

On June 27, 1997 we sold 28,165 shares of our common stock to Pafra Limited for an aggregate purchase price of $600,000 in a private placement exempt from registration under Section 4(2) of the Securities Act of 1933, as amended. We issued these shares to Pafra in partial consideration for Pafra's assignment to Inhale of certain of its intellectual property rights, the goodwill and know-how. Pafra is a sophisticated, qualified investor and defined as an "accredited investor" under Rule 501(a) of the Securities Act, as amended, and acquired these shares in the ordinary course of it business for its own account for investment and not with a view to, or any arrangements or understandings regarding, any subsequent distributions. Pafra signed an assignment in which it made certain representations and warranties to us that they met the criteria to be eligible for this exemption from registration. No underwriters were involved in this offering and no commissions or remuneration was paid in connection with the sales of these shares.

ITEM 6. SELECTED FINANCIAL DATA

SELECTED FINANCIAL INFORMATION
(IN THOUSANDS, EXCEPT PER SHARE INFORMATION)

	YEARS ENDED DECEMBER 31				
	1999	1998	1997	1996	1995
STATEMENT OF OPERATIONS DATA:					
Contract research revenue	$ 41,358	$ 21,795	$ 16,249	$ 6,890	$ 3,445
Operating costs and expenses:					
Research and development	64,083	35,398	23,645	14,376	9,041
General and administrative	7,869	8,387	6,328	4,004	3,232
Acquired in-process research and development	9,890	--	--	--	--
Total operating costs and expenses	81,842	43,785	29,973	18,380	12,273
Loss from operations	(40,484)	(21,990)	(13,724)	(11,490)	(8,828)
Interest income (expense), net	2,036	3,634	3,741	1,581	1,166
Net loss	$(38,448)	$(18,356)	$ (9,983)	$ (9,909)	$ (7,662)
Net loss per share	$ (2.26)	$ (1.17)	$ (0.72)	$ (0.88)	$ (0.78)
Shares used in computation of net loss per share(1)	17,008	15,719	13,792	11,207	9,837

	DECEMBER 31,				
	1999	1998	1997	1996	1995
BALANCE SHEET DATA:					
Cash, cash equivalents and short-term investments	$138,185	$ 82,862	$100,173	$ 36,309	$ 19,927
Working capital	122,239	71,784	83,811	31,304	17,701
Total assets	226,806	134,496	119,762	41,492	23,248
Long-term debt	4,895	4,940	5,102	187	353
Convertible subordinated debentures	108,450	--	--	--	--
Accumulated deficit	(94,466)	(56,018)	(37,662)	(27,691)	(17,770)
Total stockholders' equity	86,629	115,881	97,093	35,061	20,182

- ------------------------

(1) Basic and diluted net loss per share is based upon the weighted average number of common shares outstanding. All share amounts have been adjusted to reflect the implementation of FASB Statement No. 128 and Staff Accounting Bulletin No. 98. See Note 1 of Notes to Financial Statements.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

THE FOLLOWING DISCUSSION CONTAINS FORWARD-LOOKING STATEMENTS THAT INVOLVE RISKS AND UNCERTAINTIES. INHALE'S ACTUAL RESULTS COULD DIFFER MATERIALLY FROM THOSE DISCUSSED HERE. FACTORS THAT COULD CAUSE OR CONTRIBUTE TO SUCH DIFFERENCES INCLUDE, BUT ARE NOT LIMITED TO, THOSE DISCUSSED IN THIS SECTION AS WELL AS IN PART I OF THIS ANNUAL REPORT UNDER THE HEADING "RISK FACTORS".

OVERVIEW

Since its inception in July 1990, Inhale has been engaged in the development of a pulmonary system for the delivery of macromolecules and other drugs for systemic and local lung applications. Inhale has been unprofitable since inception and expects to incur significant and increasing additional operating losses over the next several years primarily due to increasing research and development expenditures and expansion of late stage clinical and early stage commercial manufacturing facilities. To date, Inhale has not sold any commercial products and does not anticipate receiving revenue from product sales or royalties in the near future. For the period from inception through December 31, 1999, Inhale incurred a cumulative net loss of approximately $94.5 million. Inhale's sources of working capital have been partner fundings, including milestone payments, from short-term research and feasibility agreements and development contracts, equity financings, financings of equipment acquisitions and tenant improvements, and interest earned on investments of cash.

Inhale has generally been compensated for research and development expenses during initial feasibility work performed under collaborative arrangements. Partners that enter into collaborative agreements generally pay for some or all research and development expenses and make additional payments to Inhale as Inhale achieves certain key milestones. Inhale expects to receive royalties from its partners based on their revenues received from product sales, and to receive revenue from the manufacturing of powders and the supply of devices. In certain cases, Inhale may enter into collaborative agreements under which Inhale's partners would manufacture or package powders or supply inhalation devices, thereby potentially limiting one or more sources of revenue for Inhale. To achieve and sustain profitable operations, Inhale, alone or with others, must successfully develop, obtain regulatory approval for, manufacture, introduce, market and sell products utilizing its pulmonary drug delivery system. There can be no assurance that Inhale can generate sufficient product or contract research revenue to become profitable or to sustain profitability.

In late 1999, Inhale completed the sale of approximately $108.5 million aggregate principal amount of 6 3/4% Convertible Subordinated Debentures due October 13, 2006. In early 2000, the Company entered into agreements with certain holders of these outstanding debentures to convert their debentures into common stock in exchange for a cash payment. To date, the Company has agreed to make cash payments of approximately $16.2 million in the aggregate in connection with agreements that provide for the conversion of approximately $94.2 million aggregate principal amount of outstanding debentures into approximately 2.9 million shares of common stock. Such amounts will be reflected as a charge to interest expense in the first quarter of 2000.

In February, 2000, Inhale received approximately $222.4 million in net proceeds from the issuance of $230.0 million aggregate principal amount of convertible subordinated debentures to certain qualified institutional buyers under Rule 144A of the Securities Act of 1933, as amended. Interest on the debentures will accrue at a rate of 5.0% per year, subject to adjustment in certain circumstances. The debentures will mature in 2007 and are convertible into shares of Inhale's common stock at a conversion price of $76.71 per share, subject to adjustment in certain circumstances.

RESULTS OF OPERATIONS

YEARS ENDED DECEMBER 31, 1999, 1998 AND 1997

Contract research revenue was $41.4 million for the year ended December 31, 1999 compared to $21.8 million and $16.2 million for the years ended December 31, 1998 and 1997, respectively. Revenue increased 90% in 1999 from 1998 levels and 34% in 1998 from 1997 levels. Costs of contract research revenue approximate such revenue and are included in research and development expense.

The 90% increase in revenue for the year ended December 31, 1999 as compared to December 31, 1998 was primarily due to expansion of Inhale's existing collaborative agreement with Pfizer, and includes activities associated with the manufacture of Phase III clinical supplies. Pfizer represented approximately 71% of Inhale's revenues for the year ended December 31, 1999. Revenue for 1999 and 1998 included reimbursed research and development expenses as well as the amortization of up-front signing and progress payments received from Inhale's collaborative partners. Recognition of up-front signing and progress payments is based on actual efforts expended. Contract revenues are expected to fluctuate from year to year, and future contract revenues cannot be predicted accurately. The level of contract revenues depends in part upon future success in obtaining new collaborative agreements, timely completion of feasibility studies, the continuation of existing collaborations and achievement of milestones under current and future agreements.

Research and development expenses were $64.1 million for the year ended December 31, 1999, as compared to $35.4 million and $23.6 million for the years ended December 31, 1998 and 1997, respectively. These expenses represent proprietary research expenses as well as the costs related to contract research revenue and include the salaries and benefits of scientific and development personnel, clinical manufacturing costs, laboratory supplies, consulting services, facilities, costs of obtaining intellectual property protection for Inhale's technologies and expenses associated with the development of manufacturing processes. The 81% increase in such expenses in 1999 from 1998 was due to increased spending related to the scale-up of technologies and the continuing development of global manufacturing capabilities in order to support Phase III inhaleable insulin clinical trials and commercial production. In addition, the Company hired additional scientific and development personnel to handle an increase in the number of development projects and incurred increased expenses associated with device development and clinical manufacturing. The largest components of the 1999 increase in research and development were the increases of $11.8 million in salaries and employee benefits expense, a $9.3 million increase in research and development supplies and services, and a $3.8 million increase in facilities and administrative expense allocations associated with supporting the research and development efforts. The $11.8 million increase in research and development expenses in 1998 from 1997 was primarily attributable to the development of infrastructure necessary to manufacture the Company's products on a late stage clinical scale. Inhale expects research and development spending to increase over the next few years as Inhale expands its development efforts under collaborative agreements and scales up its commercial manufacturing facility.

General and administrative expenses were $7.9 million for the year ended December 31, 1999 as compared to $8.4 million and $6.3 million for the years ended December 31, 1998 and 1997, respectively. The $0.5 million decrease in general and administrative expenses in 1999 from 1998 is attributed to an increased percentage of general and administrative related costs allocated to research and development operations. The $2.1 million increase in such expenses in 1998 was due primarily to costs associated with supporting Inhale's increased research efforts including administrative staffing, business development activities and marketing activities. General and administrative expenses are expected to continue to increase over the next few years as Inhale expands its operations.

Interest income was $4.1 million for the year ended December 31, 1999 as compared to $3.9 million and $3.8 million for the years ended December 31, 1998 and 1997, respectively. The 5% increase in interest income in 1999 from 1998 and the 3% increase in interest income in 1998 from 1997 were primarily due to Inhale maintaining larger cash and investment balances, including the proceeds of its October, 1999

issuance of convertible subordinated debentures which resulted in net proceeds of $105.2 million. Interest expense was $2.1 million for the year ended December 31, 1999, as compared to $0.3 million and $0.1 million for the years ended December 31, 1998 and 1997, respectively. The $1.8 million increase in interest expense in 1999 from 1998 primarily relates to interest on the above-mentioned convertible subordinated debentures. The $0.2 million increase in interest expense in 1998 from 1997 related to increased debt balances, including the proceeds of the Company's November, 1997 tenant improvement loan.

At December 31, 1999, Inhale had federal and state net operating loss carryforwards of approximately $92.6 million. These carryforwards will expire beginning in the year 2000. Utilization of net operating loss carryforwards may be subject to substantial annual limitations due to the ownership change limitations provided for by the Internal Revenue Code of 1986. The annual limitations may result in the expiration of net operating loss carryforwards before utilization.

ACQUIRED IN-PROCESS RESEARCH AND DEVELOPMENT

On November 4, 1999, Inhale concluded an agreement with Alliance Pharmaceutical Corp. to acquire Alliance's PulmoSpheres-Registered Trademark- particle and particle processing technology for use in respiratory drug delivery. Under the terms of the agreement, Inhale received the rights to PulmoSpheres-Registered Trademark- technology, other related assets (including research materials, laboratory records, and certain equipment that had been used in the development of PulmoSpheres technology and the manufacturing and testing of particles using such PulmoSpheres technology), and Alliance stock valued at $5 million in exchange for $15 million in cash and $5 million of Inhale stock. Alliance also has the right to additional substantial payments upon the achievement of certain milestones and royalties on a defined number of products commercialized using the technology. $15.0 million of the purchase consideration was allocated to the assets acquired based on their fair value on the date of acquisition. Approximately $9.9 million of the purchase price was allocated to in-process research and development and has been charged as an expense in the year ended December 31, 1999.

The PulmoSpheres-Registered Trademark- technology utilizes an emulsification process to produce a powder having characteristics that Inhale believes may improve efficiency and reproducibility for drugs delivered to the lung through alternative technologies such as metered-dose inhalers ("MDI's"), as well as potentially improve drug delivery through Inhale's proprietary deep lung drug delivery system. Inhale evaluates this technology to be in the pre-clinical stage of development.

The purchased research and development had no alternative future use at the date of acquisition. It was identified and valued through extensive interviews and discussions with appropriate management and scientific personnel and the analysis of data provided by Alliance regarding the PulmoSpheres-Registered Trademark- technology, its stage of development at the time of acquisition, the importance of the technology to Inhale's overall development plan, and the projected incremental cash flows from the projects when completed and any associated risks. Associated risks include the uncertainties in overcoming significant technological risks, acquiring FDA approval and establishing commercial viability.

Inhale does not expect the products which utilize the PulmoSpheres-Registered Trademark- technology to obtain FDA approval before 2005. Inhale is in process of evaluating which projects will benefit the most from the PulmoSpheres-Registered Trademark- technology and is estimating the associated future development costs, which are expected to be substantial through 2006.

LIQUIDITY AND CAPITAL RESOURCES

Inhale has financed its operations primarily through public and private placements of its equity securities, convertible debentures, contract research revenues, interest income earned on its investments of cash and financing of equipment acquisitions. In its initial public offering completed May 1994, Inhale raised net proceeds of approximately $14.4 million and raised additional net proceeds of $7.2 million in its

public offering completed in March 1995. In February 1997, Inhale completed a private placement of its Common Stock, selling 1.8 million newly issued shares for net proceeds of $30.5 million. In November 1997, Inhale completed a public offering of its Common Stock, selling 1.725 million newly issued shares for net proceeds of $40.0 million. Inhale secured a $5 million loan in November 1997 to finance the purchases of equipment and facility improvements. In December 1998, Inhale completed a private placement of its Common Stock, selling 1.2 million newly issued shares for net proceeds of $35.3 million. In October 1999, the Company received approximately $105.2 million in net proceeds from the sale of convertible subordinated debentures. At December 31, 1999, Inhale had cash, cash equivalents and short-term investments of approximately $138.2 million. In February 2000, Inhale completed the sale of convertible subordinated notes netting proceeds of approximately $206.0 million. This includes cash payments of approximately $16.2 million in connection with agreements that provide for the conversion of approximately $94.2 million of its October 2006 debentures that were outstanding at December 31, 1999.

Inhale's operations used cash of $15.3 million and $19.2 million, and provided cash of $5.0 million in the years ended December 31, 1999, 1998 and 1997, respectively. These amounts differed from Inhale's net operating losses in these periods principally due to increased depreciation expense and fluctuations in the Company's accounts receivable, other assets, accrued liabilities and deferred revenue balances. Fluctuations in these balances reflect Inhale's increased research, development and manufacturing activities, as well as timing differences in the receipt of cash from Inhale's development partners. Additionally, in 1999, Inhale, recorded a $9.9 million write-off of acquired research and development in connection with the acquisition of PulmoSpheres-Registered Trademark- technology.

Inhale purchased property and equipment of approximately $20.5 million, $34.6 million and $17.3 million during the years ended December 31, 1999, 1998 and 1997, respectively. The decrease in 1999 is primarily due to the increased expenditures in 1998 for the purchase of land and the build out of Inhale's manufacturing facility and corporate headquarters located in San Carlos, California. The Company also invested $15.3 million in the purchase of PulmoSpheres-Registered Trademark- technology in 1999, in addition to its non-cash exchange of common stock for shares of Alliance valued at $5.0 million.

Inhale expects its cash requirements to continue at an accelerated rate due to expected increases in costs associated with further research and development of its technologies, development of drug formulations, process development for the manufacture and filling of powders and devices, marketing and general and administrative costs. These expenses include, but are not limited to, increases in personnel and personnel related costs, purchases of capital equipment, investments in technologies, inhalation device prototype construction and facilities expansion, including the completion of Inhale's commercial manufacturing facility and scale-up of device manufacturing with its outside contract manufacturers.

Given its current cash requirements, the Company believes that it will have sufficient cash to meet its operating expense requirements for at least the next 24 months. However, the Company plans to continue to invest heavily in its growth and the need for cash will be dependent upon the timing of these investments. Inhale's capital needs will depend on many factors, including continued scientific progress in its research and development arrangements, progress with pre-clinical and clinical trials, the time and costs involved in obtaining regulatory approvals, the costs of developing and the rate of scale-up of Inhale's powder processing and packaging technologies, the timing and cost of its late stage clinical and early commercial production facility, the costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims, the need to acquire licenses to new technologies and the status of competitive products. To satisfy its long-term needs, Inhale intends to seek additional funding, as necessary, from corporate partners and from the sale of securities. There can be no assurance that additional funds, if and when required, will be available to Inhale on favorable terms, if at all.

Inhale is currently considering expansion opportunities which would likely involve the sale and leaseback of land adjacent to its current facilities and the development of new facilities on such land.

Inhale anticipates that its lease obligations relating to this proposal would be approximately $60.0 million over the term of the lease, which Inhale expects to extend approximately 15 years.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The primary objective of Inhale's investment activities is to preserve principal while at the same time maximizing yields without significantly increasing risk. To achieve this objective, Inhale invests in highly liquid and high quality debt securities. Inhale's investments in debt securities are subject to interest rate risk. To minimize the exposure due to an adverse shift in interest rates, Inhale invests in short term securities and maintains an average maturity of one year or less. A hypothetical 50 basis point increase in interest rates would result in an approximate $291,000 decrease (less than 0.217%) in the fair value of Inhale's available-for-sale securities.

The potential change noted above is based on sensitivity analyses performed on Inhale's financial position at December 31, 1999. Actual results may differ materially. The same hypothetical 50 basis point increase in interest rates would have resulted in an approximate $150,000 decrease (less than 0.185%) in the fair value of Inhale's available-for-sale securities at December 31, 1998.

Increases in interest rates could adversely affect the fair market value of Inhale's convertible subordinated debentures, which pay a fixed rate of interest.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements for the years ended December 31, 1999, 1998 and 1997 are submitted as a separate section of this report. See Item 14.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not Applicable.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

Inhale incorporates by reference the information concerning its directors set forth under the heading "Election of Directors" in Inhale's definitive Proxy Statement to be filed for its 2000 Annual Meeting of Shareholders.

EXECUTIVE OFFICERS AND DIRECTORS

The following table sets forth the names, ages and positions of the executive officers and directors as of December 31, 1999:

NAME	AGE	POSITION
Robert B. Chess	43	Chairman and Co-Chief Executive Officer
Ajit S. Gill	51	Co-Chief Executive Officer, President and Director
Brigid A. Makes	44	Vice President of Finance and Administration, Chief Financial Officer
Stephen L. Hurst	44	General Counsel and Secretary
John S. Patton, Ph.D	53	Vice President, Research and Director
Robert M. Platz	48	Vice President, Technology
Mark J. Gabrielson	43	Director
James B. Glavin	64	Director
Irwin Lerner	69	Director
Melvin Perelman, Ph.D	69	Director

ROBERT B. CHESS has served as Chairman of the Board of Directors since April 1999 and Co-Chief Executive Officer since August 1998. Mr. Chess served as President from December 1991 to August 1998 and as Chief Executive Officer from May 1992 to September 1998. Mr. Chess was elected a Director in May 1992. From September 1990 until October 1991, he was an Associate Deputy Director in the White House Office of Policy Development. In March 1987, Mr. Chess co-founded Penederm Incorporated ("Penederm"), a topical dermatological drug delivery company, and served as its President until February 1989. He left Penederm in October 1989. Prior to co-founding Penederm, Mr. Chess held management positions at Intel Corp., a semiconductor manufacturer, and Metaphor, a computer software company (acquired by International Business Machines). Mr. Chess holds a BS in Engineering from the California Institute of Technology and an MBA from the Harvard Business School.

AJIT S. GILL has served as President since April 1999, as Co-Chief Executive Officer since August 1998 and as a Director since April 1998. Mr. Gill served as Chief Operating Officer from October 1996 to August 1998 and Chief Financial Officer from January 1993 until October 1996. Before joining Inhale, Mr. Gill was Vice President and General Manager of Kodak's Interactive Systems division. Mr. Gill has served as Chief Financial Officer for TRW-Fujitsu, Director of Business Development for Visicorp, and as start-up President for three high technology companies. He completed a BTech at the Indian Institute of Technology, an MS in Electrical Engineering from the University of Nebraska, and holds an MBA from the University of Western Ontario.

BRIGID A. MAKES has served as Vice President of Finance and Administration and Chief Financial Officer since June 1999. From 1998 until joining Inhale, Ms. Makes served as Vice President, Chief Financial Officer and Treasurer for Oravax, Inc., a life sciences company. From 1992 to 1998, Ms. Makes served in various management positions for Haemonetics Corporation, developer of automated blood processing systems, including, from 1995 to 1998, Vice President Finance, Chief Financial Officer and Treasurer. Ms. Makes holds a Bachelor of Commerce degree from McGill University in Finance and International Business and an MBA from Bentley College.

STEPHEN L. HURST has been General Counsel and Secretary since August 1998. Mr. Hurst served as Vice President, Intellectual Property and Licensing of Inhale from March 1994 to August 1998. From July 1990 to February 1994, Mr. Hurst was in private law practice and consulted with COR Therapeutics, Inc., a biotechnology company, on intellectual property and business development issues. From November 1987 to June 1990, he was the Campus Patent Coordinator for the University of California, San Francisco. He also worked as an Associate Counsel at Townsend & Townsend, the San Francisco area's largest intellectual property law firm. He received a BS degree in Environmental Science from the University of California at Berkeley and his JD from Golden Gate University in San Francisco.

JOHN S. PATTON, PH.D., a co-founder of Inhale, has been Vice President, Research since December 1991 and a Director since July 1990. He served as President of Inhale from its incorporation in July 1990 to December 1991. From 1985 to 1990, Dr. Patton was a Project Team Leader with Genentech, Inc., a biotechnology company, where he headed their non-invasive drug delivery activities. Dr. Patton was on the faculty of the Marine Science and Microbiology Departments at the University of Georgia from 1979 through 1985, where he was granted tenure in 1984. Dr. Patton received a BS in Zoology and Biochemistry from Pennsylvania State University, an MS from the University of Rhode Island, a Ph.D. in Biology from the University of California, San Diego and received post doctorate fellowships from Harvard Medical School and the University of Lund, Sweden both in biomedicine.

ROBERT M. PLATZ, a co-founder of Inhale, has served as Vice President, Technology since August 1990. He also served as a Director of Inhale from July 1990 to August 1991. From January 1983 to August 1991, Mr. Platz was employed by SRI International, a contract research company, most recently as Senior Chemical Engineer, where he headed the pharmaceutical aerosol group. Mr. Platz received a BS in biology and an MS in Chemical Engineering from the University of California, Los Angeles.

MARK J. GABRIELSON has been a Director since May 1992. Since January 1991 he has been a general partner of Prince Ventures, L.P., a venture capital management firm that serves as the general partner of Prince Venture Partners III, L.P. Mr. Gabrielson is a Director of several private companies. From 1978 until joining Prince, Mr. Gabrielson served in a variety of marketing and business development positions with SmithKline Beecham plc.

JAMES B. GLAVIN has been a Director since May 1993. Mr. Glavin is Chairman of the Board of The Immune Response Corporation, a biotechnology company. He was President and Chief Executive Officer of The Immune Response Corporation from 1987 until September 1994. From 1987 to 1990, Mr. Glavin served as Chairman of the Board of Smith Laboratories, Inc. and was President and Chief Executive Officer from 1985 to 1989. From 1985 to 1987, he was a partner in CH Ventures, a venture capital firm. From 1983 to 1985, he served as Chairman of the Board of Genetic Systems Corporation, a biotechnology firm, and as its President and Chief Executive Officer from 1981 to 1983. Mr. Glavin is a director of The Meridian Fund and Gish Biomedical, Inc.

IRWIN LERNER has been a Director since April 1999. Mr. Lerner served as Chairman of the Board of Directors and of the Executive Committee of Hoffman-La Roche Inc., a pharmaceutical and health care company, from January 1993 until his retirement in September 1993, and from 1980 through December 1992, also served as President and Chief Executive Officer. From September 1995 until present, Mr. Lerner has served on the Board of Medarex, Inc., a monoclonal antibodies products company and became Chairman of the Board in May 1997. Mr. Lerner served as the Chairman of the Board of Sequana Therapeutics, Inc., a biotechnology company, from May 1995 until Sequana merged with Arris Pharmaceuticals Inc., a pharmaceutical company, to form Axys Pharmaceuticals, Inc. in January 1998 and has served on the Board of Axys since then. Mr. Lerner served for 12 years on the Board of Pharmaceutical Manufacturers' Association where he chaired the Association's FDA Issues Committee. Mr. Lerner received a B.S. and an M.B.A. from Rutgers University. He is currently Distinguished Executive-in-Residence at Rutgers University Graduate School of Management. Mr. Lerner is also a director of Public Service Enterprise Group Incorporated, a diversified public utility holding company, Humana Inc.,

a health care company, Covance, Inc., a contract drug development company, and V.I. Technologies, Inc., a blood products company.

MELVIN PERELMAN, PH.D. has been a Director since January 1996. Dr. Perelman spent 36 years at Eli Lilly & Company, most recently as Executive Vice-President and President of Lilly Research Laboratories, a position which he held from 1986 until his retirement in 1993. Dr. Perelman served as President of Lilly International from 1976 until 1993. Dr. Perelman is a member of the Board of Directors of Cinergy, Inc., DataChem, Inc., Immusol, Inc. and of The Immune Response Corporation.

SCIENTIFIC ADVISORY GROUP

We have assembled scientific and development advisors that provide us with expertise in critical scientific, development, engineering, manufacturing and business issues facing Inhale. The scientific advisory group assists us on issues related to pulmonary delivery, pulmonary toxicology, aerosol science, government regulation, product selection and clinical trial design. Its members are called upon individually as needed and include, among others:

NAME	AFFILIATION	AREA OF EXPERTISE
Joseph Brain, Ph.D.	Professor, Chairman, Department of Environmental Health, Director, Physiology Program, Harvard School of Public Health	Pulmonary safety
Peter Byron, Ph.D.	Professor of Pharmacy, Virginia Commonwealth University, Medical College of Virginia	Pharmaceutical aerosols
Carl Grunfeld, M.D.	Professor of Medicine, University of California, San Francisco	Endocrinology
Michael Matthay, M.D.	Professor of Medicine and Anesthesiology, University of California, San Francisco	Pulmonology
Gerald Smaldone, M.D.	Professor of Medicine, State University of New York at Stony Brook	Aerosol medicine

REGULATORY AND DEVELOPMENT ADVISORY BOARD

In August 1999, we formed a regulatory affairs board to assist and advise us on matters relating to efficient and effective regulatory processing and to better assist us and our collaborative partners in obtaining regulatory approval for our products. The board currently includes the following:

NAME	AFFILIATION	AREA OF EXPERTISE
Carl C. Peck, M.D.	Professor of Pharmacology and Medicine, Director, Center for Drug Development, Georgetown University Medical Center	Clinical and regulatory development strategy
David Savello, Ph.D.	Executive Vice President and Chief Technology Officer, R.P. Scherer, Inc.	Pharmaceutical research and development and regulatory affairs
Phillip B. White	Director, Medical Device Consulting, AAC Consulting	Device regulatory affairs

ITEM 11. EXECUTIVE COMPENSATION

Inhale incorporates by reference the information set forth under the heading "Executive Compensation" in Inhale's definitive Proxy Statement to be filed for its 2000 Annual Meeting of Shareholders.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Inhale incorporates by reference the information set forth under the heading "Security Ownership of Certain Beneficial Owners and Management" in Inhale's definitive Proxy Statement to be filed for its 2000 Annual Meeting of Shareholders.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Inhale incorporates by reference the information set forth under the heading "Certain Transactions" in Inhale's definitive Proxy Statement to be filed for its 2000 Annual Meeting for Shareholders.

PART IV

ITEM 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(a)(1) Financial Statements

The Financial Statements required by this item, with the report of independent auditors, are submitted in a separate section beginning on page F-1 of this report.

(2) Financial Statement Schedules

Schedules have been omitted because the information required to be set forth therein is not applicable or is shown in the Financial Statements or notes thereto.

(3) Exhibits

The following exhibits are filed herewith or incorporated by reference:

EXHIBIT	EXHIBIT TITLE
2.1(1)	Agreement and Plan of Merger between Inhale Therapeutic Systems, a California corporation, and Inhale Therapeutic Systems (Delaware), Inc., a Delaware corporation.
3.1(1)	Certificate of Incorporation of Registrant.
3.2(1)	Bylaws of the Registrant.
4.1	Reference is made to Exhibits 3.1 and 3.2.
4.2(2)	Restated Investor Rights Agreement among the Registrant and certain other persons named therein, dated April 29, 1993, as amended October 29, 1993.
4.3(2)	Specimen stock certificate.
4.4(3)	Stock Purchase Agreement between the Registrant and Pfizer Inc., dated January 18, 1995.
4.5(9)	Form of Purchase Agreement between the Registrant and the individual Purchasers, dated January 28, 1997.
4.6(10)	Stock Purchase Agreement between the Registrant and Capital Research and Management Company, dated December 8, 1998.
4.7(12)	Purchase Agreement among the Registrant and Lehman Brothers Inc., Deutsche Bank Securities Inc. and U.S. Bancorp Piper Jaffray Inc., dated October 6, 1999.
4.8(12)	Registration Rights Agreement among the Registrant and Lehman Brothers Inc., Deutsche Bank Securities Inc. and U.S. Bancorp Piper Jaffray Inc., dated October 13, 1999.
4.9(12)	Indenture between the Registrant as Issuer and Chase Manhattan Bank and Trust Company, National Association, as Trustee, dated October 13, 1999.
4.10(12)	Form of Registration Rights Agreement between the Registrant and Alliance Pharmaceutical Corp.
4.11(13)	Purchase Agreement among the Registrant and Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Deutsche Bank Securities Inc., Lehman Brothers Inc., and U.S. Bancorp Piper Jaffray Inc., dated February 2, 2000.
4.12(13)	Resale Registration Rights Agreement among Registrant and Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Deutsche Bank Securities Inc., Lehman Brothers Inc., and U.S. Bancorp Piper Jaffray Inc., dated February 2, 2000.

EXHIBIT	EXHIBIT TITLE
4.13(13)	Indenture between Registrant as Issuer and Chase Manhattan Bank and Trust Company, National Association as Trustee, dated February 8, 2000.
10.1(4)	Registrant's 1994 Equity Incentive Plan, as amended.
10.2(7)	Registrant's 1994 Non-Employee Directors' Stock Option Plan, as amended.
10.3(2)	Registrant's 1994 Employee Stock Purchase Plan, as amended.
10.4(2)	Standard Industrial Lease between the Registrant and W.F. Batton & Co., Inc., dated September 17, 1992, as amended September 18, 1992.
10.5(2)	Addendum IV dated April 1, 1994 to Lease dated September 17, 1992, between the Registrant and W.F. Batton and Marie A. Batton, dated September 17, 1992.
10.6(6)	Amendment Agreement Number One, dated October 20, 1995, to Lease dated September 17, 1992, between the Registrant and W.F. Batton & Co., Inc.
10.7(6)	Amendment Agreement Number Two, dated November 15, 1995, to Lease, dated September 17, 1992, between Registrant and W.F. Batton and Marie A. Batton, Trustees of the W.F. Batton and Marie A. Batton Trust UTA dated January 12, 1998 ("Batton Trust").
10.8(11)	Amendment Agreement Number Three, dated February 14, 1996, to Lease, dated September 17, 1992, between Registrant and Batton Trust.
10.9(11)	Amendment Agreement Number Four, dated September 15, 1996, to Lease, dated September 17, 1992, between Registrant and Batton Trust.
10.10(2)	Senior Loan and Security Agreement between the Registrant and Phoenix Leasing Incorporated, dated September 15, 1993.
10.11(2)	Sublicense Agreement between the Registrant and John S. Patton, dated September 13, 1991.
10.12(5)	Stock Purchase Agreement between the Registrant and Baxter World Trade Corporation, dated March 1, 1996.
10.13(8)	Sublease and Lease Agreement, dated October 2, 1996, between the Registrant and T.M.T. Associates L.L.C. ("Landlord").
10.14(11)	First Amendment, dated October 30, 1996, to Sublease and Lease Agreement, dated October 2, 1996, between Registrant and Landlord.
10.15(11)	Letter Agreement, dated April 9, 1997, amending Sublease and Lease Agreement, dated October 2, 1996, between the Registrant and Landlord.
10.16(11)	Third Amendment, dated April 16, 1997, to Sublease and Lease Agreement, dated October 2, 1996, between Registrant and Landlord.
10.17(11)	Fourth Amendment, dated November 5, 1997, to Sublease and Lease Agreement, dated October 2, 1996, between Registrant and Landlord.
10.18(13)	Sublease by and between Webvan Group, Inc., as sublessor and Registrant, as sublessee, dated November 3, 1999.
23.1(13)	Consent of Ernst & Young LLP, independent auditors.
24.1(13)	Power of Attorney. Reference is made to Signature Page.
25.1(13)	Form T-1 Statement of Eligibility and Qualification of Trustee.
27.1	Financial Data Schedule.

- ----------

(1) Incorporated by reference to the indicated exhibit in Inhale's Quarterly Report on Form 10-Q for the quarter ended June 30, 1998.

(2) Incorporated by reference to the indicated exhibit in Inhale's Registration Statement on Form S-1 (No. 33-75942), as amended.

(3) Incorporated by reference to the indicated exhibit in Inhale's Registration Statement on Form S-1 (No. 33-89502), as amended.

(4) Incorporated by reference to Inhale's Registration Statement on Form S-8 (No. 333-59735).

(5) Incorporated by reference to the indicated exhibit in Inhale's Quarterly Report on Form 10-Q for the quarter ended March 31, 1996.

(6) Incorporated by reference to the indicated exhibit in Inhale's Annual Report on Form 10-K for the year ended December 31, 1995.

(7) Incorporated by reference to the indicated exhibit in Inhale's Quarterly Report on Form 10-Q for the quarter ended June 30, 1996.

(8) Incorporated by reference to the indicated exhibit in Inhale's Quarterly Report on Form 10-Q for the quarter ended September 30, 1996.

(9) Incorporated by reference to Inhale's Registration Statement on Form S-3 (No. 333-20787).

(10) Incorporated by reference to the indicated exhibit in Inhale's Registration Statement on Form S-3 (No. 333-68897), as amended.

(11) Incorporated by reference to the indicated exhibit in Inhale's Quarterly Report on Form 10-Q for the quarter ended June 30, 1998.

(12) Incorporated by reference to the indicated exhibit in Inhale's Registration Statement on Form S-3 (No. 333-94161), as amended.

(13) Filed herewith

(b) Reports on Form 8-K.

The following Report on Form 8-K was filed during the quarter ended December 31, 1999: A Report on Form 8-K dated October 4, 1999 pertaining to the Registrant's acquisition of Alliance's PulmoSpheres-Registered Trademark- particle and particle processing technology and other related assets.

(c) See Exhibits listed under Item 14(a)(3).

(d) Not applicable. See Item 14(a)(2).

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, on the 10th day of March 2000.

INHALE THERAPEUTIC SYSTEMS, INC.

By: /s/ ROBERT B. CHESS
Robert B. Chess
CHAIRMAN AND CO-CHIEF EXECUTIVE OFFICER

/s/ AJIT S. GILL
Ajit S. Gill
CO-CHIEF EXECUTIVE OFFICER, PRESIDENT AND DIRECTOR

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints, Ajit S. Gill as his attorney-in-fact for him in any and all capacities, to sign any and all amendments to this report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that the said attorney-in-fact, or his substitutes, may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ ROBERT B. CHESS Robert B. Chess	Chairman and Co-Chief Executive Officer (CO-PRINCIPAL EXECUTIVE OFFICER)	March 10, 2000
/s/ AJIT S. GILL Ajit S. Gill	Co-Chief Executive Officer, President and Director (CO-PRINCIPAL EXECUTIVE OFFICER)	March 10, 2000
/s/ BRIGID A. MAKES Brigid A. Makes	Vice President of Finance and Administration, Chief Financial Officer (PRINCIPAL FINANCIAL AND ACCOUNTING OFFICER	March 10, 2000
/s/ JOHN S. PATTON John S. Patton	Vice President, Research and Director	March 10, 2000

SIGNATURE	TITLE	DATE
/s/ MARK J. GABRIELSON Mark J. Gabrielson	Director	March 10, 2000
/s/ JAMES B. GLAVIN James B. Glavin	Director	March 10, 2000
/s/ MELVIN PERELMAN Melvin Perelman	Director	March 10, 2000
/s/ IRWIN LERNER Irwin Lerner	Director	March 10, 2000

INHALE THERAPEUTIC SYSTEMS, INC.
INDEX TO FINANCIAL STATEMENTS

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

The Board of Directors and Stockholders
Inhale Therapeutic Systems, Inc.

We have audited the accompanying balance sheets of Inhale Therapeutic Systems, Inc. as of December 31, 1999 and 1998, and the related statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Inhale Therapeutic Systems at December 31, 1999 and 1998, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 1999 in conformity with accounting principles generally accepted in the United States.

/s/ ERNST & YOUNG LLP

Palo Alto, California
January 24, 2000

INHALE THERAPEUTIC SYSTEMS, INC.

BALANCE SHEETS

(IN THOUSANDS, EXCEPT PAR VALUE)

	DECEMBER 31,	
	1999	1998
ASSETS		
Current assets:		
Cash and cash equivalents	$ 33,430	$ 24,916
Short-term investments	104,755	57,946
Accounts receivable	1,756	1,013
Other current assets	7,377	665
Total current assets	147,318	84,540
Property and equipment, net	63,852	49,863
Investment in Alliance Pharmaceutical Corp	6,328	--
Other assets	9,308	93
	$226,806	$134,496
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 13,374	$ 3,678
Accrued liabilities	6,849	4,655
Deferred revenue	4,811	4,359
Tenant improvement loan--current portion	45	64
Total current liabilities	25,079	12,756
Tenant improvement loan	4,895	4,940
Convertible subordinated debentures	108,450	--
Accrued rent	1,753	919
Commitments (See Note 4)		
Stockholders' equity:		
Preferred stock, 10,000 shares authorized, no shares issued or outstanding	--	--
Common stock, $0.0001 par value; 50,000 shares authorized; 17,226 shares and 16,924 shares issued and outstanding at December 31, 1999 and 1998, respectively	2	2
Capital in excess of par value	181,154	172,847
Deferred compensation	(1,530)	(931)
Accumulated deficit	(94,466)	(56,018)
Accumulated other comprehensive gain/(loss)	1,469	(19)
Total stockholders' equity	86,629	115,881
	$226,806	$134,496

See accompanying notes

INHALE THERAPEUTIC SYSTEMS, INC.

STATEMENTS OF OPERATIONS

(IN THOUSANDS, EXCEPT PER SHARE INFORMATION)

	YEARS ENDED DECEMBER 31,		
	1999	1998	1997
Contract research revenue	$ 41,358	$ 21,795	$ 16,249
Operating costs and expenses:			
Research and development	64,083	35,398	23,645
General and administrative	7,869	8,387	6,328
Acquired in-process research and development	9,890	--	--
Total operating costs and expenses	81,842	43,785	29,973
Loss from operations	(40,484)	(21,990)	(13,724)
Interest income	4,111	3,904	3,807
Interest expense	(2,075)	(270)	(66)
Net loss	$(38,448)	$(18,356)	$ (9,983)
Basic and diluted net loss per share	$ (2.26)	$ (1.17)	$ (0.72)
Shares used in computing basic and diluted net loss per share	17,008	15,719	13,792

See accompanying notes

INHALE THERAPEUTIC SYSTEMS, INC.

STATEMENT OF STOCKHOLDERS' EQUITY

(IN THOUSANDS)

	COMMON STOCK		CAPITAL IN EXCESS OF	DEFERRED	ACCUMULATED	ACCUMULATED OTHER COMPREHENSIVE	TOTAL STOCKHOLDERS'
	SHARES	PAR VALUE	PAR VALUE	COMPENSATION	DEFICIT	GAIN/(LOSS)	EQUITY
Balance at December 31, 1996	11,835	$ 1	$ 62,839	$ (88)	$(27,679)	$ (12)	$ 35,061
Issuance of common stock in private placement, net of issuance costs of $1,940	1,800	1	30,459	--	--	--	30,460
Issuance of common stock in connection with licensing agreement	28	--	600	--	--	--	600
Issuance of common stock in public offering, net of issuance costs of $2,885	1,725	--	40,024	--	--	--	40,024
Common stock issued upon exercise of stock options	125	--	798	--	--	--	798
Issuance of common stock in connection with exercise of warrant	29	--	--	--	--	--	--
Deferred compensation	--	--	551	(551)	--	--	--
Amortization of deferred compensation	--	--	--	101	--	--	101
Unrealized gain on available-for-sale securities	--	--	--	--	--	32	32
Net loss	--	--	--	--	(9,983)	--	(9,983)
Comprehensive loss	--	--	--	--	--	--	(9,951)
Balance at December 31, 1997	15,542	2	135,271	(538)	(37,662)	20	97,093
Issuance of common stock in private placement, net of issuance costs of $1,997	1,200	--	35,202	--	--	--	35,202
Issuance of common stock and stock options in connection with licensing agreement	6	--	284	--	--	--	284
Common stock issued upon exercise of stock options	176	--	1,514	--	--	--	1,514
Deferred compensation	--	--	576	(576)	--	--	--
Amortization of deferred compensation	--	--	--	183	--	--	183
Unrealized loss on available-for-sale securities	--	--	--	--	--	(39)	(39)
Net loss	--	--	--	--	(18,356)	--	(18,356)
Comprehensive loss	--	--	--	--	--	--	(18,395)
Balance at December 31, 1998	16,924	2	172,847	(931)	(56,018)	(19)	115,881
Issuance of common stock to Alliance	180	--	5,000	--	--	--	5,000
Common stock issued upon exercise of stock options, net of costs	122	--	1,545	--	--	--	1,545
Compensation in connection with stock options granted to consultants	--	--	798	--	--	--	798
Deferred compensation	--	--	964	(964)	--	--	--
Amortization of deferred compensation	--	--	--	365	--	--	365
Unrealized gain on available-for-sale securities	--	--	--	--	--	1,488	1,488
Net loss	--	--	--	--	(38,448)	--	(38,448)
Comprehensive loss	--	--	--	--	--	--	(36,960)
Balance at December 31, 1999	17,226	$ 2	$181,154	$(1,530)	$(94,466)	$1,469	$ 86,629

See accompanying notes

INHALE THERAPEUTIC SYSTEMS, INC.

STATEMENTS OF CASH FLOWS

INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS

(IN THOUSANDS)

	YEARS ENDED DECEMBER 31,		
	1999	1998	1997
CASH FLOWS FROM (USED IN) OPERATING ACTIVITIES			
Net loss	$ (38,448)	$ (18,356)	$ (9,983)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	6,889	3,415	2,337
Amortization of deferred compensation	365	183	101
Issuance of common stock for services	798	--	--
Issuance of common stock and stock options in connection with licensing agreements	--	284	600
Acquired in-process research and development	9,890	--	--
Changes in assets and liabilities:			
Decrease (increase) in accounts receivable, other current assets, and other assets	(8,004)	(876)	518
Increase (decrease) in accounts payable and accrued liabilities	12,724	(1,546)	7,443
Increase (decrease) in deferred revenue	452	(2,327)	3,963
Net cash (used in) provided by operating activities	(15,334)	(19,223)	4,979
CASH FLOWS USED IN INVESTING ACTIVITIES			
Acquisition of PulmoSpheres-Registered Trademark-technology	(15,288)	--	--
Purchases of short-term investments	(122,481)	(219,414)	(483,247)
Sales of short-term investments	28,658	65,189	80,662
Maturities of short-term investments	47,174	182,309	334,289
Purchases of property and equipment, net	(20,502)	(34,584)	(17,261)
Net cash used in investing activities	(82,439)	(6,500)	(85,557)
CASH FLOWS FROM FINANCING ACTIVITIES			
Issuance of convertible subordinated debentures, net	104,806	--	--
Payments of loan and capital lease and obligations	(64)	(181)	(168)
Proceeds from tenant improvement loan	--	--	5,000
Issuance of common stock, net of issuance costs	1,545	36,716	71,282
Net cash provided by financing activities	106,287	36,535	76,114
Net increase (decrease) in cash and cash equivalents	8,514	10,812	(4,464)
Cash and cash equivalents at beginning of year	24,916	14,104	18,568
Cash and cash equivalents at end of year	$ 33,430	$ 24,916	$ 14,104

See accompanying notes

NOTE 1--ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

ORGANIZATION AND BASIS OF PRESENTATION

Inhale Therapeutic Systems, Inc. ("Inhale", the "Company") was incorporated in the State of California in July 1990 and reincorporated in the State of Delaware in July 1998. Since inception, Inhale has been engaged in the development of a system to deliver drugs to the bloodstream through the lungs by inhaling a powdered version of the drug. The system is applicable to a wide range of peptides, proteins and other molecules.

Inhale expects increasing losses over the next several years as research and development and manufacturing scale-up efforts continue, and as Inhale expands its facilities for commercial manufacturing. Management plans to continue to finance Inhale primarily through issuances of equity or debt securities, research and development contract revenue, and in the longer term, revenue from product sales and royalties.

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

CASH, CASH EQUIVALENTS AND INVESTMENTS

Inhale considers all highly liquid investments with a maturity from date of purchase of three months or less to be cash equivalents. Cash and cash equivalents include demand deposits held in banks and interest bearing money market funds. All other liquid investments are classified as short-term investments. Short-term investments consist of federal and municipal government securities, repurchase agreements or corporate commercial paper with A1 or P1 short-term ratings and A or better long-term ratings with remaining maturities at date of purchase of greater than 90 days and less than one year. Inhale limits its concentration of risk by diversifying its investments among a variety of industries and issuers. Inhale has experienced no material losses on its investments.

At December 31, 1999, all short-term investments are designated as available-for-sale and are carried at fair value, with material unrealized gains and losses, if any, reported in stockholders' equity. The amortized cost of securities is adjusted for amortization of material premiums and accretion of discounts to maturity. Such amortization, if any, is included in interest income. Realized gains and losses and declines in value judged to be other-than-temporary on available-for-sale securities, if any, are included in interest income. The cost of securities sold is based on the specific identification method. Interest and dividends on securities classified as available-for-sale are included in interest income.

NOTE 1--ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The following is a summary of available-for-sale debt securities as of December 31, 1999:

	AVAILABLE-FOR-SALE DEBT SECURITIES			
	COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	ESTIMATED FAIR VALUE
	(IN THOUSANDS)			
Obligations of U.S. government agencies	$ 81,692	$108	$ --	$ 81,800
U.S. corporate commercial paper	41,081	33	--	41,114
Repurchase agreements, secured by U.S. Government securities	3,845	--	--	3,845
Other	7,872	--	--	7,872
	$134,490	$141	$ --	$134,631
Amounts included in cash and cash equivalents	$ 29,822	$ 54	$ --	$ 29,876
Amounts included in short-term investments	104,668	87	--	104,755
	$134,490	$141	$ --	$134,631

The following is a summary of available-for-sale debt securities as of December 31, 1998:

	AVAILABLE-FOR-SALE DEBT SECURITIES			
	COST	GROSS UNREALIZED GAINS	GROSS UNREALIZED LOSSES	ESTIMATED FAIR VALUE
	(IN THOUSANDS)			
Obligations of U.S. government agencies	$20,758	$ --	$ --	$ 20,758
U.S. corporate commercial paper	42,773	--	(19)	42,754
Repurchase agreements, secured by U.S. Government securities	17,704	--	--	17,704
Other	105	--	--	105
	$81,340	$ --	$(19)	$ 81,321
Amounts included in cash and cash equivalents	$23,375	$ --	$ --	$ 23,375
Amounts included in short-term investments	57,965	--	(19)	57,946
	$81,340	$ --	$(19)	$ 81,321

The gross realized losses and gains on the sale of debt securities available-for-sale during the years ended December 31, 1999 and 1998 were not material. At December 31, 1999 and 1998, the average portfolio duration was approximately five months and three months, respectively, and the contractual maturity of any single investment did not exceed eleven months at December 31, 1999 and 1998.

The estimated fair value amounts have been determined by Inhale using available market information and appropriate valuation methodologies. However, market data must be interpreted to develop the estimates of fair value. Accordingly, the estimates presented herein are not necessarily indicative of the amounts that Inhale could realize in a current market exchange.

NOTE 1--ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Inhale owns common stock in one technology company. These shares of Alliance Pharmaceutical Corp. ("Alliance") are accounted for as long-term available-for-sale securities. Due to restrictions on the sale of this stock, the Company carries that portion of its investment in Alliance that can be sold within one year at market value, with material unrealized gains and losses, if any, reported in stockholders' equity. That portion which cannot be sold within one year is carried at cost.

PROPERTY AND EQUIPMENT

Property and equipment consist of the following at December 31:

	1999	1998
	(IN THOUSANDS)	
Laboratory and other equipment	$ 24,317	$15,012
Leasehold improvements	47,101	36,003
Land	7,443	7,443
	78,861	58,458
Less accumulated depreciation	(15,009)	(8,595)
	$ 63,852	$49,863

Property and equipment are stated at cost. Major renewals and improvements are capitalized, while maintenance and repairs are expensed when incurred. Other equipment is depreciated using the straight-line method over estimated useful lives of four to seven years. Manufacturing equipment is depreciated using the straight-line method over its useful life estimated to be ten years. Leasehold improvements and assets acquired under capital leases are amortized using the straight-line method over the shorter of an estimated useful life of fifteen years or the term of the lease.

Interest is capitalized in connection with the construction of leasehold improvements to the Company's manufacturing facility in San Carlos, California. The capitalized interest is recorded as part of the asset to which it relates and is amortized over the asset's estimated useful life. In 1999 and 1998, Inhale capitalized $0 and $203,000 of interest cost, respectively.

COMPREHENSIVE GAIN/LOSS

Effective January 1, 1998, Inhale adopted the Financial Accounting Standards Board's ("FASB") Statement of Financial Accounting Standards No. 130, "Reporting Comprehensive Income" ("SFAS 130"). The Company's other component of comprehensive gain/loss includes only unrealized gains and losses on securities held as available-for-sale and is shown in the Statement of Stockholders' Equity. Inhale has no other material components of other comprehensive loss and accordingly the comprehensive loss is the same as net loss for all periods.

REVENUE RECOGNITION

Contract revenue from collaborative research agreements is recorded when earned and as the related costs are incurred. Payments received which are related to future performance are deferred and recognized as revenue when earned over future performance periods. In accordance with contract terms, upfront and

NOTE 1--ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)
milestone payments from collaborative research agreements are considered reimbursements for costs incurred under the agreements, and accordingly, are generally recognized based on actual efforts expended over the remaining terms of the agreements. Inhale's research revenue is derived primarily from clients in the pharmaceutical industry. Contract research revenue from three partners represented 71%, 10% and 9% of Inhale's revenue in 1999. Three partners accounted for 51%, 22% and 18% of Inhale's revenue in 1998 and 47%, 25% and 21% of Inhale's revenue in 1997. Costs of contract research revenue approximate such revenue and are included in research and development expenses.

STOCK-BASED COMPENSATION

As permitted by the provisions of Statement of Financial Accounting Standards No. 123, "Accounting for Stock-Based Compensation" ("FAS 123"), Inhale continues to follow Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees" ("APB 25") and related interpretations in accounting for its employee stock option plans. Under APB 25, if the exercise price of Inhale's employee stock options equals or exceeds the fair market value of the underlying stock on the date of grant as determined by the closing price of Inhale's common stock as quoted on the Nasdaq stock market, no compensation expense is recognized. See Note 5 for pro forma disclosures required by FAS 123.

RESEARCH AND DEVELOPMENT AGREEMENTS

Inhale performs research and development for others pursuant to feasibility agreements and development and license agreements. Under the feasibility agreements, Inhale generally is reimbursed for the cost of work performed. Feasibility agreements are designed to evaluate the applicability of Inhale's technologies to a particular molecule and therefore are generally completed in less than one year. Under Inhale's development and license agreements, the partner companies receive an exclusive license to develop, use and sell a dry powder formulation and a suitable delivery device to be developed by Inhale for one of the partner's macromolecule drugs. Under these development agreements, Inhale will be reimbursed for development costs and may also be entitled to milestone payments when and if certain development milestones are achieved. All of Inhale's research and development agreements are generally cancelable by the partner without significant financial penalty to the partner.

ACCOUNTING FOR INCOME TAXES

Inhale accounts for income taxes under Statement of Financial Accounting Standards No. 109, "Accounting for Income Taxes" ("FAS 109"). Under FAS 109, the liability method is used in accounting for income taxes.

NOTE 1--ORGANIZATION AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

NET LOSS PER SHARE

In accordance with Financial Accounting Standard No. 128, basic and diluted net loss per share has been computed using the weighted average number of shares of common stock outstanding during the period. Had Inhale been in a net income position, diluted earnings per share would have included the following outstanding options, warrants and convertible debentures:

	YEARS ENDED DECEMBER 31,		
	1999	1998	1997
	(IN THOUSANDS)		
Warrants	20	20	20
Options	4,553	3,163	2,351
Convertible debentures	3,388	--	--
Total	7,961	3,183	2,371

SEGMENT INFORMATION

Effective January 1, 1998, Inhale adopted the FASB's Statement of Financial Accounting Standards No. 131, "Disclosures about Segments of an Enterprise and Related Information" ("SFAS 131"). SFAS 131 superseded FASB Statement No. 14, "Financial Reporting for Segments of a Business Enterprise." SFAS 131 establishes standards for the way that public business enterprises report information about operating segments in annual financial statements and requires that those enterprises report selected information about operating segments in interim financial reports. SFAS 131 also establishes standards for related disclosures about products and services, geographic areas, and major customers.

Management has organized Inhale's business in one operating segment which includes activities related to the development of systems for the pulmonary delivery of macromolecule drugs. Inhale's operations and all of its assets are presently located in the United States and the Company derives all of its revenues within the United States.

RECLASSIFICATION

Certain prior year amounts have been reclassified to conform to the 1999 presentation.

NOTE 2--COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

Inhale performs research and development for others pursuant to feasibility agreements and development and license agreements. Under the feasibility agreements, Inhale generally is reimbursed for the cost of work performed. Feasibility agreements are designed to evaluate the applicability of Inhale's technologies to a particular molecule and therefore are generally completed in less than one year. Under Inhale's development and license agreements, the partner companies receive an exclusive license to develop, use and sell a dry powder formulation and a suitable delivery device to be developed by Inhale for one of the partner's macromolecule drugs. Under these development agreements, Inhale will be reimbursed for development costs and may also be entitled to milestone payments when and if certain development milestones are achieved. All of Inhale's research and development agreements are generally cancelable by the partner without significant financial penalty to the partner.

NOTE 2--COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENTS (CONTINUED)

In February 1999, Inhale entered into a collaborative agreement with Biogen to develop pulmonary delivery for Biogen's AVONEX-Registered Trademark-, a drug used in the treatment of Multiple Sclerosis. Under the terms of the agreement, Inhale will receive royalties on product sales, an up-front signing fee, and up to an estimated $25 million in research and development funding and potential progress payments. Biogen will provide bulk AVONEX-Registered Trademark- to Inhale for formulation into a dry powder which is stable at room temperature. Inhale will manufacture and package the dry powder and supply inhalation devices. Biogen will be responsible for clinical trials, marketing and commercialization. The Company recognized revenue of $2.2 million under this agreement in 1999.

In December 1997, the Company entered into a collaboration agreement with Eli Lilly and Company ("Lilly") to develop pulmonary delivery for an undisclosed protein based on Inhale's deep-lung drug delivery system for macromolecules. Under the terms of the agreement, Inhale will receive funding of up to $20 million in research, development and progress payments. Lilly will receive global commercialization rights for the pulmonary delivery of the products with Inhale receiving royalties on any marketed products. Inhale will manufacture packaged powders for and supply devices to Lilly. Under this agreement the Company recognized revenue of $1.2 million in 1999 and $0.9 million in 1998. No revenue was recognized under this agreement in 1997.

In January 1997, the Company executed a collaboration agreement with Lilly to develop pulmonary delivery for parathyroid hormone ("PTH"). Under the terms of the agreement, Inhale will receive funding of up to $20 million of initial fees, research and development and progress payments. Lilly will receive global commercialization rights for the pulmonary delivery of the products with Inhale receiving royalties on any marketed products. Inhale will manufacture packaged powders for and supply devices to Lilly. Under this agreement, the Company recognized revenue of $3.8 million and $3.4 million in 1998 and 1997, respectively. In late 1998, unexpected observations from a long-term test in rats of the injectable version of parathyroid hormone led Lilly to suspend further clinical development of the injectable and pulmonary versions of PTH pending further analysis. Inhale is maintaining a minimum development effort in its pulmonary program pending further direction from Lilly. Inhale does not currently believe that the program will be reinitiated in the near future, if at all.

In December 1996, Inhale entered into a collaborative agreement with Aventis Behring to develop a pulmonary formulation of alpha-1 proteinase inhibitor to treat patients with alpha-1 antitrypsin deficiency, or genetic emphysema. Under the terms of the collaboration, Aventis Behring will receive commercialization rights worldwide excluding Japan and Inhale will receive royalties on product sales, an up-front signing fee and up to an estimated $15 million in research and development funding and milestone payments. Aventis Behring will manufacture the active ingredient for use in Inhale's delivery device. Inhale will manufacture and package the dry powder and supply inhalation devices to Aventis Behring for commercialization and marketing. Under this agreement, the Company recognized revenue of $3.9 million, $1.6 million and $0.9 million in 1999, 1998 and 1997, respectively.

In March 1996, Inhale entered into a collaboration agreement with Baxter Healthcare Corporation ("Baxter") to use Inhale's dry powder pulmonary delivery system as a technology platform for developing and launching therapeutic products. In connection with the collaboration, Baxter made a $20 million equity investment in Inhale at a 25% premium to the market price of Inhale stock at the time of the investment. Baxter received worldwide commercialization rights in exchange for up to an estimated

NOTE 2--COLLABORATIVE RESEARCH AND DEVELOPMENT AGREEMENTS (CONTINUED)
$60 million in research and development funding and milestone payments for four molecules. In October 1998, Inhale announced that it had reached an agreement with Baxter to amend their collaborative agreement to facilitate signing a new corporate partner to fund further development and commercialization of the undisclosed compound that had been their focus since April, 1998. Baxter's obligations under this amendment expired in September, 1999. As a result, rights to the compounds reverted to Inhale and are now available for other partnering opportunities. The Company recognized revenues associated with this program of $4.3 million, $4.0 million and $4.1 million in 1999, 1998, and 1997, respectively.

In January 1995, the Company entered into a collaborative development and license agreement with Pfizer Inc. ("Pfizer") to develop pulmonary delivery for inhaled insulin based on Inhale's deep-lung delivery system for macromolecules. Under the terms of the agreement, Inhale will receive funding consisting of initial fees, research and development and progress payments. Upon execution of the agreement Pfizer purchased $5.0 million of Inhale common stock. In addition, in October 1996, Pfizer purchased an additional $5.0 million of Inhale common stock. Pfizer will receive global commercialization rights for the pulmonary delivery of the products with Inhale receiving royalties on any marketed products. Inhale will manufacture inhaled insulin for, and supply devices to Pfizer. Under this agreement the Company recognized revenue of $29.5 million, $11.1 million and $7.6 million in 1999, 1998 and 1997, respectively.

Costs associated with research and development activities attributable to these agreements are expected to approximate the revenues recognized.

NOTE 3--ACQUISITION OF PULMOSPHERES-REGISTERED TRADEMARK- TECHNOLOGY

In November 1999, Inhale concluded an agreement with Alliance Pharmaceutical Corp. to acquire Alliance's PulmoSpheres-Registered Trademark- particle and particle processing technology for use in respiratory drug delivery. Under the terms of the agreement, Inhale received the rights to PulmoSpheres-Registered Trademark- technology, other related assets and Alliance stock valued at $5 million in exchange for $15 million in cash and $5 million of Inhale stock. The purchase price, including $387,000 of acquisition costs, has been allocated to assets acquired and to in-process research and development, which has been charged as an expense on the Statement of Operations for the year ended December 31, 1999. The Company's investment in Alliance and the assets acquired in connection with the PulmoSpheres-Registered Trademark- acquisition are recorded at their fair market value at acquisition as follows:

Property and equipment, net	$ 200
Acquired in-process research and development charged to operations at December 31, 1999	9,890
Intellectual property, net	3,171
Assembled workforce	96
Goodwill	2,030
Total cash purchase consideration	15,387
Common stock of Alliance	5,000
Total purchase consideration	$20,387

NOTE 3--ACQUISITION OF PULMOSPHERES-REGISTERED TRADEMARK- TECHNOLOGY (CONTINUED)
Goodwill and other intangible assets are being amortized over seven years.

The purchased research and development was identified and valued through extensive interviews and discussions with appropriate management and scientific personnel and the analysis of data provided by Alliance regarding the PulmoSpheres-Registered Trademark- technology, its stage of development at the time of acquisition, the importance of the technology to Inhale's overall development plan, and the projected incremental cash flows from the projects when completed and any associated risks. Associated risks include the uncertainties in overcoming significant technological risks, acquiring FDA approval and establishing commercial viability.

NOTE 4--COMMITMENTS, LONG-TERM DEBT AND TENANT IMPROVEMENT LOAN

As of December 31, 1999, Inhale had $108,450,000 aggregate principal amount of 6 3/4% Convertible Subordinated Debentures ("the Debentures") which will mature on October 13, 2006 and are convertible into shares of Inhale's common stock at a conversion price of $32.0075 per share, subject to adjustment in certain circumstances. The Debentures are redeemable in part or in all at the option of the Company on or after October 13, 2002. Interest is payable semi-annually on April 13 and October 13. The Debentures are unsecured subordinated obligations which rank junior in right of payment to all of the Company's existing and future Senior Debt. The Company had approximately $4.9 million of Senior Debt outstanding at December 31, 1999. Costs relating to the issuance of the Debentures are recorded as long-term assets and are being amortized over the term of the debt (see Note 8).

Inhale leases its office and laboratory facilities under several arrangements expiring through the year 2012. Rent expense was approximately $2,484,000, $1,777,000 and $1,106,000 for the years ended December 31, 1999, 1998 and 1997, respectively. In November 1997, Inhale received from the landlord of its facility in San Carlos, California a loan of $5.0 million to fund a portion of the cost of improvements made to the facility. The loan bears interest at 9.46% per annum, and principal and interest payments are payable monthly over the ten-year loan term with a balloon payment of $4.5 million at the end of the tenth year. The loan is recorded on the balance sheet as a tenant improvement loan.

NOTE 4--COMMITMENTS, LONG-TERM DEBT AND TENANT IMPROVEMENT LOAN (CONTINUED)

Future noncancelable commitments under operating leases and the tenant improvement loan at December 31, 1999 are as follows:

	OPERATING LEASES	TENANT IMPROVEMENT LOAN
	(IN THOUSANDS)	
Years ending December 31,		
2000	$ 1,841	$ 510
2001	2,028	503
2002	2,136	503
2003	1,792	503
2004	1,713	503
2005 and thereafter	14,484	5,974
Total minimum payments required	$23,994	$ 8,496
Less amount representing interest		(3,556)
Present value of future payments		4,940
Less current portion		(45)
Non-current portion		$ 4,895

NOTE 5--STOCKHOLDERS' EQUITY

COMMON STOCK

EMPLOYEE STOCK PURCHASE PLAN

In February 1994, Inhale's Board of Directors adopted the Employee Stock Purchase Plan (the "Purchase Plan"). Under the Purchase Plan, 150,000 shares of common stock have been reserved for purchase by Inhale's employees pursuant to section 423(b) of the Internal Revenue Code of 1986. As of December 31, 1999, no shares of common stock have been issued under the Purchase Plan.

STOCK OPTION PLANS

EQUITY INCENTIVE PLAN

Inhale's 1994 Equity Incentive Plan (the "Equity Incentive Plan") was adopted by the Board of Directors in February 1994. The Equity Incentive Plan is an amendment and restatement of Inhale's 1992 Stock Option Plan. The purpose of the Equity Incentive Plan is to attract and retain qualified personnel, to provide additional incentives to employees, officers, consultants and employee directors of Inhale and to promote the success of Inhale's business. Pursuant to the Equity Incentive Plan, Inhale may grant or issue incentive stock options to employees and officers and non-qualified stock options, restricted stock purchase awards, stock bonuses and stock appreciation rights to consultants, employees, officers and employee directors. Options granted to non-employees are recorded at fair value based on the fair value measurement criteria of FAS 123.

NOTE 5--STOCKHOLDERS' EQUITY (CONTINUED)

The maximum term of a stock option under the Equity Incentive Plan is ten years, but if the optionee at the time of grant has voting power of more than 10% of Inhale's outstanding capital stock, the maximum term of an incentive stock option is five years. The exercise price of incentive stock options granted under the Equity Incentive Plan must be at least equal to 100% (or 110% with respect to holders of more than 10% of the voting power of Inhale's outstanding capital stock) of the fair market value of the stock subject to the option on the date of the grant. The exercise price of non-qualified stock options, and the purchase price of restricted stock purchase awards, granted under the Equity Incentive Plan are determined by the Board of Directors. Stock appreciation rights authorized for issuance under the Equity Incentive Plan may be tandem stock appreciation rights, concurrent stock appreciation rights or independent stock appreciation rights.

The Equity Incentive Plan may be amended at any time by the Board, although certain amendments would require shareholder approval. The Equity Incentive Plan will terminate in February 2004 unless earlier terminated by the Board.

NON-EMPLOYEE DIRECTORS' STOCK OPTION PLAN

In February 1994, Inhale's Board of Directors adopted the Non-employee Directors' Stock Option Plan under which options to purchase up to 200,000 shares of Inhale's common stock at the then fair market value may be granted to Inhale's non-employee directors. As of December 31, 1999, options on 34,800 shares had been exercised and options to purchase 102,066 shares were exercisable.

1998 NON-OFFICER EQUITY INCENTIVE PLAN

Inhale's 1998 Non-officer Equity Incentive Plan ("1998 Plan") was adopted by the Board of Directors in June 1998. The purpose of the 1998 Plan is to attract and retain qualified personnel, to provide additional incentives to employees and consultants and to promote the success of Inhale's business. Pursuant to the 1998 plan, Inhale may grant or issue non-qualified stock options, restricted stock purchase awards, stock bonuses and stock appreciation rights to employees and consultants who are neither Officers or Directors of Inhale.

The maximum term of a stock option under the 1998 Plan is ten years. The exercise price of stock options, and the purchase price of restricted stock purchase awards granted under the 1998 Plan are determined by the Board of Directors. Stock appreciation rights authorized for issuance under the 1998 Plan may be tandem stock appreciation rights, concurrent stock appreciation rights or independent stock appreciation rights. The 1998 Non-officer Equity Incentive Plan may be amended by the Board of Directors at any time.

NOTE 5--STOCKHOLDERS' EQUITY (CONTINUED)

A summary of activity under the Equity Incentive Plan, the Non-Employee Directors' Stock Option Plan and the 1998 Non-officer Equity Incentive Plan is as follows:

		OPTIONS OUTSTANDING		
	OPTIONS AVAILABLE FOR GRANT	NUMBER OF SHARES	EXERCISE PRICE PER SHARE	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE
	(IN THOUSANDS, EXCEPT PER SHARE INFORMATION)			
Balance at December 31, 1996.....	1,774	1,659	$ 0.06-19.25	$ 9.13
Options granted.....	(851)	851	0.01-35.25	21.01
Options exercised.....	--	(125)	0.06-16.13	6.41
Options canceled.....	34	(34)	0.56-22.75	15.43
Balance at December 31, 1997.....	957	2,351	0.01-35.25	13.48
Shares authorized.....	1,550	--	--	--
Options granted.....	(1,069)	1,069	0.01-34.13	28.16
Options exercised.....	--	(174)	0.06-22.75	8.69
Options canceled.....	83	(83)	5.56-35.25	21.89
Balance at December 31, 1998.....	1,521	3,163	0.01-35.25	18.48
Shares authorized.....	1,250	--	--	--
Options granted.....	(1,575)	1,575	0.01-41.88	27.15
Options exercised.....	--	(124)	0.01-34.12	12.60
Options canceled.....	61	(61)	10.01-34.12	26.46
Balance at December 31, 1999.....	1,257	4,553	0.01-41.88	$21.52

At December 31, 1999, 1998 and 1997, options were exercisable to purchase approximately 1,511,484, 1,077,000 and 784,000 at weighted-average exercise prices of $14.91, $11.36 and $8.17 per share, respectively.

Weighted average fair value of options granted during the year ended December 31, 1999, 1998 and 1997, was $28.34, $28.42 and $21.89, respectively. The following table provides information regarding Inhale's stock option plans as of December 31, 1999.

	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
RANGE OF EXERCISE PRICES	NUMBER	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE	WEIGHTED-AVERAGE REMAINING CONTRACTUAL LIFE (IN YEARS)	NUMBER	WEIGHTED-AVERAGE EXERCISE PRICE PER SHARE
	(IN THOUSANDS)			(IN THOUSANDS)	
$ 0.01-7.75	595	$ 3.82	5.03	496	$ 4.42
8.88-12.00	454	10.09	5.60	272	10.12
14.25-19.63	743	17.55	6.90	299	16.92
21.88-32.38	2,655	28.01	9.0	409	27.66
34.13-41.88	106	35.19	8.10	35	34.83
$ 0.01-41.88	4,553	$21.52	7.80	1,511	$14.91

NOTE 5--STOCKHOLDERS' EQUITY (CONTINUED)

In 1999, the Company granted 67,100 options to employees and consultants with exercise prices below the market price of the stock on the grant date. The weighted-average exercise price and weighted-average fair value of these options as of December 31, 1999 were $0.01 and $27.87, respectively.

Pro forma information regarding net income and earnings per share is required by FAS 123, which also requires that the information be determined as if Inhale has accounted for its employee stock options granted subsequent to December 31, 1994 under the fair value method of that Statement. The fair value for these options was estimated at the date of grant using a Black-Scholes option pricing model with the following weighted-average assumptions:

	1999	1998	1997
Risk-free interest rate	5.6%	4.8%	5.7%
Dividend yield	0.0%	0.0%	0.0%
Volatility factor	0.600	0.700	0.578
Weighted average expected life	5 years	5 years	6 years

The Black-Scholes options valuation model was developed for use in estimating the fair value of traded options which have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions including the expected stock price volatility. Because Inhale's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in management's opinion, the existing models do not necessarily provide a reliable single measure of the fair value of its employee stock options. However, Inhale has presented the pro forma net loss and pro forma basic and diluted net loss per common share using the assumptions noted above.

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the options' vesting period, generally five years. Inhale's pro forma information follows (in thousands except for earnings per share):

	YEARS ENDED DECEMBER 31,		
	1999	1998	1997
Pro forma net loss	$(48,077)	$(24,325)	$(13,168)
Pro forma basic and diluted net loss per common share	$ (2.83)	$ (1.55)	$ (0.95)

Because FAS 123 is applicable only to options granted subsequent to December 31, 1994, the pro forma effect of the statement will not be fully reflected until approximately the year 2000.

WARRANTS

In October 1996 Inhale issued two warrants ("the warrants") to purchase a total of 20,000 shares of Common Stock (10,000 shares each) at a price of $13.125 per share in connection with a facility lease. The warrants expire in October 2006 and were both outstanding and exercisable at December 31, 1999.

NOTE 5--STOCKHOLDERS' EQUITY (CONTINUED)
STOCK COMPENSATION

Inhale recorded deferred compensation of approximately $964,000 during the year ended December 31, 1999. Deferred compensation of $576,000 had been recorded in the year ended December 31, 1998. These amounts represent the difference between the exercise price and the deemed fair market value of certain of Inhale's stock options granted in these periods and are being amortized to expense over the three-year vesting period of the options.

RESERVED SHARES

A total of 5,830,108 shares of common stock have been reserved for issuance at December 31, 1999 for Inhale's equity incentive plans and the warrants.

NOTE 6--INCOME TAXES

As of December 31, 1999, Inhale had federal and state net operating loss carryforwards of approximately $82,000,000 and $10,600,000, respectively. Inhale also had federal and state research and other tax credit carryforwards of approximately $2,000,000 and $2,100,000, respectively. The federal and state net operating loss and credit carryforwards will expire at various dates beginning in 2000 through 2019 if not utilized.

Utilization of the federal and state net operating loss and credit carryforwards may be subject to a substantial annual limitation due to the "change in ownership" provisions of the Internal Revenue Code of 1986 and similar state provisions. The annual limitation may result in the expiration of net operating losses and credits before utilization.

Significant components of Inhale's deferred tax assets for federal and state income taxes as of December 31 are as follows:

	1999	1998
	(IN THOUSANDS)	
Deferred tax assets:		
Net operating loss carryforwards	$ 28,500	$ 16,300
Research and other credits	3,700	2,200
Capitalized research expenses	1,600	1,900
Deferred revenue	1,900	1,700
Depreciation	1,300	--
Other	2,100	2,500
Total deferred tax assets	39,100	24,600
Valuation allowance for deferred tax assets	(39,100)	(24,600)
Net deferred tax assets	$ --	$ --

Because of Inhale's lack of earnings history, the deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by $14,500,000 and $8,900,000 during the years ended December 31, 1999 and 1998, respectively.

NOTE 7--STATEMENT OF CASH FLOWS DATA

	YEARS ENDED DECEMBER 31,		
	1999	1998	1997
	(IN THOUSANDS)		
Supplemental disclosure of cash flows information:			
Interest paid	$ 470	$270	$ 66
Supplemental schedule of non-cash investing and financing activities:			
Deferred compensation related to the issuance of certain stock options	$ 964	$576	$551
Issuance of common stock to Alliance	$5,000	$ --	$ --
Issuance of common stock and options in connection with licensing agreement	$ --	$284	$600

NOTE 8--SUBSEQUENT EVENTS (UNAUDITED)

In February 2000, Inhale received $222.4 million in net proceeds from the issuance of $230.0 million aggregate principal amount of convertible subordinated notes to certain qualified institutional buyers under Rule 144A of the Securities Act of 1933, as amended. Interest on the notes accrues at a rate of 5% per year, subject to adjustment in certain circumstances. The notes will mature in 2007 and are convertible into shares of Inhale's common stock at a conversion price of $76.71 per share, subject to adjustment in certain circumstances.

In February 2000, Inhale entered into privately negotiated agreements with certain holders of its outstanding 6 3/4% convertible subordinated debentures privately placed in October and November 1999, providing for the conversion of approximately $94.2 million aggregate principal amount of the outstanding debentures in exchange for cash payments of approximately $16.2 million in the aggregate. As a result of these transactions, the $94.2 million of convertible debentures were converted into approximately 2.9 million shares of Inhale common stock. Inhale will no longer have interest payment obligations on the debentures that were converted.

Exhibit 4.11

INHALE THERAPEUTIC SYSTEMS, INC.
(a Delaware corporation)

$200,000,000
5.00% Convertible Subordinated Notes due 2007

PURCHASE AGREEMENT

February 2, 2000

MERRILL LYNCH & CO.
Merrill Lynch, Pierce, Fenner & Smith
Incorporated
Deutsche Bank Securities Inc.
Lehman Brothers Inc.
U.S. Bancorp Piper Jaffray Inc.
c/o Merrill Lynch & Co.
North Tower
World Financial Center
New York, New York 10281-1209

Ladies and Gentlemen:

Inhale Therapeutic Systems, Inc., a Delaware corporation (the "Company"), confirms its agreement with Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith Incorporated ("Merrill Lynch") and each of the other Initial Purchasers named in SCHEDULE A hereto (collectively, the "Initial Purchasers", which term shall also include any initial purchaser substituted as hereinafter provided in Section 11 hereof), for whom Merrill Lynch and Deutsche Bank Securities Inc. are acting as representatives (in such capacity, the "Representatives"), with respect to the issue and sale by the Company and the purchase by the Initial Purchasers, acting severally and not jointly, of the respective principal amounts set forth in said SCHEDULE I of $200,000,000 aggregate principal amount of the Company's 5.00% Convertible Subordinated Notes due 2007 (the "Firm Notes"), and with respect to the grant by the Company to the Initial Purchasers, acting severally and not jointly, of the option described in Section 2(b) hereof (the "Option") to purchase all or any part of an additional $30,000,000 principal amount of the Company's 5.00% Convertible Subordinated Notes due 2007 to cover over-allotments, if any (the "Optional Notes" and, together with the Firm Notes, the "Notes").

The Notes will be convertible into fully paid, nonassessable shares of common stock of the Company, par value $0.0001 per share (the "Common Stock"), on the terms, and subject to the conditions, set forth in the Indenture. As used herein, "Conversion Shares" means the shares of Common Stock into which the Notes are convertible. The Notes will be issued pursuant to

an Indenture (the "Indenture") to be dated as of the First Delivery Date (as defined in Section 2(a)), between the Company and Chase Manhattan Bank and Trust Company, National Association, as Trustee (the "Trustee").

The Notes will be offered and sold without being registered under the Securities Act of 1933, as amended (the "Securities Act"), in reliance on exemptions therefrom. The Company has prepared and delivered to each Initial Purchaser copies of a preliminary offering memorandum dated January 31, 2000 (the "Preliminary Offering Memorandum") and has prepared and will deliver to each Initial Purchaser, on the date hereof or the next succeeding day, copies of a final offering memorandum dated February 2, 2000 (the "Final Offering Memorandum"), each for use by such Initial Purchaser in connection with its solicitation of purchases of, or offering of, the Notes. "Offering Memorandum" means, with respect to any date or time referred to in this Agreement, the most recent offering memorandum (whether the Preliminary Offering Memorandum or the Final Offering Memorandum, or any amendment or supplement to either such document), including exhibits thereto and any documents incorporated therein by reference, which has been prepared and delivered by the Company to the Initial Purchasers in connection with their solicitation of purchases of, or offering of, the Notes.

Holders of the Notes (including the Initial Purchasers and their direct and indirect transferees) will be entitled to the benefits of a Resale Registration Rights Agreement, dated the First Delivery Date, between the Company and the Initial Purchasers (the "Registration Rights Agreement"), pursuant to which the Company will agree to file with the Securities and Exchange Commission (the "Commission") a shelf registration statement pursuant to Rule 415 under the Securities Act (the "Registration Statement") covering the resale of the Notes and the Conversion Shares, and to use its best efforts to cause the Registration Statement to be declared effective.

This Agreement, the Indenture, the Notes and the Registration Rights Agreement are referred to herein collectively as the "Operative Documents".

Capitalized terms used herein without definition have the respective meanings specified in the Offering Memorandum.

1. REPRESENTATIONS, WARRANTIES AND AGREEMENTS OF THE COMPANY. The Company represents and warrants to each Initial Purchaser as of the date hereof and as of each Delivery Date (as defined in Section 2(b)) and agrees with each Initial Purchaser, as follows:

(a) Each of the Preliminary Offering Memorandum and the Offering Memorandum, did not as of its respective date, and the Offering Memorandum will not as of a Delivery Date (as defined in Section 2(b)), contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; PROVIDED that the Company makes no representation or warranty as to information contained in or omitted from the Preliminary Offering Memorandum or the Offering Memorandum in reliance upon and in conformity with written information furnished to the Company by or on the behalf of any Initial Purchaser through the Representatives specifically for inclusion therein.

(b) Assuming the accuracy of the representations and warranties of the Initial Purchasers contained in Section 6 and their compliance with the agreements set forth therein, it is not necessary, in connection with the issuance and sale of the Notes to the Initial Purchasers and the offer, resale and delivery of the Notes by the Initial Purchasers in the manner contemplated by this Agreement, the Indenture, the Registration Rights Agreement and the Offering Memorandum, to register the Notes or the Conversion Shares under the Securities Act or to qualify the Indenture under the Trust Indenture Act of 1939, as amended (the "Trust Indenture Act").

(c) The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, is duly qualified to do business and is in good standing as a foreign corporation in each jurisdiction in which its ownership or lease of property or the conduct of its businesses requires such qualification (except for where the failure to be so qualified would not have a material adverse effect on the affairs, management, business, properties, financial condition, results of operations or prospects of the Company, whether or not arising in the ordinary course of business (a "Material Adverse Effect")), and has all power and authority necessary to own or hold its properties and to conduct the businesses in which it is engaged, as described in the Offering Memorandum; and the Company has no subsidiaries.

(d) The authorized, issued and outstanding capital stock of the Company, as of September 30, 1999, is as set forth in the Offering Memorandum under the column entitled "Actual" under the caption "Capitalization", and all of the issued and outstanding shares of capital stock of the Company have been duly and validly authorized and issued, are fully paid and nonassessable; none of the outstanding shares of capital stock of the Company was issued in violation of the preemptive or other similar rights of any securityholder of the Company; the capital stock of the Company conforms to the description thereof contained in the Offering Memorandum and such description conforms to the rights set forth in the instruments defining the same; the Conversion Shares, which are authorized on the date hereof, have been duly and validly authorized and reserved for issuance upon conversion of the Notes by all necessary corporate action and are free of preemptive rights; all Conversion Shares, when so issued and delivered upon such conversion in accordance with the terms of the Indenture, will be duly and validly authorized and issued, fully paid and nonassessable and free and clear of all liens, encumbrances, equities or claims; and the issuance of such Conversion Shares upon such conversion will not be subject to the preemptive or other similar rights of any securityholder of the Company.

(e) The execution, delivery and performance of the Operative Documents by the Company and the issuance of the Notes and the Conversion Shares and the consummation of the transactions contemplated hereby and thereby will not (x) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the properties or assets of the Company is subject, (y) result in any violation of the provisions of the certificate of incorporation or bylaws of the Company or (z) result in any violation of any statute or any order, rule or regulation of any court or governmental agency or body having jurisdiction over the

Company or any of its properties or assets; and except (i) with respect to the transactions contemplated by the Registration Rights Agreement, as may be required under the Securities Act, the Trust Indenture Act and the rules and regulations promulgated thereunder and (ii) as required by the state securities or "blue sky" laws, no consent, approval, authorization or order of, or filing or registration with, any such court or governmental agency or body is required for the execution, delivery and performance of the Operative Documents by the Company, and the consummation of the transactions contemplated hereby and thereby.

(f) The Company has all necessary corporate right, power and authority to execute and deliver this Agreement and perform its obligations hereunder; and this Agreement and the transactions contemplated hereby have been duly authorized, executed and delivered by the Company.

(g) The Company has all necessary corporate right, power and authority to execute and deliver the Indenture and perform its obligations thereunder; the Indenture has been duly authorized by the Company, and upon the effectiveness of the Registration Statement, will be qualified under the Trust Indenture Act; on the First Delivery Date, the Indenture will have been duly executed and delivered by the Company and, assuming due authorization, execution and delivery of the Indenture by the Trustee, will constitute a legally valid and binding agreement of the Company enforceable against the Company in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, subject to general principles of equity and to limitations on availability of equitable relief, including specific performance (whether considered in a proceeding in equity or at law) and an implied covenant of good faith and fair dealing; and the Indenture conforms in all material respects to the description thereof contained in the Offering Memorandum and will be in substantially the form last delivered to the Initial Purchasers prior to the date of this Agreement.

(h) The Company has all necessary corporate right, power and authority to execute and deliver the Registration Rights Agreement and perform its obligations thereunder; the Registration Rights Agreement and the transactions contemplated thereby have been duly authorized by the Company; when the Registration Rights Agreement is duly executed and delivered by the Company (assuming due authorization, execution and delivery by the Initial Purchasers), it will be a legally valid and binding agreement of the Company enforceable against the Company in accordance with its terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, subject to general principles of equity and to limitations on availability of equitable relief, including specific performance (whether considered in a proceeding in equity or at law) and an implied covenant of good faith and fair dealing, and except with respect to the rights of indemnification and contribution thereunder, where enforcement thereof may be limited by federal or state securities laws or the policies underlying such laws; and the Registration Rights Agreement conforms in all material respects to the description thereof contained in the Offering Memorandum and will be in substantially the form last delivered to the Initial Purchasers prior to the date of this Agreement.

(i) The Company has all necessary corporate right, power and authority to execute, issue and deliver the Notes and perform its obligations thereunder; the Notes have been duly authorized by the Company; when the Notes are executed, authenticated and issued in accordance with the terms of the Indenture and delivered to and paid for by the Initial Purchasers pursuant to this Agreement on the respective Delivery Date (assuming due authentication of the Notes by the Trustee), such Notes will constitute legally valid and binding obligations of the Company, entitled to the benefits of the Indenture and enforceable against the Company in accordance with their terms, except as the enforceability thereof may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, subject to general principles of equity and to limitations on availability of equitable relief, including specific performance (whether considered in a proceeding in equity or at law) and an implied covenant of good faith and fair dealing; and the Notes conform in all material respects to the description thereof contained in the Offering Memorandum and will be in substantially the form last delivered to the Initial Purchasers prior to the date of this Agreement.

(j) Except for the Registration Rights Agreement and the Stock Purchase Agreement, dated January 18, 1995, between the Company and Pfizer, Inc. ("Pfizer"), the Stock Purchase Agreement, dated March 1, 1996, as amended, between the Company and Baxter Healthcare Corporation, the Restated Investor Rights Agreement, dated April 29, 1993, as amended October 29, 1993, among the Company and certain stockholders of the Company, the Resale Registration Rights Agreement, dated October 13, 1999, between the Company and the initial purchasers named therein, and the Registration Rights Agreement between the Company and Alliance Pharmaceutical Corp., dated January 24, 2000, there are no contracts, agreements or understandings between the Company and any person granting such person the right (other than rights which have been waived or satisfied) to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in any securities being registered pursuant to any registration statement filed by the Company under the Securities Act.

(k) The Company has not sustained, since the date of the latest audited financial statements included in the Offering Memorandum, any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree; and, since such dates, there has not been any change in the capital stock or long-term debt of the Company or any material adverse change in or affecting the affairs, management, business, properties, financial condition, stockholders' equity, results of operations or prospects of the Company, whether or not arising in the ordinary course of business, except: (i) as described in the Offering Memorandum, (ii) any grants under the Company's employee stock plans in accordance with the terms of such plans as described in the Offering Memorandum, or other shares of Common Stock (or rights to receive Common Stock) issued to service providers to the Company in the ordinary course of business ("Authorized Grants"), (iii) operating losses incurred in the ordinary course of business, (iv) shares of Common Stock issued in connection with the Asset Purchase Agreement, dated October 4, 1999, between the Company and Alliance Pharmaceutical Corp. (the "Alliance

Agreement"), (v) the issuance and sale of the Outstanding Debentures (as defined below) or (vi) shares of Common Stock into which the Company's outstanding 6-3/4% Convertible Subordinated Debentures due 2006 are convertible (the "Outstanding Debentures").

(l) The financial statements of the Company (including the related notes and supporting schedules) included in the Offering Memorandum present fairly the financial condition and results of operations of the Company, at the dates and for the periods indicated, and have been prepared in conformity with generally accepted accounting principles applied on a consistent basis throughout the periods involved. The selected financial information included in the Offering Memorandum present fairly the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included in the Offering Memorandum.

(m) Ernst &Young LLP, who have certified the financial statements of the Company included in the Offering Memorandum, whose report appears in the Offering Memorandum, are independent accountants as required by the Securities Act and the rules and regulations promulgated thereunder.

(n) The Company has good and marketable title in fee simple to all real property and good and marketable title to all personal property owned by it, in each case free and clear of all liens, encumbrances, security interests, claims and defects, except such as are described in the Offering Memorandum or such as do not, singly or in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company; and all real property and personal property held under lease or sublease by the Company is held by it under valid, subsisting and enforceable leases (or subleases, as the case may be) in full force and effect, with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property by the Company. The Company has no notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of such the Company thereof to the continued possession of the leased or subleased premises under any such lease or sublease.

(o) The Company carries, or is covered by, insurance as is customary for companies similarly situated and engaged in similar businesses in similar industries.

(p) The Company owns, or possesses adequate rights to use, all material trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights and licenses necessary for the conduct of its business, and has no reason to believe that the conduct of its business will conflict with, and has not received any notice of any claim of conflict with, any such rights of others.

(q) The Company owns, or possesses adequate rights to use, all material patents necessary for the conduct of its business. Except as set forth in the Offering Memorandum, no valid U.S. patent is, or to the knowledge of the Company would be, infringed by the activities of the Company in the manufacture, use, offer for sale or sale of any product or component thereof as described in the Offering Memorandum. The patent applications (the "Patent Applications")

filed by or on behalf of the Company described in the Offering Memorandum have been properly prepared and filed on behalf of the Company; each of the Patent Applications and patents (the "Patents") described in the Offering Memorandum is assigned or licensed to the Company, and, except as set forth or contemplated in the Offering Memorandum, no other entity or individual has any right or claim in any Patent, Patent Application or any patent to be issued therefrom; and, to the knowledge of the Company, each of the Patent Applications discloses potentially patentable subject matter. There are no actions, suits or judicial proceedings pending relating to patents or proprietary information to which the Company is a party or of which any property of the Company is subject, and, to the knowledge of the Company, no actions, suits or judicial proceedings are threatened by governmental authorities or, except as set forth or contemplated in the Offering Memorandum, others. The Company is not aware of, except as set forth or contemplated in the Offering Memorandum, any claim by others that the Company is infringing or otherwise violating any patents or other intellectual property rights of others and is not aware of any rights of third parties to any of the Company's Patent Applications, licensed Patents or licenses which could affect materially the use thereof by the Company. Except as set forth in the Offering Memorandum, the Company owns or possesses sufficient licenses or other rights to use all patents, trade secrets, technology and know-how necessary to conduct the Company's business as described in the Offering Memorandum.

(r) Except as disclosed in the Offering Memorandum, the Company has filed with the Food and Drug Administration (the "FDA") and the California Food and Drug Branch ("CFDB") for and received approval of all registrations, applications, licenses, requests for exemptions, permits and other regulatory authorizations necessary to conduct the Company's business as it is described in the Offering Memorandum; the Company is in material compliance with all such registrations, applications, licenses, requests for exemptions, permits and other regulatory authorizations, and all applicable FDA and CFDB rules and regulations, guidelines and policies, including but not limited to, applicable FDA and CFDB rules, regulations and policies relating to current good manufacturing practice ("CGMP") and current good laboratory practice ("CGLP"); the Company has no reason to believe that any party granting any such registration, application, license, request for exemption, permit or other authorization is considering limiting, suspending or revoking the same and knows of no basis for any such limitation, suspension or revocation.

(s) The human clinical trials, animal studies and other preclinical tests conducted by the Company or in which the Company has participated that are described in the Offering Memorandum or the results of which are referred to in the Offering Memorandum, and, to the knowledge of the Company, such studies and tests conducted on behalf of the Company, were and, if still pending, are being conducted in accordance with commonly used or appropriate experimental protocols, procedures and controls applied by research scientists generally in the preclinical or clinical study of new drugs; the descriptions or the results of such studies and tests contained in the Offering Memorandum are accurate and complete in all material respects, and the Company has no knowledge of any other studies or tests, the results of which reasonably call into question the results described or referred to in the Offering Memorandum; and the Company has not received any notices or other correspondence from the FDA or any other governmental agency requiring the termination, suspension or modification of any animal studies or other preclinical tests, or clinical studies conducted by or on behalf of the Company or in which the

Company has participated that are described in the Offering Memorandum or the results of which are referred to in the Offering Memorandum.

(t) Except as disclosed in the Offering Memorandum, there are no legal or governmental proceedings pending to which the Company is a party or of which any property or asset of the Company is the subject which, if determined adversely to the Company might have a Material Adverse Effect, or which might reasonably be expected to materially and adversely affect the consummation of the transactions contemplated by this Agreement or the performance by the Company of its obligations hereunder; to the Company's knowledge, no such proceedings are threatened or contemplated by governmental authorities or, except as set forth or contemplated in the Offering Memorandum, threatened by others; and the aggregate of all pending legal or governmental proceedings to which the Company is a party or of which any of its property or assets is the subject (other than the Company's patent applications currently pending before the U.S. Patent and Trademark Office or before any foreign governmental authority that administers the registration of patents), which are not described in the Offering Memorandum, including ordinary routine litigation incidental to the business, could not reasonably be expected to result in a Material Adverse Effect.

(u) No event has occurred nor has any circumstance arisen which, had the Notes been issued on such Delivery Date, would constitute a default or an Event of Default (as such term is defined in the Indenture).

(v) The Company is not (i) in violation of its certificate of incorporation or bylaws, (ii) in default, and no event has occurred which, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which it is a party or by which it is bound or to which any of its properties or assets is subject or (iii) in violation of any law, ordinance, governmental rule, regulation or court decree to which it or its properties or assets may be subject or has failed to obtain any license, permit, certificate, franchise or other governmental authorization or permit necessary to the ownership of its properties or to the conduct of its business, except to the extent that any such default, event or violation described in the foregoing clauses (i), (ii) and (iii) would not have a Material Adverse Effect.

(w) The Company is in compliance in all material respects with all presently applicable provisions of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("ERISA"); no "reportable event" (as defined in ERISA) has occurred with respect to any "pension plan" (as defined in ERISA) for which the Company would have any liability; the Company has not incurred and does not expect to incur liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "pension plan" or (ii) Sections 412 or 4971 of the Internal Revenue Code of 1986, as amended, including the regulations and published interpretations thereunder (the "Code"); and each "pension plan" for which the Company would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified in all material respects and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification.

(x) The Company is subject to the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Company has timely and properly filed with the Commission all reports and other documents required to have been filed by it with the Commission pursuant to the Exchange Act and the Exchange Act Regulations ("Exchange Act Reports"); PROVIDED, HOWEVER, that the Company makes no such representation or warranty with respect to any statement in or omission from the Exchange Act Reports relating, directly or indirectly, to the conversion of any Outstanding Debentures.

(y) The Company has filed all federal, state and local income and franchise tax returns required to be filed through the date hereof or has requested extensions thereof and has paid all taxes due thereon, and no tax deficiency has been determined adversely to the Company which has had (nor does the Company have any knowledge of any tax deficiency which, if determined adversely to the Company, might have) a Material Adverse Effect.

(z) There has been no storage, disposal, generation, manufacture, refinement, transportation, handling or treatment of toxic wastes, medical wastes, hazardous wastes or hazardous substances by the Company (or, to the knowledge of the Company, any of its predecessors in interest) at, upon or from any of the property now or previously owned or leased by the Company in violation of any applicable law, ordinance, rule, regulation, order, judgment, decree or permit or which would require remedial action under any applicable law, ordinance, rule, regulation, order, judgment, decree or permit, except for any violation or remedial action which would not have, or could not be reasonably likely to have, singularly or in the aggregate with all such violations and remedial actions a Material Adverse Effect; there has been no material spill, discharge, leak, emission, injection, escape, dumping or release of any kind onto such property or into the environment surrounding such property of any toxic wastes, medical wastes, solid wastes, hazardous wastes or hazardous substances due to or caused by the Company or with respect to which the Company has knowledge, except for any such spill, discharge, leak, emission, injection, escape, dumping or release which would not have or would not be reasonably likely to have, singularly or in the aggregate with all such spills, discharges, leaks, emissions, injections, escapes, dumpings and releases, a Material Adverse Effect; and the terms "hazardous wastes", "toxic wastes", "hazardous substances" and "medical wastes" shall have the meanings specified in any applicable local, state, federal and foreign laws or regulations with respect to environmental protection.

(aa) There are no contracts or other documents which would be required to be described in the Offering Memorandum if the Offering Memorandum were a prospectus included in a registration statement on Form S-1 that have not been so described in the Offering Memorandum.

(bb) There is no relationship, direct or indirect, between or among the Company, on the one hand, and the directors, officers, shareholders, customers or suppliers of the Company, on the other hand, which would be required to be described in the Offering Memorandum if the Offering Memorandum were a prospectus included in a registration statement on Form S-1 that has not been so described.

(cc) Since the date as of which information is given in the Offering Memorandum through the date hereof, the Company has not (i) issued or granted any securities (other than Authorized Grants or the Old Conversion Shares), (ii) incurred any material liability or obligation, direct or contingent, other than liabilities and obligations which were incurred in the ordinary course of business, (iii) entered into any material transaction not in the ordinary course of business (other than privately negotiated transactions relating to the conversion of any Outstanding Debentures as described in the Offering Memorandum) or (iv) declared or paid any dividend on its capital stock.

(dd) Except as disclosed in the Offering Memorandum, (i) there are no outstanding securities convertible into or exchangeable for, or warrants, rights or options issued by the Company to purchase, any shares of the capital stock of the Company (except, in the case of options, any Authorized Grants), (ii) there are no statutory, contractual, preemptive or other rights to subscribe for or to purchase any Common Stock that do not by their terms terminate upon the First Delivery Date and (iii) there are no restrictions upon transfer of the Common Stock pursuant to the Company's certificate of incorporation or bylaws.

(ee) The Company (i) makes and keeps materially accurate books and records and (ii) maintains internal accounting controls which provide reasonable assurance that (A) transactions are executed in accordance with management's authorization, (B) transactions are recorded as necessary to permit preparation of its financial statements and to maintain accountability for its assets, (C) access to its assets is permitted only in accordance with management's authorization and (D) the reported accountability for its assets is compared with existing assets at reasonable intervals.

(ff) Neither the Company nor any director, officer, agent or employee acting on behalf of the Company has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity, (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds, (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977 or (iv) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment.

(gg) No labor disturbance by the employees of the Company exists or, to the knowledge of the Company, is imminent which might be expected to have a Material Adverse Effect.

(hh) The Company is not, and upon the issuance and sale of the Notes as herein contemplated and the application of the net proceeds therefrom as described in the Offering Memorandum will not be, an "investment company" or an entity "controlled" by an "investment company" as such terms are defined in the Investment Company Act of 1940, as amended.

(ii) Assuming the accuracy of the representations and warranties of the Initial Purchasers contained in Section 6 and their compliance with the agreements set forth therein, the Securities will be eligible for resale pursuant to Rule 144A. No securities of the same class (within the meaning of Rule 144A(d)(3) under the Securities Act) as the Notes are listed on any national

securities exchange registered under Section 6 of the Exchange Act or quoted on an automated inter-dealer quotation system.

(jj) None of the Company or any of its Affiliates (as defined in Rule 501(b) of Regulation D under the Securities Act ("Regulation D")) (other than the Initial Purchasers, about which no representation is made by the Company), has, directly or through an agent, engaged or will engage in any form of general solicitation or general advertising in connection with the offering of the Notes (as those terms are used in Regulation D) under the Securities Act or in any manner involving a public offering within the meaning of Section 4(2) of the Securities Act; the Company has not entered into any contractual arrangement with respect to the distribution of the Notes except for this Agreement and the Company will not enter into any such arrangement.

(kk) None of the Company or any of its affiliates (other than the Initial Purchasers, about which no representation is made by the Company), has, directly or through any agent, sold, offered for sale, solicited offers to buy or otherwise negotiated in respect of, any "security" (as defined in the Securities Act) which is or will be integrated with the sale of the Notes in a manner that would require the registration under the Securities Act of the Notes.

(ll) The Company has not taken, directly or indirectly, any action designed to cause or result in, or which has constituted or which might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company in connection with the offering of the Notes.

2. PURCHASE, SALE AND DELIVERY OF NOTES.

(a) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company agrees to sell to each Initial Purchaser, and each Initial Purchaser agrees, severally and not jointly, to purchase from the Company, at a purchase price of 96.875% of the principal amount thereof (the "purchase price") the principal amount of Firm Notes set forth opposite such Initial Purchaser's name in SCHEDULE I hereto (or such number increased as set forth in Section 8).

Delivery of and payment for the Firm Notes shall be made at the office of Brown & Wood LLP, One World Trade Center, New York, New York 10048, at 10:00 a.m. (New York City time) on February 8, 2000, or such later date as the Initial Purchasers shall designate, which date and time may be postponed by agreement between the Initial Purchasers and the Company or as provided in Section 8 (such date and time of delivery and payment for the Firm Notes being herein called the "First Delivery Date"). Delivery of the Firm Notes shall be made to the Initial Purchasers against payment of the purchase price by the Initial Purchasers. Payment for the Firm Notes shall be effected either by wire transfer of immediately available funds to an account with a bank in The City of New York, the account number and the ABA number for such bank to be provided by the Company to the Initial Purchasers at least two business days in advance of the First Delivery Date, or by such other manner of payment as may be agreed by the Company and the Initial Purchasers. It is understood that each Initial Purchaser has authorized the Representatives, for its account, to accept delivery of, issue a receipt for, and make payment of the purchase price for, the Firm Notes that it has agreed to purchase. Merrill Lynch, individually

and not as representative of the Initial Purchasers, may (but shall not be obligated to) make payment of the purchase price for the Firm Notes to be purchased by any Initial Purchaser whose funds have not been received by the First Delivery Date but such payment shall not relieve such Initial Purchaser from its obligations hereunder.

(b) Subject to the terms and conditions and in reliance upon the representations and warranties herein set forth, the Company hereby grants the Option to the Initial Purchasers to purchase, severally and not jointly, the Optional Notes at the same price as the Initial Purchasers shall pay for the Firm Notes and the principal amount of the Optional Notes to be sold to each Initial Purchaser shall be that principal amount which bears the same ratio to the aggregate principal amount of Optional Notes being purchased as the principal amount of Firm Notes set forth opposite the name of such Initial Purchaser in SCHEDULE I hereto (or such number increased as set forth in Section 8). The Option may be exercised only to cover over-allotments in the sale of the Firm Notes by the Initial Purchasers. The Option may be exercised once in whole or in part at any time not more than 30 days subsequent to the date of this Agreement upon notice in writing or by facsimile by the Representatives to the Company setting forth the amount (which shall be an integral multiple of $1,000) of Optional Notes as to which the Initial Purchasers are exercising the Option.

The date for the delivery of and payment for the Optional Notes, being herein referred to as an "Optional Delivery Date", which may be the First Delivery Date (the First Delivery Date and the Optional Delivery Date, if any, being sometimes referred to as a "Delivery Date"), shall be determined by the Initial Purchasers but shall not be later than five full business days after written notice of election to purchase Optional Notes is given. Delivery of the Optional Notes shall be made to the Initial Purchasers against payment of the purchase price by the Initial Purchasers. Payment for the Optional Notes shall be effected either by wire transfer of immediately available funds to an account with a bank in The City of New York, the account number and the ABA number for such bank to be provided by the Company to the Initial Purchasers at least two business days in advance of the Optional Delivery Date, or by such other manner of payment as may be agreed by the Company and the Initial Purchasers. It is understood that each Initial Purchaser has authorized the Representatives, for its account, to accept delivery of, issue a receipt for, and make payment of the purchase price for, the Optional Notes that it has agreed to purchase. Merrill Lynch, individually and not as representative of the Initial Purchasers, may (but shall not be obligated to) make payment of the purchase price for the Optional Notes to be purchased by any Initial Purchaser whose funds have not been received by the Delivery Date but such payment shall not relieve such Initial Purchaser from its obligations hereunder.

(c) The Company will deliver against payment of the purchase price the Notes initially sold to qualified institutional buyers ("QIBs"), as defined in Rule 144A under the Securities Act ("Rule 144A") in the form of one or more permanent global certificates (the "Global Notes"), registered in the name of Cede & Co., as nominee for The Depository Trust Company ("DTC"). Beneficial interests in the Notes initially sold to QIBs will be shown on, and transfers thereof will be effected only through, records maintained in book-entry form by DTC and its participants.

The Global Notes will be made available, at the request of the Initial Purchasers, for checking at least 24 hours prior to such Delivery Date. The Certificated Notes will be made available, at the request of the Initial Purchasers, for checking at least 48 hours prior to such Delivery Date.

(d) Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of the Initial Purchasers hereunder.

3. FURTHER AGREEMENTS OF THE COMPANY. The Company further agrees with each Initial Purchaser as follows:

(a) The Company will advise the Initial Purchasers promptly of any proposal to amend or supplement the Offering Memorandum and not to effect any such amendment or supplement without the consent of the Initial Purchasers and/or Brown & Wood LLP, counsel to the Initial Purchasers. Neither the consent of the Initial Purchasers, nor the Initial Purchaser's delivery of any such amendment or supplement, shall constitute a waiver of any of the conditions set forth in Section 5. The Company will immediately notify each Initial Purchaser, and confirm such notice in writing, of (i) any filing made by the Company of information relating to the offering of the Notes by the Company with any securities exchange or any other regulatory body in the United States or any other jurisdiction, and (ii) prior to the completion of the placement of the Notes by the Initial Purchasers as evidenced by a notice in writing from the Initial Purchasers to the Company, any material changes in or affecting the condition, financial or otherwise, or the earnings, business affairs or business prospects of the Company which (x) make any statement in the Offering Memorandum false or misleading or (y) are not disclosed in the Offering Memorandum. In such event or if during such time any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Offering Memorandum in order that the Offering Memorandum will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at the time it is delivered to a purchaser, not misleading, to promptly notify the Initial Purchasers and/or Brown & Wood LLP, counsel to the Initial Purchasers, and prepare, subject to the first sentence of this Section 3(a), such amendment or supplement as may be necessary to correct such untrue statement or omission.

(b) The Company will furnish to the Initial Purchasers and to Brown & Wood LLP, counsel to the Initial Purchasers, copies of the Preliminary Offering Memorandum and the Offering Memorandum (and all amendments and supplements thereto) in each case as soon as available and in such quantities as the Initial Purchasers reasonably request for internal use and for distribution to prospective purchasers; and to furnish to the Initial Purchasers on the date hereof four copies of the Offering Memorandum signed by duly authorized officers of the Company, one of which will include the independent auditors' reports therein manually signed by such independent auditors. The Company will pay the expenses of printing and distributing to the Initial Purchasers all such documents.

(c) The Company will use its reasonable efforts to take such action as the Initial Purchasers may reasonably request from time to time, to qualify the Notes and the Conversion

Shares for offering and sale under the securities laws of such jurisdictions as the Initial Purchasers may request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions in the United States for as long as may be necessary to complete the resale of the Notes; PROVIDED that in connection therewith, the Company shall not be required to qualify as a foreign corporation or otherwise subject itself to taxation in any jurisdiction in which it is not otherwise so qualified or subject.

(d) The Company will apply the proceeds from the sale of the Notes as set forth under "Use of Proceeds" in the Offering Memorandum.

(e) During a period of 90 days from the date of the Offering Memorandum, the Company will not, and will cause its directors and officers not to, without the prior written consent of Merrill Lynch, (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option right or warrant to purchase or otherwise transfer or dispose of any Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (collectively, the "Restricted Securities") or file any registration statement under the Securities Act with respect to any Restricted Securities, or (ii) enter into any swap or any other agreement or any transaction (other than the Operative Documents) that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of any Restricted Securities, whether any such swap or transaction described in clause (i) or (ii) above is to be settled by delivery of Restricted Securities, in cash or otherwise. The foregoing sentence shall not apply to Authorized Grants, the Old Conversion Shares, the Conversion Shares or the sale of up to $125 million in the aggregate of the Company's Common Stock (as measured on the date of such sales(s)) only (x) in a private placement or (y) in connection with the Company's acquisition of a company not subject to the reporting requirements of the Exchange Act. The Company further agrees not to permit to become effective under the Securities Act during a period of 90 days from the date of the Offering Memorandum a registration statement covering any shares of the Company's Common Stock sold pursuant to a transaction described in clauses (x) and (y) above. The Company further agrees to cause each officer and director of the Company to furnish to the Initial Purchasers, prior to the First Delivery Date, a letter or letters, in form and substance satisfactory to counsel to the Initial Purchasers, pursuant to which each such person shall agree not to enter into any transaction described in clause (i) or (ii) of the first sentence of this paragraph; PROVIDED, HOWEVER, that such restrictions shall not apply to the sale of up to 400,000 shares of Common Stock in the aggregate by all such officers and directors.

(f) The Company agrees that it will not, and will cause its Affiliates (as defined in Rule 501(b) of Regulation D) not to, directly or indirectly, solicit any offer to buy, sell or make any offer or sale of, or otherwise negotiate in respect of, securities of the Company of any class if, as a result of the doctrine of "integration" referred to in Rule 502 under the Securities Act, such offer or sale would render invalid (for the purpose of (i) the sale of the Notes by the Company to the Initial Purchasers, (ii) the resale of the Notes by the Initial Purchasers to subsequent purchasers or (iii) the resale of the Notes or Conversion Shares by such subsequent purchasers to others) the exemption from the registration requirements of the Securities Act provided by Section 4(2) thereof or by Rule 144A thereunder or otherwise. Notwithstanding the

foregoing, no stockholder of the Company that does not control, is not controlled by or is not under common control with, an officer or director of the Company shall be deemed to be an Affiliate for purposes of this paragraph.

(g) For so long as any of the Notes are "restricted securities" within the meaning of Rule 144(a)(3) under the Securities Act, the Company will provide to any holder of the Notes or to any prospective purchaser of the Notes designated by any holder, upon request of such holder or prospective purchaser, information required to be provided by Rule 144A(d)(4) of the Securities Act if, at the time of such request, the Company is not subject to the reporting requirements under Section 13 or 15(d) of the Exchange Act.

(h) Until the expiration of two years after the original issuance of the Notes, the Company will not, and will cause its Affiliates (as defined in Rule 501(b) of Regulation D) not to, resell any Notes or Conversion Shares which are "restricted securities" (as such term is defined under Rule 144(a)(3) under the Securities Act), whether as beneficial owner or otherwise (except as agent acting as a securities broker on behalf of and for the account of customers in the ordinary course of business in unsolicited broker's transactions). Notwithstanding the foregoing, no stockholder of the Company that does not control, is not controlled by or is not under common control with, an officer or director of the Company shall be deemed to be an Affiliate for purposes of this paragraph.

(i) Each of the Notes will bear, to the extent applicable, the legend contained in "Notice to Investors" in the Offering Memorandum for the time period and upon the other terms stated therein, except after the Notes are resold pursuant to a registration statement effective under the Securities Act.

(j) The Company will take such steps as shall be necessary to ensure that it shall not become an "investment company" within the meaning of such term under the Investment Company Act, and the rules and regulations of the Commission thereunder.

(k) None of the Company or any of its affiliates will take, directly or indirectly, any action which is designed to stabilize or manipulate, or which constitutes or which might reasonably be expected to cause or result in stabilization or manipulation, of the price of any security of the Company in connection with the offering of the Notes.

(l) The Company will execute and deliver the Registration Rights Agreement in form and substance satisfactory to the Initial Purchasers.

(m) The Company will use its best efforts to assist the Initial Purchasers in arranging to cause the Notes to be accepted to trade in the PORTAL market ("PORTAL") of the National Association of Securities Dealers, Inc. ("NASD").

(n) The Company will use its best efforts to cause the Notes to be accepted for clearance and settlement through the facilities of DTC.

(o) The Company will use its best efforts to have the Conversion Shares approved by the Nasdaq National Market ("Nasdaq") for inclusion prior to the effectiveness of the Registration Statement.

(p) The Company has not taken, and prior to March 1, 2000 shall not take, directly or indirectly, any action which releases Baxter from or waives any restriction imposed on Baxter with respect to the transfer of shares of Common Stock contained in the Stock Purchase Agreement between Baxter and the Company, dated March 1, 1996, as amended.

4. EXPENSES. The Company agrees to pay:

(a) the costs incident to the authorization, issuance, sale and delivery of the Notes, and any taxes payable in that connection;

(b) the costs incident to the preparation, printing and distribution of the Preliminary Offering Memorandum, the Offering Memorandum and any amendment or supplement to the Offering Memorandum, all as provided in this Agreement;

(c) the costs of producing and distributing the Operative Documents;

(d) the fees and expenses of Cooley Godward LLP and Ernst & Young LLP;

(e) the costs of distributing the terms of agreement relating to the organization of the underwriting syndicate and selling group to the members thereof by mail, telex or other means of communication;

(f) the fees and expenses of qualifying the Notes under the securities laws of the several jurisdictions as provided in Section 3(c);

(g) all costs and expenses incident to (i) the preparation of the "road show" presentation materials and (ii) the road show travelling expenses of the Company;

(h) the costs of preparing the Notes;

(i) all expenses and fees in connection with the application for inclusion of the Notes in the PORTAL market and the inclusion of the Conversion Shares on the NASDAQ;

(j) the fees and expenses (including fees and disbursements of counsel) of the Trustee, and the costs and charges of any registrar, transfer agent, paying agent or conversion agent; and

(k) all other costs and expenses incident to the performance of the obligations of the Company under this Agreement;

PROVIDED that, except as provided in this Section 4 and in Section 7, the Initial Purchasers shall pay their own costs and expenses, including the costs and expenses of their counsel and any transfer taxes on the Notes which they may sell.

5. CONDITIONS OF THE INITIAL PURCHASERS' OBLIGATIONS. The several obligations of the Initial Purchasers hereunder are subject to the accuracy, when made and on each Delivery Date, of the representations and warranties of the Company contained herein, to the performance by the Company of its obligations hereunder, and to each of the following additional terms and conditions:

(a) No Initial Purchaser shall have discovered and disclosed to the Company prior to or on such Delivery Date that the Offering Memorandum or any amendment or supplement thereto contains any untrue statement of a fact which, in the opinion of counsel to the Initial Purchasers, is material or omits to state any fact which is material and necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(b) All corporate proceedings and other legal matters incident to the authorization, form and validity of the Operative Documents and the Offering Memorandum or any amendment or supplement thereto, and all other legal matters relating to the Operative Documents and the transactions contemplated thereby shall be satisfactory in all material respects to counsel to the Initial Purchasers, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(c) Cooley Godward LLP shall have furnished to the Initial Purchasers their written opinion, as counsel to the Company, addressed to the Initial Purchasers and dated such Delivery Date, in form and substance satisfactory to the Initial Purchasers, to the effect that:

(i) The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware, and, based solely on certificates of public officials, is duly qualified to do business and is in good standing as a foreign corporation in each jurisdiction in which its ownership or lease of property or the conduct of its business requires such qualification, except where the failure to be so qualified would not have a material adverse effect on the Company, whether or not arising in the ordinary course of business, and has all corporate power and authority necessary to own or hold its properties and conduct the businesses in which it is engaged, as described in the Offering Memorandum; and, to the knowledge of such counsel, the Company has no subsidiaries;

(ii) the Conversion Shares, which are authorized on the date hereof, have been duly and validly authorized and reserved for issuance upon conversion of the Notes by all necessary corporate action and are free of preemptive rights; all Conversion Shares, when so issued and delivered upon such conversion in accordance with the terms of the Indenture, will be duly and validly authorized and issued, fully paid and nonassessable and free and clear of all liens, encumbrances, equities or claims imposed by or arising from actions of the Company;

(iii) The statements in the Offering Memorandum under the captions "Description of the Notes" and "Description of Capital Stock", insofar as they purport to summarize the provisions of the Indenture, the Registration Rights Agreement, the Notes and the Common Stock (including the Conversion Shares) are accurate and complete in all material

respects to the extent required if such statements were contained in a registration statement on Form S-3 under the Securities Act;

(iv) There is no restriction upon the voting or transfer of, any shares of Common Stock pursuant to the Company's certificate of incorporation or bylaws;

(v) To the knowledge of such counsel and other than as set forth in the Offering Memorandum, there are no legal or governmental proceedings pending to which the Company is a party or of which any property or asset of the Company is the subject which, if determined adversely to the Company might have a material adverse effect on the Company or which might reasonably be expected to materially and adversely affect the consummation of the transactions contemplated by this Agreement or the performance by the Company of its obligations hereunder; to the actual knowledge of such counsel, no such proceedings are overtly threatened or contemplated by governmental authorities or, except as set forth or contemplated in the Offering Memorandum, overtly threatened by others; and, to the actual knowledge of such counsel, the aggregate of all pending legal or governmental proceedings to which the Company is a party or of which any of its property or assets is the subject (other than the Company's patent applications currently pending before the U.S. Patent and Trademark Office or before any foreign governmental authority that administers the registration of patents) which are not described in the Offering Memorandum, including ordinary routine litigation incidental to the business, could not reasonably be expected to result in a material adverse effect on the Company.

(vi) The execution, delivery and performance of this Agreement, the Indenture and the Registration Rights Agreement and the issuance of the Notes and the Conversion Shares and the consummation of the transactions contemplated hereby and thereby do not result in any violation of the provisions of the certificate of incorporation or bylaws of the Company or any statute or any order, rule or regulation known to such counsel of any court or governmental agency or body having jurisdiction over the Company or any of its properties or assets; and, except as may be required by the securities or "blue sky" laws of any state of the United States in connection with the sale of the Notes, no consent, approval, authorization or order of, or filing or registration with, any such court or governmental agency or body is required for the execution, delivery and performance of this Agreement and the Indenture by the Company and the issuance of the Notes and the Conversion Shares and the consummation of the transactions contemplated hereby and thereby;

(vii) No registration of the Notes or the Conversion Shares under the Securities Act, and no qualification of the Indenture or an indenture under the Trust Indenture Act, is required in connection with the offer, sale and delivery of the Notes or in connection with the conversion of the Notes into Conversion Shares, in each case, in the manner contemplated by the Offering Memorandum, this Agreement and the Indenture;

(viii) The statements in the Offering Memorandum under the caption "Certain United States Federal Income Tax Considerations", insofar as they purport to constitute summaries of matters of United States federal income tax law and regulations or legal conclusions with respect thereto, constitute accurate summaries of the matters described therein

in all material respects to the extent required if such statements were contained in a registration statement on Form S-3 under the Securities Act;

(ix) The Company is not an "investment company" within the meaning of the Investment Company Act of 1940, as amended;

(x) The Company has all necessary corporate right, power and authority to execute and deliver each of the Operative Documents to which it is a party and to perform its obligations thereunder and to issue, sell and deliver the Notes and the Conversion Shares to the Initial Purchasers;

(xi) This Agreement has been duly authorized, executed and delivered by the Company;

(xii) The Indenture has been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery thereof by the Trustee, constitutes a legally valid and binding agreement of the Company enforceable against the Company in accordance with its terms except as the enforceability thereof may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, subject to general principles of equity and to limitations on availability of equitable relief, including specific performance (regardless of whether such enforceability is considered in a proceeding in equity or at law) or by an implied covenant of good faith and fair dealing;

(xiii) The Registration Rights Agreement has been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery thereof by the Initial Purchasers, constitutes a valid and legally binding agreement of the Company enforceable against the Company in accordance with its terms except as rights to indemnity contained therein may be limited by applicable law and except as the enforceability thereof may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, subject to general principles of equity and to limitations on availability of equitable relief, including specific performance (regardless of whether such enforceability is considered in a proceeding in equity or at law), by an implied covenant of good faith and fair dealing; and

(xiv) The Notes have been duly authorized by the Company and when executed, issued and authenticated in accordance with terms of the Indenture and delivered to and paid for by the Initial Purchasers, will constitute legally valid and binding obligations of the Company, entitled to the benefits of the Indenture and enforceable against the Company in accordance with their terms except as the enforceability thereof may be limited by bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally, subject to general principles of equity and to limitations on availability of equitable relief, including specific performance (regardless of whether such enforceability is considered in a proceeding in equity or at law) or by an implied covenant of good faith and fair dealing.

In rendering such opinion, such counsel may state that its opinion is limited to matters governed by the federal laws of the United States of America, the laws of the State of New York and the Delaware General Corporation Law and may state that it is relying, in respect of matters of New York law, upon Brown & Wood LLP, and in respect of matters of fact, upon certificates of officers of the Company, PROVIDED that such counsel shall state that it believes that the Initial Purchasers and it are justified in relying upon such certificates. Such counsel shall also have furnished to the Initial Purchasers a written statement, addressed to the Initial Purchasers and dated such Delivery Date, in form and substance satisfactory to the Initial Purchasers, to the effect that during the course of preparing the Offering Memorandum, such counsel participated in conferences with officers and other representatives of the Company, the Company's independent public accountants, the Initial Purchasers and their counsel, at which the contents of the Offering Memorandum were discussed, and while such counsel has not independently verified and is not passing upon the accuracy, completeness or fairness of the statements made in the Offering Memorandum except as explicitly set forth above, no facts have come to the attention of such counsel which lead it to believe that the Offering Memorandum (other than the financial statements, financial and statistical data and supporting schedules as to which such counsel shall make no statement), as of its date or as of such Delivery Date, contained or contains any untrue statement of a material fact or omitted or omits to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(d) Stephen L. Hurst, Esq., General Counsel and Secretary of the Company, shall have furnished to the Initial Purchasers his written opinion, addressed to the Initial Purchasers and dated such Delivery Date, in form and substance satisfactory to the Initial Purchasers, to the effect that:

(i) The authorized, issued and outstanding capital stock of the Company, as of September 30, 1999, is as set forth in the Offering Memorandum under the column entitled "Actual" under the caption "Capitalization", and all of the issued and outstanding shares of capital stock of the Company have been duly and validly authorized and issued, are fully paid and nonassessable;

(ii) Except as disclosed in the Offering Memorandum, there are no preemptive or other rights to subscribe for or to purchase from the Company, or any restriction upon the voting or transfer of, any shares of Common Stock pursuant to any agreement or other instrument to which the Company is a party known to such counsel; the issuance of the Conversion Shares, upon conversion of the Notes in accordance with the terms of the Indenture, will not be subject to the preemptive or other similar rights of any securityholder of the Company and

(iii) The execution, delivery and performance of this Agreement, the Indenture and the Registration Rights Agreement and the issuance of the Notes and the Conversion Shares and the consummation of the transactions contemplated hereby and thereby do not result in a breach or violation of any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument known to

such counsel to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject.

Such counsel shall also have furnished to the Initial Purchasers a written statement, addressed to the Initial Purchasers and dated such Delivery Date, in form and substance satisfactory to the Initial Purchasers, to the effect that he has no reason to believe that the statements under the captions "Risk Factors--Our patents may not protect our products and our products may infringe on third-party patent rights" and "Patents and Proprietary Rights" in the Offering Memorandum, as of its date or as of such Delivery Date, contained or contains any untrue statement of a material fact or omitted or omits to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading.

(e) Brown & Wood LLP, shall have furnished to the Initial Purchasers their written opinion, as counsel to the Initial Purchasers, addressed to the Initial Purchasers and dated such Delivery Date, in form and substance satisfactory to the Initial Purchasers.

(f) With respect to the letter of Ernst & Young LLP delivered to the Initial Purchasers concurrently with the execution of this Agreement (the "initial letter"), the Company shall have furnished to the Initial Purchasers a letter (the "bring-down letter") of such accountants, addressed to the Initial Purchasers and dated such Delivery Date (i) confirming that they are independent accountants within the meaning of the Securities Act and are in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X of the Commission, (ii) stating, as of the date of the bring-down letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the Offering Memorandum, as of a date not more than five days prior to the date of the bring-down letter), the conclusions and findings of such firm with respect to the financial information and other matters covered by the initial letter and (iii) confirming in all material respects the conclusions and findings set forth in the initial letter.

(g) The Company shall have furnished to the Initial Purchasers on such Delivery Date a certificate, dated such Delivery Date and delivered on behalf of the Company by one of its co-chief executive officers and its chief financial officer, in form and substance satisfactory to the Initial Purchasers, to the effect that:

(i) The representations, warranties and agreements of the Company in Section 1 are true and correct as of the date given and as of such Delivery Date; and the Company has complied in all material respects with all its agreements contained herein to be performed prior to or on such Delivery Date;

(ii) (A) The Company has not sustained since the date of the latest audited financial statements included in the Offering Memorandum any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, except (x) as set forth or contemplated in the Offering Memorandum and (y) for operating losses incurred in the ordinary course of business, or (B) since such date there has not been any change in the capital stock or

long-term debt of the Company (except for issuances of shares of Common Stock upon exercise of outstanding options described in the Offering Memorandum or pursuant to Authorized Grants), or any change, or any development involving a prospective change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company, except as set forth or contemplated in the Offering Memorandum; and

(iii) Such officer has carefully examined the Offering Memorandum and, in such officer's opinion (A) the Offering Memorandum, as of its date, did not include any untrue statement of a material fact and did not omit to state any material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, and (B) since the date of the Offering Memorandum, no event has occurred which should have been set forth in a supplement or amendment to the Offering Memorandum.

(h) The Indenture shall have been duly executed and delivered by the Company and the Trustee and the Notes shall have been duly executed and delivered by the Company and duly authenticated by the Trustee.

(i) The Company and the Initial Purchasers shall have executed and delivered the Registration Rights Agreement (in form and substance satisfactory to the Initial Purchasers) and the Registration Rights Agreement shall be in full force and effect.

(j) The NASD shall have accepted the Notes for trading on PORTAL.

(k) (i) The Company shall not have sustained since the date of the latest audited financial statements included in the Offering Memorandum any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, except (A) as set forth or contemplated in the Offering Memorandum and (B) for operating losses incurred in the ordinary course of business, or (ii) since such date there shall not have been any change in the capital stock or long-term debt of the Company (except for issuances of shares of Common Stock upon exercise of outstanding options described in the Offering Memorandum or pursuant to Authorized Grants), or any change, or any development involving a prospective change, in or affecting the general affairs, management, financial position, stockholders' equity or results of operations of the Company, except as set forth or contemplated in the Offering Memorandum, the effect of which, in any such case described in clause (i) or (ii), is, in the reasonable judgment of the Initial Purchasers, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or the delivery of the Notes being delivered on such Delivery Date on the terms and in the manner contemplated in the Offering Memorandum.

(l) The Company shall have furnished to the Initial Purchasers such further information, certificates and documents as the Initial Purchasers may reasonably request to evidence compliance with the conditions set forth in this Section 5.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance satisfactory to counsel to the Initial Purchasers.

If any condition specified in this Section 5 shall not have been fulfilled when and as required to be fulfilled, this Agreement may be terminated by the Representatives by notice to the Company at any time at or prior to the First Delivery Date, and such termination shall be without liability of any party to any other party except as provided in Section 4 and except that Sections 1 and 7 shall survive any such termination and remain in full force and effect.

6. REPRESENTATIONS, WARRANTIES AND AGREEMENTS OF INITIAL PURCHASERS. Each Initial Purchaser, severally and not jointly, represents and warrants that such Initial Purchaser is a QIB. Each Initial Purchaser, severally and not jointly, agrees with the Company that:

(a) The Notes and the Conversion Shares have not been and will not be registered under the Securities Act in connection with the initial offering of the Notes.

(b) Such Initial Purchaser is a QIB;

(c) Such Initial Purchaser will not offer or sell the Notes in the United States by means of any form of general solicitation or general advertising within the meaning of Rule 502(c) of Regulation D, including (i) any advertisement, article, notice or other communication published in any newspaper, magazine or similar medium or broadcast over television or radio, or (ii) any seminar or meeting whose attendees have been invited by any general solicitation or general advertising in the United States; and

(d) Such Initial Purchaser has not offered or sold, and will not offer or sell, any Notes in the United States except to persons whom it reasonably believes to be QIBs.

7. INDEMNIFICATION AND CONTRIBUTION.

(a) The Company shall indemnify and hold harmless each Initial Purchaser, its officers and employees and each person, if any, who controls any Initial Purchaser within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof (including, but not limited to, any loss, claim, damage, liability or action relating to purchases and sales of the Notes), to which that Initial Purchaser, officer, employee or controlling person may become subject:

(i) insofar as such loss, claim, damage, liability or action arises out of, or is based upon: (A) any untrue statement or alleged untrue statement of a material fact contained in (I) any Preliminary Offering Memorandum or the Offering Memorandum, or in any amendment or supplement thereto, or (II) any blue sky application or other document prepared or executed by the Company (or based upon any written information furnished by the Company) filed in any jurisdiction specifically for the purpose of qualifying any or all of the Notes under the securities laws of any state or other jurisdiction (such application, document or information being hereinafter called a "Blue Sky Application"), or (B) the omission or alleged omission to state therein any material fact necessary to make the statements therein not misleading; or

(ii) to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 7(c)) any such settlement is effected with the written consent of the Company,

and shall reimburse each Initial Purchaser and each such officer, employee and controlling person promptly upon demand for any and all expense whatsoever, as incurred (including the fees and disbursements of counsel chosen by Merrill Lynch, except as reimbursement of such fees may be limited by Section 7(c)), reasonably incurred by that Initial Purchaser, officer, employee or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred; PROVIDED, HOWEVER, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of, or is based upon, any untrue statement or alleged untrue statement or omission or alleged omission made in any Preliminary Offering Memorandum or the Offering Memorandum, or in any such amendment or supplement, or in any Blue Sky Application in reliance upon and in conformity with the written information furnished to the Company by or on behalf of any Initial Purchaser specifically for inclusion therein and described in Section 7(e); PROVIDED, FURTHER, that as to any Preliminary Offering Memorandum, this indemnity agreement shall not inure to the benefit of any Initial Purchaser, its officers or employees or any person controlling that Initial Purchaser on account of any loss, claim, damage, liability or action arising from the sale of Notes to any person by that Initial Purchaser if that Initial Purchaser failed to send or give a copy of the Offering Memorandum, as the same may be amended or supplemented, to that person, and the untrue statement or alleged untrue statement of a material fact or omission or alleged omission to state a material fact in such Preliminary Offering Memorandum was corrected in the Offering Memorandum, unless such failure resulted from non-compliance by the Company with Section 3(b). The foregoing indemnity agreement is in addition to any liability which the Company may otherwise have to any Initial Purchaser or to any officer, employee or controlling person of that Initial Purchaser.

(b) Each Initial Purchaser, severally and not jointly, shall indemnify and hold harmless, the Company, its officers and directors, and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof, to which the Company or any such director, officer or controlling person may become subject, insofar as such loss, claim, damage, liability or action arises out of, or is based upon:

(i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Offering Memorandum or the Offering Memorandum or in any amendment or supplement thereto, or in any Blue Sky Application, or

(ii) the omission or alleged omission to state therein any material fact necessary to make the statements therein not misleading,

but in each case only to the extent that such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with the written information furnished to the Company by or on behalf of that Initial Purchaser specifically for inclusion therein and described in Section 7(e), and shall reimburse the Company and any such director, officer or controlling person promptly upon demand for any legal or other expenses reasonably incurred by the Company or any such director, officer or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred. The foregoing indemnity agreement is in addition to any liability which any Initial Purchaser may otherwise have to the Company or any such director, officer or controlling person.

(c) Promptly after receipt by an indemnified party under this Section 7 of notice of any claim or the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under this Section 7, notify the indemnifying party in writing of the claim or the commencement of that action; PROVIDED, HOWEVER, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 7 except to the extent it has been materially prejudiced by such failure and, PROVIDED, FURTHER, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 7. If any such claim or action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense thereof with counsel satisfactory to the indemnified party. After notice from the indemnifying party to the indemnified party of its election to assume the defense of such claim or action, the indemnifying party shall not be liable to the indemnified party under this Section 7 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense thereof other than reasonable costs of investigation; PROVIDED, HOWEVER, that the Initial Purchasers shall have the right to employ counsel to represent jointly the Initial Purchasers and their respective officers, employees and controlling persons who may be subject to liability arising out of any claim in respect of which indemnity may be sought by the Initial Purchasers against the Company under this Section 8, if the Initial Purchasers shall have reasonably concluded that there may be one or more legal defenses available to the Initial Purchasers and their respective officers, employees and controlling persons that are different from or additional to those available to the Company and its officers, employees and controlling persons, the fees and expenses of a single separate counsel shall be paid by the Company. No indemnifying party shall:

(i) without the prior written consent of the indemnified parties (which consent shall not be unreasonably withheld) settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding, or

(ii) be liable for any settlement of any such action effected without its written consent (which consent shall not be unreasonably withheld), but if settled with its written consent or if there be a final judgment of the plaintiff in any such action, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss of liability by reason of such settlement or judgment.

(d) If the indemnification provided for in this Section 7 shall for any reason be unavailable or insufficient to hold harmless an indemnified party under Section 7(a) or 7(b) in respect of any loss, claim, damage or liability, or any action in respect thereof, referred to therein, each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability, or action in respect thereof:

(i) in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Initial Purchasers on the other from the offering of the Notes, or

(ii) if the allocation provided by clause 7(d)(i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause 7(d)(i) but also the relative fault of the Company on the one hand and the Initial Purchasers on the other with respect to the statements or omissions or alleged statements or alleged omissions that resulted in such loss, claim, damage or liability (or action in respect thereof), as well as any other relevant equitable considerations.

The relative benefits received by the Company on the one hand and the Initial Purchasers on the other with respect to such offering shall be deemed to be in the same proportion as the total net proceeds from the offering of the Notes purchased under this Agreement (before deducting expenses) received by the Company on the one hand, and the total discounts and commissions received by the Initial Purchasers with respect to the Notes purchased under this Agreement, on the other hand, bear to the total gross proceeds from the offering of the Notes under this Agreement, in each case as set forth in the table on the cover page of the Offering Memorandum. The relative fault shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Initial Purchasers, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Initial Purchasers agree that it would not be just and equitable if the amount of contributions pursuant to this Section 7(d) were to be determined by PRO RATA allocation (even if the Initial Purchasers were treated as one entity for such purpose) or by any other method of allocation which does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section 7(d) shall be deemed to include, for purposes of this Section 7(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 7(d), no Initial Purchaser shall be required to contribute any amount in excess of the amount by which the total price at which the

Notes resold by it in the initial placement of such Notes were offered to investors exceeds the amount of any damages which such Initial Purchaser has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 7(d), each person, if any, who controls an Initial Purchaser within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act shall have the same rights to contribution as such Initial Purchaser, and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act shall have the same rights to contribution as the Company. The Initial Purchasers' obligations to contribute as provided in this Section 7(d) are several in proportion to their respective purchase obligations and not joint.

(e) The Initial Purchasers severally confirm that the statements (i) with respect to the offering of the Notes set forth on the cover page of the Offering Memorandum, (ii) in the fourth paragraph under "Plan of Distribution", (iii) in the first paragraph under the heading "Plan of Distribution--Commissions and Discounts" in the Offering Memorandum; (iv) in the paragraph under the heading "Plan of Distribution--Notes Are Not Being Registered" in the Offering Memorandum; (v) in the third and fourth sentences of the first paragraph under the heading "Plan of Distribution--New Issue of Notes" in the Offering Memorandum; and (vi) in the first and third sentences of the first paragraph under the heading "Plan of Distribution--Price Stabilization and Short Positions" in the Offering Memorandum are correct and constitute the only information furnished in writing to the Company by or on behalf of the Initial Purchasers specifically for inclusion in the Offering Memorandum.

8. DEFAULTING INITIAL PURCHASERS.

If, on any Delivery Date, any Initial Purchaser defaults in the performance of its obligations under this Agreement, the remaining non-defaulting Initial Purchasers shall be obligated to purchase the aggregate principal amount of Notes which the defaulting Initial Purchaser agreed but failed to purchase on such Delivery Date in the respective proportions which the total aggregate principal amount of Notes set opposite the name of each remaining non-defaulting Initial Purchaser in Schedule 1 hereto bears to the total aggregate principal amount of Notes set opposite the names of all the remaining non-defaulting Initial Purchasers in Schedule 1 hereto; PROVIDED, HOWEVER, that the remaining non-defaulting Initial Purchasers shall not be obligated to purchase any Notes on such Delivery Date if the total aggregate principal amount of Notes which the defaulting Initial Purchasers agreed but failed to purchase on such date exceeds 9.09% of the total aggregate principal amount at maturity of Notes to be purchased on such Delivery Date, and any remaining non-defaulting Initial Purchaser shall not be obligated to purchase more than 110% of the aggregate principal amount at maturity of Notes which it agreed to purchase on such Delivery Date pursuant to the terms of Section 2. If the foregoing maximums are exceeded, the remaining non-defaulting Initial Purchasers, or those other purchasers satisfactory to the Initial Purchasers who so agree, shall have the right, but shall not be obligated, to purchase on such Delivery Date, in such proportion as may be agreed upon among them, the total aggregate principal amount of Notes to be purchased on such Delivery

Date. If the remaining Initial Purchasers or other purchasers satisfactory to the Initial Purchasers do not elect to purchase on such Delivery Date the aggregate principal amount of Notes which the defaulting Initial Purchasers agreed but failed to purchase, this Agreement (or with respect to the Optional Delivery Date, the obligation of the Initial Purchasers to purchase the Optional Notes) shall terminate without liability on the part of any non-defaulting Initial Purchasers and the Company, except that the Company will continue to be liable for the payment of expenses to the extent set forth in Sections 4 and 10. As used in this Agreement, the term "Initial Purchaser" includes, for all purposes of this Agreement unless the context requires otherwise, any party not listed in Schedule 1 hereto who, pursuant to this Section 8, purchases Notes which a defaulting Initial Purchaser agreed but failed to purchase.

Nothing contained herein shall relieve a defaulting Initial Purchaser of any liability it may have to the Company for damages caused by its default. If other purchasers are obligated or agree to purchase the Notes of a defaulting or withdrawing Initial Purchaser, either the remaining non-defaulting Initial Purchasers or the Company may postpone the Delivery Date for up to seven full business days in order to effect any changes in the Offering Memorandum or in any other document or arrangement that, in the opinion of counsel to the Company or counsel to the Initial Purchasers, may be necessary.

9. TERMINATION.

(a) The obligations of the Initial Purchasers hereunder may be terminated by the Initial Purchasers by notice given to and received by the Company prior to delivery of and payment for the Notes if, prior to that time: (i) there has occurred one of the events described in Section 5(L), or (ii) there has occurred any material adverse change in the financial markets in the United States, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the Representatives, impracticable to market the Notes or to enforce contracts for the sale of the Notes, or (iii) trading in any securities of the Company has been suspended or materially limited by the Commission or the Nasdaq National Market, or if trading generally on the American Stock Exchange or the New York Stock Exchange or in The Nasdaq Stock Market has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by such system or by order of the Commission, the National Association of Securities Dealers, Inc. or any other governmental authority, or (iv) a banking moratorium has been declared by either Federal or New York authorities.

(b) If this Agreement is terminated pursuant to this Section 9, such termination shall be without liability of any party to any other party except as provided in Section 10.

10. REIMBURSEMENT OF INITIAL PURCHASERS' EXPENSES. If (a) the Company shall fail to tender the Notes for delivery to the Initial Purchasers for any reason permitted under this Agreement or (b) the Initial Purchasers shall decline to purchase the Notes for any reason permitted under this Agreement (including the termination of this Agreement pursuant to Section 9), the Company

shall reimburse the Initial Purchasers for the fees and expenses of their counsel and for such other out-of-pocket expenses as shall have been incurred by them in connection with this Agreement and the proposed purchase of the Notes, and upon demand the Company shall pay the full amount thereof to the Initial Purchasers. If this Agreement is terminated pursuant to Section 8 by reason of the default of one or more Initial Purchasers, the Company shall not be obligated to reimburse any defaulting Initial Purchaser on account of those expenses.

11. NOTICES, ETC. All statements, requests, notices and agreements hereunder shall be in writing, and:

(a) if to the Initial Purchasers, shall be delivered or sent by mail, telex or facsimile transmission to c/o Merrill Lynch & Co., North Tower, World Financial Center, New York, New York 10281, Attention: Paul A. Pepe (Fax: 212-738-1069); and

(b) if to the Company, shall be delivered or sent by mail, telex or facsimile transmission to Inhale Therapeutic Systems, Inc., 150 Industrial Road, San Carlos, California 94070, Attention: Stephen L. Hurst, Esq. (Fax: 650-631-3150).

PROVIDED, HOWEVER, that any notice to an Initial Purchaser pursuant to Section 7(c) shall be delivered or sent by mail, telex or facsimile transmission to each such Initial Purchaser, which address will be supplied to any other party hereto by Lehman Brothers Inc. upon request. Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof. The Company shall be entitled to act and rely upon any request, consent, notice or agreement given or made on behalf of the Initial Purchasers by Merrill Lynch.

12. PERSONS ENTITLED TO BENEFIT OF AGREEMENT. This Agreement shall inure to the benefit of and be binding upon the Initial Purchasers, the Company and their respective successors. This Agreement and the terms and provisions hereof are for the sole benefit of only those persons, except that the representations, warranties, indemnities and agreements of the Company contained in this Agreement shall also be deemed to be for the benefit of the officers and employees of each Initial Purchaser and the person or persons, if any, who control each Initial Purchaser within the meaning of Section 15 of the Securities Act and any indemnity agreement of the Initial Purchasers contained in Section 7(b) of this Agreement shall be deemed to be for the benefit of directors, officers and employees of the Company, and any person controlling the Company within the meaning of Section 15 of the Securities Act. Nothing contained in this Agreement is intended or shall be construed to give any person, other than the persons referred to in this Section 12, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein.

13. SURVIVAL. The respective indemnities, representations, warranties and agreements of the Company and the Initial Purchasers contained in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement, shall survive the delivery of and payment for the Notes and shall remain in full force and effect, regardless of any termination or cancellation of this Agreement or any investigation made by or on behalf of any of them or any person controlling any of them.

14. DEFINITION OF THE TERMS "BUSINESS DAY" AND "SUBSIDIARY". For purposes of this Agreement, (a) "business day" means any day on which the New York Stock Exchange, Inc. is open for trading and (b) "subsidiary" has the meaning set forth in Rule 405 of the rules and regulations promulgated under the Securities Act.

15. GOVERNING LAW. THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

16. COUNTERPARTS. This Agreement may be executed in one or more counterparts and, if executed in more than one counterpart, the executed counterparts shall each be deemed to be an original but all such counterparts shall together constitute one and the same instrument.

17. HEADINGS. The headings herein are inserted for convenience of reference only and are not intended to be part of, or to affect the meaning or interpretation of, this Agreement.

If the foregoing correctly sets forth the agreement between the Company and the Initial Purchasers, please indicate your acceptance in the space provided for that purpose below.

Very truly yours,

INHALE THERAPEUTIC SYSTEMS, INC.

By:

Name:
Title:

Accepted and agreed by:

MERRILL LYNCH & CO.
MERRILL LYNCH, PIERCE, FENNER & SMITH
INCORPORATED
DEUTSCHE BANK SECURITIES INC.
LEHMAN BROTHERS INC.
U.S. BANCORP PIPER JAFFRAY INC.

By: MERRILL LYNCH, PIERCE, FENNER & SMITH
INCORPORATED

By:

Authorized Representative

SCHEDULE 1

INITIAL PURCHASERS	PRINCIPAL AMOUNT OF FIRM NOTES
Merrill Lynch, Pierce, Fenner & Smith Incorporated	$66,000,000
Deutsche Bank Securities Inc	$66,000,000
Lehman Brothers Inc.	$48,000,000
U.S. Bancorp Piper Jaffray Inc	$20,000,000
Total	$200,000,000

RESALE REGISTRATION RIGHTS AGREEMENT

among

INHALE THERAPEUTIC SYSTEMS, INC.,

MERRILL LYNCH & CO.,
MERRILL LYNCH, PIERCE, FENNER & SMITH INCORPORATED

DEUTSCHE BANK SECURITIES INC.

LEHMAN BROTHERS INC.

and

U.S. BANCORP PIPER JAFFRAY INC.

Dated as of February 8, 2000

Resale Registration Rights Agreement (the "Agreement"), dated as of February 8, 2000 among Inhale Therapeutic Systems, Inc., a Delaware corporation (together with any successor entity, herein referred to as the "Issuer"), Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Deutsche Bank Securities Inc., Lehman Brothers Inc., and U.S. Bancorp Piper Jaffray Inc. (collectively, the "Initial Purchasers").

Pursuant to the Purchase Agreement, dated February 2, 2000, between the Issuer and the Initial Purchasers (the "Purchase Agreement"), the Initial Purchasers have agreed to purchase from the Issuer up to $200,000,000 ($230,000,000 if the Initial Purchasers exercise the over-allotment option in full) in aggregate principal amount of 5% Convertible Subordinated Notes due 2007 (the "Notes"). The Notes will be convertible into fully paid, nonassessable common stock, par value $.0001 per share, of the Issuer (the "Common Stock") on the terms, and subject to the conditions, set forth in the Indenture (as defined herein). To induce the Initial Purchasers to purchase the Notes, the Issuer has agreed to provide the registration rights set forth in this Agreement pursuant to Section 3(l) of the Purchase Agreement.

The parties hereby agree as follows:

1. DEFINITIONS. As used in this Agreement, the following capitalized terms shall have the following meanings:

ADVICE: As defined in Section 4(c)(ii) hereof.

AGREEMENT: As defined in the preamble hereto.

BLUE SKY APPLICATION: As defined in Section 6(a) hereof.

BROKER-DEALER: Any broker or dealer registered under the Exchange Act.

BUSINESS DAY: A day other than a Saturday or Sunday or any federal holiday in the United States.

CLOSING DATE: The date of this Agreement.

COMMISSION: Securities and Exchange Commission.

COMMON STOCK: As defined in the preamble hereto.

DAMAGES PAYMENT DATE: Each Interest Payment Date. For purposes of this Agreement, if no Notes are outstanding, "Damages Payment Date" shall mean each February 8 and August 8.

EFFECTIVENESS PERIOD: As defined in Section 2(a)(iii) hereof.

EFFECTIVENESS TARGET DATE: As defined in Section 2(a)(ii) hereof.

EXCHANGE ACT: Securities Exchange Act of 1934, as amended.

HOLDER: A Person who owns, beneficially or otherwise, Transfer Restricted Securities.

INDEMNIFIED HOLDER: As defined in Section 6(a) hereof.

INDENTURE: The Indenture, dated as of February 8, 2000, between the Issuer and Chase Manhattan Bank and Trust Company, National Association, as trustee (the "Trustee"), pursuant to which the Notes are to be issued, as such Indenture is amended, modified or supplemented from time to time in accordance with the terms thereof.

INITIAL PURCHASERS: As defined in the preamble hereto.

INTEREST PAYMENT DATE: As defined in the Indenture.

ISSUER: As defined in the preamble hereto.

LIQUIDATED DAMAGES: As defined in Section 3(a) hereof.

MAJORITY OF HOLDERS: Holders holding over 50% of the aggregate principal amount of Notes outstanding; provided that, for purpose of this definition, a holder of shares of Common Stock which constitute Transfer Restricted Securities and were issued upon conversion of the Notes shall be deemed to hold an aggregate principal amount of Notes (in addition to the aggregate principal amount of Notes held by such holder) equal to the aggregate principal amount of Notes converted by such Holder into such shares of Common Stock.

NASD: National Association of Securities Dealers, Inc.

NOTES: As defined in the preamble hereto.

PERSON: An individual, partnership, corporation, unincorporated organization, trust, joint venture or a government or agency or political subdivision thereof.

PROSPECTUS: The prospectus included in a Shelf Registration Statement, as amended or supplemented by any prospectus supplement and by all other amendments thereto, including post-effective amendments, and all material incorporated by reference into such Prospectus.

QUESTIONNAIRE DEADLINE: As defined in Section 2(b) hereof.

RECORD HOLDER: With respect to any Damages Payment Date, each Person who is a Holder on the record date with respect to the Interest Payment Date on which such Damages Payment Date shall occur. In the case of a Holder of shares of Common Stock issued upon conversion of the Notes, "Record Holder" shall mean each Person who is a Holder of shares of Common Stock which constitute Transfer Restricted Securities on the January 24 or July 24 immediately preceding the Damages Payment Date.

REGISTRATION DEFAULT: As defined in Section 3(a) hereof.

SALE NOTICE: As defined in Section 4(e) hereof.

SECURITIES ACT: Securities Act of 1933, as amended.

SHELF FILING DEADLINE: As defined in Section 2(a)(i) hereof.

SHELF REGISTRATION STATEMENT: As defined in Section 2(a)(i) hereof.

SUSPENSION PERIOD. As defined in Section 4(b)(i) hereof.

TIA: Trust Indenture Act of 1939, as in effect on the date the Indenture is qualified under the TIA.

TRANSFER RESTRICTED SECURITIES: Each Note and each share of Common Stock issued upon conversion of Notes until the earlier of:

(i) the date on which such Note or such share of Common Stock issued upon conversion has been effectively registered under the Securities Act and disposed of in accordance with the Shelf Registration Statement;

(ii) the date on which such Note or such share of Common Stock issued upon conversion is transferred in compliance with Rule 144 under the Securities Act or may be sold or transferred pursuant to Rule 144 under the Securities Act (or any other similar provision then in force); or

(iii) the date on which such Note or such share of Common Stock issued upon conversion ceases to be outstanding (whether as a result of redemption, repurchase and cancellation, conversion or otherwise).

UNDERWRITTEN REGISTRATION OR UNDERWRITTEN OFFERING: A registration in which securities of the Issuer are sold to an underwriter for reoffering to the public.

2. SHELF REGISTRATION.

(a) The Issuer shall:

(i) not later than 90 days after the date hereof (the "Shelf Filing Deadline"), cause to be filed a registration statement pursuant to Rule 415 under the Securities Act (the "Shelf Registration Statement"), which Shelf Registration Statement shall provide for resales of all Transfer Restricted Securities held by Holders that have provided the information required pursuant to the terms of Section 2(b) hereof;

(ii) use its best efforts to cause the Shelf Registration Statement to be declared effective by the Commission as promptly as reasonably practicable, but in no event later than 180 days after the date hereof (the "Effectiveness Target Date"); and

(iii) use its best efforts to keep the Shelf Registration Statement continuously effective, supplemented and amended as required by the provisions of Section 4(b) hereof to the extent necessary to ensure that (A) it is available for resales by the Holders of Transfer Restricted Securities entitled to the benefit of this Agreement and (B) conforms with the requirements of this Agreement and the Securities Act and the rules and regulations of the Commission promulgated thereunder as announced from time to time for a period (the "Effectiveness Period") of:

(1) two years following the last date of original issuance of Notes; or

(2) such shorter period that will terminate when (x) all of the Holders of Transfer Restricted Securities are able to sell all Transfer Restricted Securities immediately without restriction pursuant to Rule 144(k) under the Securities Act or any successor rule thereto, (y) when all Transfer Restricted Securities have ceased to be outstanding (whether as a result of redemption, repurchase and cancellation, conversion or otherwise) or (z) all Transfer Restricted Securities registered under the Shelf Registration Statement have been sold.

(b) No Holder of Transfer Restricted Securities may include any of its Transfer Restricted Securities in the Shelf Registration Statement pursuant to this Agreement unless such Holder furnishes to the Issuer in writing, prior to or on the 20th Business Day after receipt of a request therefor (the "Questionnaire Deadline"), such information as the Issuer may reasonably request for use in connection with the Shelf Registration Statement or the Prospectus or preliminary Prospectus included therein and in any application to be filed with or under state securities laws. In connection with all such requests for information from Holders of Transfer Restricted Securities, the Issuer shall notify such Holders of the requirements set forth in the preceding sentence. No Holder of Transfer Restricted Securities shall be entitled to Liquidated Damages pursuant to Section 3 hereof unless such Holder shall have provided all such reasonably requested information prior to or on the Questionnaire Deadline. Each Holder as to which the Shelf Registration Statement is being effected agrees to furnish promptly to the Issuer all information required to be disclosed in order to make information previously furnished to the Issuer by such Holder not materially misleading.

3. LIQUIDATED DAMAGES.

(a) If:

(i) the Shelf Registration Statement is not filed with the Commission prior to or on the Shelf Filing Deadline;

(ii) the Shelf Registration Statement has not been declared effective by the Commission prior to or on the Effective Target Date;

(iii) subject to the provisions of Section 4(b)(i) hereof, the Shelf Registration Statement is filed and declared effective but, during the Effectiveness Period, shall thereafter cease to be effective or fail to be usable for its intended purpose without being succeeded within five Business Days by a post-effective amendment to the Shelf Registration Statement or a report filed with the Commission pursuant to Section 13(a),

13(c), 14 or 15(d) of the Exchange Act that cures such failure and, in the case of a post-effective amendment, is itself immediately declared effective; or

(iv) prior to or on the 45th or 60th day, as the case may be, of any Suspension Period, such suspension has not been terminated,

(each such event referred to in foregoing clauses (i) through (iv), a "Registration Default"), the Issuer hereby agrees to pay liquidated damages ("Liquidated Damages") with respect to the Transfer Restricted Securities from and including the day following the Registration Default to but excluding the day on which the Registration Default has been cured:

(A) in respect of the Notes, to each holder of Notes, (x) with respect to the first 90-day period during which a Registration Default shall have occurred and be continuing, in an amount per year equal to an additional 0.25% of the principal amount of the Notes, and (y) with respect to the period commencing on the 91st day following the day the Registration Default shall have occurred and be continuing, in an amount per year equal to an additional 0.50% of the principal amount of the Notes; provided that in no event shall Liquidated Damages accrue at a rate per year exceeding 0.50% of the principal amount of the Notes; and

(B) in respect of any shares of Common Stock, to each holder of shares of Common Stock issued upon conversion of Notes, (x) with respect to the first 90-day period in which a Registration Default shall have occurred and be continuing, in an amount per year equal to 0.25% of the principal amount of the converted Notes, and (y) with respect to the period commencing the 91st day following the day the Registration Default shall have occurred and be continuing, in an amount per year equal to 0.50% of the principal amount of the converted Notes; provided that in no event shall Liquidated Damages accrue at a rate per year exceeding 0.50% of the principal amount of the converted Notes.

(b) All accrued Liquidated Damages shall be paid in arrears to Record Holders by the Issuer on each Damages Payment Date by wire transfer of immediately available funds or by federal funds check. Following the cure of all Registration Defaults relating to any particular Note or share of Common Stock, the accrual of Liquidated Damages with respect to such Note or share of Common Stock will cease.

All obligations of the Issuer set forth in this Section 3 that are outstanding with respect to any Transfer Restricted Security at the time such security ceases to be a Transfer Restricted Security shall survive until such time as all such obligations with respect to such Transfer Restricted Security shall have been satisfied in full.

The Liquidated Damages set forth above shall be the exclusive monetary remedy available to the Holders of Transfer Restricted Securities for such Registration Default.

4. REGISTRATION PROCEDURES.

(a) In connection with the Shelf Registration Statement, the Issuer shall comply with all the provisions of Section 4(b) hereof and shall use its best efforts to effect such registration to permit the sale of the Transfer Restricted Securities being sold in accordance with the intended method or methods of distribution thereof, and pursuant thereto, shall as expeditiously as possible prepare and file with the Commission a Shelf Registration Statement relating to the registration on any appropriate form under the Securities Act.

(b) In connection with the Shelf Registration Statement and any Prospectus required by this Agreement to permit the sale or resale of Transfer Restricted Securities, the Issuer shall:

(i) Subject to any notice by the Issuer in accordance with this Section 4(b) of the existence of any fact or event of the kind described in Section 4(b)(iii)(D), use its best efforts to keep the Shelf Registration Statement continuously effective during the Effectiveness Period; upon the occurrence of any event that would cause the Shelf Registration Statement or the Prospectus contained therein (A) to contain a material misstatement or omission or (B) not be effective and usable for resale of Transfer Restricted Securities during the Effectiveness Period, the Issuer shall file promptly an appropriate amendment to the Shelf Registration Statement or a report filed with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, in the case of clause (A), correcting any such misstatement or omission, and, in the case of either clause (A) or (B), use its best efforts to cause such amendment to be declared effective and the Shelf Registration Statement and the related Prospectus to become usable for their intended purposes as soon as practicable thereafter. Notwithstanding the foregoing, the Issuer may suspend the effectiveness of the Shelf Registration Statement by written notice to the Holders for a period not to exceed an aggregate of 45 days in any 90-day period (each such period, a "Suspension Period") if:

(x) an event occurs and is continuing as a result of which the Shelf Registration Statement would, in the Issuer's reasonable judgment, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and

(y) the Issuer reasonably determines that the disclosure of such event at such time would have a material adverse effect on the business of the Issuer (and its subsidiaries, if any, taken as a whole);

PROVIDED that in the event the disclosure relates to a previously undisclosed proposed or pending material business transaction, the disclosure of which would impede the Issuer's ability to consummate such transaction, the Issuer may extend a Suspension Period from 45 days to 60 days; provided, however, that Suspension Periods shall not exceed an aggregate of 90 days in any 360-day period.

(ii) Prepare and file with the Commission such amendments and post-effective amendments to the Shelf Registration Statement as may be necessary to keep the Shelf Registration Statement effective during the Effectiveness Period; cause the Prospectus to be supplemented by any required Prospectus supplement, and as so supplemented to be filed pursuant to Rule 424 under the Securities Act, and to comply fully with the

applicable provisions of Rules 424 and 430A under the Securities Act in a timely manner; and comply with the provisions of the Securities Act with respect to the disposition of all securities covered by the Shelf Registration Statement during the applicable period in accordance with the intended method or methods of distribution by the sellers thereof set forth in the Shelf Registration Statement or supplement to the Prospectus.

(iii) Advise the underwriter(s), if any, and selling Holders promptly (but in any event within five Business Days) and, if requested by such Persons, to confirm such advice in writing:

(A) when the Prospectus or any Prospectus supplement or post-effective amendment has been filed, and, with respect to the Shelf Registration Statement or any post-effective amendment thereto, when the same has become effective,

(B) of any request by the Commission for amendments to the Shelf Registration Statement or amendments or supplements to the Prospectus or for additional information relating thereto,

(C) of the issuance by the Commission of any stop order suspending the effectiveness of the Shelf Registration Statement under the Securities Act or of the suspension by any state securities commission of the qualification of the Transfer Restricted Securities for offering or sale in any jurisdiction, or the initiation of any proceeding for any of the preceding purposes, or

(D) of the existence of any fact or the happening of any event, during the Effectiveness Period, that makes any statement of a material fact made in the Shelf Registration Statement, the Prospectus, any amendment or supplement thereto, or any document incorporated by reference therein untrue, or that requires the making of any additions to or changes in the Shelf Registration Statement or the Prospectus in order to make the statements therein not misleading.

If at any time the Commission shall issue any stop order suspending the effectiveness of the Shelf Registration Statement, or any state securities commission or other regulatory authority shall issue an order suspending the qualification or exemption from qualification of the Transfer Restricted Securities under state securities or Blue Sky laws, the Issuer shall use its reasonable best efforts to obtain the withdrawal or lifting of such order at the earliest possible time.

(iv) Furnish to each of the selling Holders and each of the underwriter(s), if any, before filing with the Commission, a copy of the Shelf Registration Statement and copies of any Prospectus included therein or any amendments or supplements to the Shelf Registration Statement or Prospectus (other than documents incorporated by reference after the initial filing of the Shelf Registration Statement), which documents will be subject to the review of such holders and underwriter(s), if any, for a period of at least ten Business Days, and the Issuer will not file any Shelf Registration Statement or Prospectus or any amendment or supplement to the Shelf Registration Statement or Prospectus (other than documents incorporated by reference) to which a selling Holder of Transfer

Restricted Securities covered by the Shelf Registration Statement or the underwriter(s), if any, shall reasonably object within five Business Days after the receipt thereof. A selling Holder or underwriter, if any, shall be deemed to have reasonably objected to such filing if the Shelf Registration Statement, amendment, Prospectus or supplement, as applicable, as proposed to be filed, contains a material misstatement or omission. Notwithstanding the foregoing, the Issuer shall not be required to furnish the selling Holders with any amendment or supplement to the Shelf Registration Statement or Prospectus filed solely to reflect changes to the amount of Notes held by any particular Holder at the request of such Holder or immaterial revisions to the information contained therein.

(v) Make available at reasonable times for inspection by one or more representatives of the selling Holders, designated in writing by a Majority of Holders whose Transfer Restricted Securities are included in the Shelf Registration Statement, any underwriter participating in any distribution pursuant to the Shelf Registration Statement, and any attorney or accountant retained by such selling Holders or any of the underwriter(s), all financial and other records, pertinent corporate documents and properties of the Issuer as shall be reasonably necessary to enable them to exercise any applicable due diligence responsibilities, and cause the Issuer's officers, directors, managers and employees to supply all information reasonably requested by any such representative or representatives of the selling Holders, underwriter, attorney or accountant in connection with the Shelf Registration Statement after the filing thereof and before its effectiveness; provided, however, that any information designated by the Company as confidential at the time of delivery of such information shall be kept confidential by the recipient thereof.

(vi) If requested by any selling Holders or the underwriter(s), if any, promptly incorporate in the Shelf Registration Statement or Prospectus, pursuant to a supplement or post-effective amendment if necessary, such information as such selling Holders and underwriter(s), if any, may reasonably request to have included therein, including, without limitation: (1) information relating to the "Plan of Distribution" of the Transfer Restricted Securities, (2) information with respect to the principal amount of Notes or number of shares of Common Stock being sold to such underwriter(s), (3) the purchase price being paid therefor and (4) any other terms of the offering of the Transfer Restricted Securities to be sold in such offering; and make all required filings of such Prospectus supplement or post-effective amendment as soon as reasonably practicable after the Issuer is notified of the matters to be incorporated in such Prospectus supplement or post-effective amendment. Notwithstanding the foregoing, following the effective date of the Shelf Registration Statement, the Issuer shall not be required to file more than one such supplement or post-effective amendment to reflect changes in the amount of Notes held by any particular Holder at the request of such Holder in any 30-day period.

(vii) Furnish to each selling Holder and each of the underwriter(s), if any, without charge, at least one copy of the Shelf Registration Statement, as first filed with the Commission, and of each amendment thereto (and any documents incorporated by reference therein or exhibits thereto (or exhibits incorporated in such exhibits by reference) as such Person may request).

(viii) Deliver to each selling Holder and each of the underwriter(s), if any, without charge, as many copies of the Prospectus (including each preliminary prospectus) and any amendment or supplement thereto as such Persons reasonably may request; subject to any notice by the Issuer in accordance with this Section 4(b) of the existence of any fact or event of the kind described in Section 4(b)(iii)(D), the Issuer hereby consents to the use of the Prospectus and any amendment or supplement thereto by each of the selling Holders and each of the underwriter(s), if any, in connection with the offering and the sale of the Transfer Restricted Securities covered by the Prospectus or any amendment or supplement thereto.

(ix) If an underwriting agreement is entered into and the registration is an Underwritten Registration, the Issuer shall:

(A) upon request, furnish to each selling Holder and each underwriter, if any, in such substance and scope as they may reasonably request and as are customarily made by issuers to underwriters in primary underwritten offerings, upon the date of closing of any sale of Transfer Restricted Securities in an Underwritten Registration:

(1) a certificate, dated the date of such closing, signed by the Chief Financial Officer of the Issuer confirming, as of the date thereof, the matters set forth in Section 5(g) of the Purchase Agreement and such other matters as such parties may reasonably request;

(2) opinions, each dated the date of such closing, of counsel to the Issuer covering such of the matters set forth in Sections 5(c) and 5(d) of the Purchase Agreement as are customarily covered in legal opinions to underwriters in connection with primary underwritten offerings of securities; and

(3) customary comfort letters, dated the date of such closing, from the Issuer's independent certified public accountants (and from any other accountants whose report is contained or incorporated by reference in the Shelf Registration Statement), in the customary form and covering matters of the type customarily covered in comfort letters to underwriters in connection with primary underwritten offerings of securities;

(B) set forth in full in the underwriting agreement, if any, indemnification provisions and procedures which provide rights no less protective than those set forth in Section 6 hereof with respect to all parties to be indemnified; and

(C) deliver such other documents and certificates as may be reasonably requested by such parties to evidence compliance with clause (A) above and with any customary conditions contained in the underwriting agreement or other agreement entered into by the selling Holders pursuant to this clause (ix).

(x) Before any public offering of Transfer Restricted Securities, cooperate with the selling Holders, the underwriter(s), if any, and their respective counsel in connection with the registration and qualification of the Transfer Restricted Securities under the securities or Blue Sky laws of such jurisdictions as the selling Holders or underwriter(s), if any, may reasonably request and do any and all other acts or things necessary or advisable to enable the disposition in such jurisdictions of the Transfer Restricted Securities covered by the Shelf Registration Statement; provided, however, that the Issuer shall not be required (A) to register or qualify as a foreign corporation or a dealer of securities where it is not now so qualified or to take any action that would subject it to the service of process in any jurisdiction where it is not now so subject or (B) to subject themselves to taxation in any such jurisdiction if they are not now so subject.

(xi) Cooperate with the selling Holders and the underwriter(s), if any, to facilitate the timely preparation and delivery of certificates representing Transfer Restricted Securities to be sold and not bearing any restrictive legends (unless required by applicable securities laws); and enable such Transfer Restricted Securities to be in such denominations and registered in such names as the Holders or the underwriter(s), if any, may request at least two Business Days before any sale of Transfer Restricted Securities made by such underwriter(s).

(xii) Use its best efforts to cause the Transfer Restricted Securities covered by the Shelf Registration Statement to be registered with or approved by such other U.S. governmental agencies or authorities as may be necessary to enable the seller or sellers thereof or the underwriter(s), if any, to consummate the disposition of such Transfer Restricted Securities.

(xiii) Subject to Section 4(b)(i) hereof, if any fact or event contemplated by Section 4(b)(iii)(D) hereof shall exist or have occurred, use its reasonable best efforts to prepare a supplement or post-effective amendment to the Shelf Registration Statement or related Prospectus or any document incorporated therein by reference or file any other required document so that, as thereafter delivered to the purchasers of Transfer Restricted Securities, the Prospectus will not contain an untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading.

(xiv) Provide CUSIP numbers for all Transfer Restricted Securities not later than the effective date of the Shelf Registration Statement and provide the Trustee under the Indenture with certificates for the Notes that are in a form eligible for deposit with The Depository Trust Company.

(xv) Cooperate and assist in any filings required to be made with the NASD and in the performance of any due diligence investigation by any underwriter that is required to be retained in accordance with the rules and regulations of the NASD.

(xvi) Otherwise use its best efforts to comply with all applicable rules and regulations of the Commission and all reporting requirements under the rules and regulations of the Exchange Act.

(xvii) Cause the Indenture to be qualified under the TIA not later than the effective date of the Shelf Registration Statement required by this Agreement, and, in connection therewith, cooperate with the trustee and the holders of Notes to effect such changes to the Indenture as may be required for such Indenture to be so qualified in accordance with the terms of the TIA; and execute and use its best efforts to cause the trustee thereunder to execute all documents that may be required to effect such changes and all other forms and documents required to be filed with the Commission to enable such Indenture to be so qualified in a timely manner.

(xviii) Cause all Transfer Restricted Securities covered by the Shelf Registration Statement to be listed or quoted, as the case may be, on each securities exchange or automated quotation system on which similar securities issued by the Issuer are then listed or quoted.

(xix) Provide promptly to each Holder upon written request each document filed with the Commission pursuant to the requirements of Section 13 and Section 15 of the Exchange Act after the effective date of the Shelf Registration Statement.

(xx) If requested by the underwriters, make appropriate officers of the Issuer available to the underwriters for meetings with prospective purchasers of the Transfer Restricted Securities and prepare and present to potential investors customary "road show" material in a manner consistent with other new issuances of other securities similar to the Transfer Restricted Securities.

(c) Each Holder agrees by acquisition of a Transfer Restricted Security that, upon receipt of any notice from the Issuer of the existence of any fact of the kind described in Section 4(b)(iii)(D) hereof, such Holder will, and will use its reasonable best efforts to cause any underwriter(s) in an Underwritten Offering to, forthwith discontinue disposition of Transfer Restricted Securities pursuant to the Shelf Registration Statement until:

(i) such Holder has received copies of the supplemented or amended Prospectus contemplated by Section 4(b)(xiii) hereof; or

(ii) such Holder is advised in writing (the "Advice") by the Issuer that the use of the Prospectus may be resumed, and has received copies of any additional or supplemental filings that are incorporated by reference in the Prospectus.

If so directed by the Issuer, each Holder will deliver to the Issuer (at the Issuer's expense) all copies, other than permanent file copies then in such Holder's possession, of the Prospectus covering such Transfer Restricted Securities that was current at the time of receipt of such notice of suspension.

(d) Each Holder who intends to be named as a selling Holder in the Shelf Registration Statement shall furnish to the Issuer in writing, within 20 Business Days after receipt of a request therefor as set forth in a questionnaire, such information regarding such Holder and the proposed distribution by such Holder of its Transfer Restricted Securities as the Issuer may reasonably request for use in connection with the Shelf Registration Statement or Prospectus or preliminary

Prospectus included therein. (The form of the questionnaire is attached hereto as Exhibit A.) Holders that do not complete the questionnaire and deliver it to the Issuer shall not be named as selling securityholders in the Prospectus or preliminary Prospectus included in the Shelf Registration Statement and therefore shall not be permitted to sell any Transfer Restricted Securities pursuant to the Shelf Registration Statement. Each Holder who intends to be named as a selling Holder in the Shelf Registration Statement shall promptly furnish to the Issuer in writing such other information as the Issuer may from time to time reasonably request in writing.

(e) Upon the effectiveness of the Shelf Registration Statement, each Holder shall notify the Issuer at least three Business Days prior to any intended distribution of Transfer Restricted Securities pursuant to the Shelf Registration Statement (a "Sale Notice"), which notice shall be effective for five Business Days. Each Holder of this Security, by accepting the same, agrees to hold any communication by the Company in response to a Sale Notice in confidence.

5. REGISTRATION EXPENSES.

(a) All expenses incident to the Issuer's performance of or compliance with this Agreement shall be borne by the Issuer regardless of whether a Shelf Registration Statement becomes effective, including, without limitation:

(i) all registration and filing fees and expenses (including filings made by any Initial Purchasers or Holders with the NASD);

(ii) all fees and expenses of compliance with federal securities and state Blue Sky or securities laws;

(iii) all expenses of printing (including printing of Prospectuses and certificates for the Common Stock to be issued upon conversion of the Notes), messenger and delivery services and telephone;

(iv) all fees and disbursements of counsel to the Issuer and, subject to Section 5(b) below, the Holders of Transfer Restricted Securities;

(v) all application and filing fees in connection with listing (or authorizing for quotation) the Common Stock on a national securities exchange or automated quotation system pursuant to the requirements hereof; and

(vi) all fees and disbursements of independent certified public accountants of the Issuer (including the expenses of any special audit and comfort letters required by or incident to such performance).

The Issuer shall bear its internal expenses (including, without limitation, all salaries and expenses of their officers and employees performing legal, accounting or other duties), the expenses of any annual audit and the fees and expenses of any Person, including special experts, retained by the Issuer.

(b) In connection with the Shelf Registration Statement required by this Agreement, the Issuer shall reimburse the Initial Purchasers and the Holders of Transfer Restricted Securities

being registered pursuant to the Shelf Registration Statement, as applicable, for the reasonable fees and disbursements of not more than one counsel, which shall be Brown & Wood LLP, or such other counsel as may be chosen by a Majority of Holders for whose benefit the Shelf Registration Statement is being prepared.

6. INDEMNIFICATION AND CONTRIBUTION.

(a) The Issuer shall indemnify and hold harmless each Holder, such Holder's officers and employees and each person, if any, who controls such Holder within the meaning of the Securities Act (each, an "Indemnified Holder"), from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof (including, but not limited to, any loss, claim, damage, liability or action relating to resales of the Transfer Restricted Securities), to which such Indemnified Holder may become subject, insofar as any such loss, claim, damage, liability or action arises out of, or is based upon:

(i) any untrue statement or alleged untrue statement of a material fact contained in (A) the Shelf Registration Statement or Prospectus or any amendment or supplement thereto or (B) any blue sky application or other document or any amendment or supplement thereto prepared or executed by the Issuer (or based upon written information furnished by or on behalf of the Issuer expressly for use in such blue sky application or other document or amendment on supplement) filed in any jurisdiction specifically for the purpose of qualifying any or all of the Transfer Restricted Securities under the securities law of any state or other jurisdiction (such application or document being hereinafter called a "Blue Sky Application"); or

(ii) the omission or alleged omission to state therein any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading,

and shall reimburse each Indemnified Holder promptly upon demand for any legal or other expenses reasonably incurred by such Indemnified Holder in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred; provided, however, that the Issuer shall not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of, or is based upon, any untrue statement or alleged untrue statement or omission or alleged omission made in the Shelf Registration Statement or Prospectus or amendment or supplement thereto or Blue Sky Application in reliance upon and in conformity with written information furnished to the Issuer by or on behalf of any Holder (or its related Indemnified Holder) specifically for use therein. The foregoing indemnity agreement is in addition to any liability which the Issuer may otherwise have to any Indemnified Holder.

(b) Each Holder, severally and not jointly, shall indemnify and hold harmless the Issuer, its officers and employees and each person, if any, who controls the Issuer within the meaning of the Securities Act, from and against any loss, claim, damage or liability, joint or several, or any action in respect thereof, to which the Issuer or any such officer, employee or controlling person may become subject, insofar as any such loss, claim, damage or liability or action arises out of, or is based upon:

(i) any untrue statement or alleged untrue statement of any material fact contained in the Shelf Registration Statement or Prospectus or any amendment or supplement thereto or any Blue Sky Application; or

(ii) the omission or the alleged omission to state therein any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading,

but in each case only to the extent that such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Issuer by or on behalf of such Holder (or its related Indemnified Holder) specifically for use therein, and shall reimburse the Issuer and any such officer, employee or controlling person promptly upon demand for any legal or other expenses reasonably incurred by the Issuer or any such officer, employee or controlling person in connection with investigating or defending or preparing to defend against any such loss, claim, damage, liability or action as such expenses are incurred. The foregoing indemnity agreement is in addition to any liability which any Holder may otherwise have to the Issuer and any such officer, employee or controlling person.

(c) Promptly after receipt by an indemnified party under this Section 6 of notice of any claim or the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under this Section 6, notify the indemnifying party in writing of the claim or the commencement of that action; provided, however, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 6 except to the extent it has been materially prejudiced by such failure and, provided, further, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 6. If any such claim or action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense thereof with counsel satisfactory to the indemnified party. After notice from the indemnifying party to the indemnified party of its election to assume the defense of such claim or action, the indemnifying party shall not be liable to the indemnified party under this Section 6 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense thereof other than reasonable costs of investigation; provided, however, that a Majority of Holders shall have the right to employ a single counsel to represent jointly a Majority of Holders and their respective officers, employees and controlling persons who may be subject to liability arising out of any claim in respect of which indemnity may be sought by a Majority of Holders against the Issuer under this Section 6, if a Majority of Holders shall have reasonably concluded that there may be one or more legal defenses available to them and their respective officers, employees and controling persons that are different from or additional to those available to the Issuer and its officers, employees and controlling persons, the fees and expenses of a single separate counsel shall be paid by the Issuer. No indemnifying party shall:

(i) without the prior written consent of the indemnified parties (which consent shall not be unreasonably withheld) settle or compromise or consent to the entry of any judgment with respect to any pending or threatened claim, action, suit or proceeding in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified parties are actual or potential parties to such claim or action) unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising out of such claim, action, suit or proceeding, or

(ii) be liable for any settlement of any such action effected without its written consent (which consent shall not be unreasonably withheld), but if settled with its written consent or if there be a final judgment for the plaintiff in any such action, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss of liability by reason of such settlement or judgment.

(d) If the indemnification provided for in this Section 6 shall for any reason be unavailable or insufficient to hold harmless an indemnified party under Section 6(a) or 6(b) in respect of any loss, claim, damage or liability (or action in respect thereof) referred to therein, each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid or payable by such indemnified party as a result of such loss, claim, damage or liability (or action in respect thereof):

(i) in such proportion as is appropriate to reflect the relative benefits received by the Issuer from the offering and sale of the Transfer Restricted Securities on the one hand and a Holder with respect to the sale by such Holder of the Transfer Restricted Securities on the other, or

(ii) if the allocation provided by clause (6)(d)(i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause 6(d)(i) but also the relative fault of the Issuer on the one hand and the Holders on the other in connection with the statements or omissions or alleged statements or alleged omissions that resulted in such loss, claim, damage or liability (or action in respect thereof), as well as any other relevant equitable considerations.

The relative benefits received by the Issuer on the one hand and a Holder on the other with respect to such offering and such sale shall be deemed to be in the same proportion as the total net proceeds from the offering of the Notes purchased under the Purchase Agreement (before deducting expenses) received by the Issuer as set forth in the table on the cover of the Offering Memorandum, dated February 2, 2000, on the one hand, bear to the total proceeds received by such Holder with respect to its sale if Transfer Restricted Securities on the other. The relative fault of the parties shall be determined by reference to whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Issuer on the one hand or the Holders on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Issuer and each Holder agree that it would not be just and equitable if the amount of contribution pursuant to this Section 6(d) were determined by pro rata

allocation or by any other method of allocation that does not take into account the equitable considerations referred to in the first sentence of this paragraph (d). The amount paid or payable by an indemnified party as a result of the loss, claim, damage or liability, or action in respect thereof, referred to above in this Section 6 shall be deemed to include, for purposes of this Section 6, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending or preparing to defend any such action or claim. Notwithstanding the provisions of this Section 6, no Holder shall be required to contribute any amount in excess of the amount by which the total price at which the Transfer Restricted Securities purchased by it were resold exceeds the amount of any damages which such Holder has otherwise been required to pay by reason of any untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Holders' obligations to contribute as provided in this Section 6(d) are several and not joint.

7. RULE 144A. In the event the Issuer is not subject to Section 13 or 15(d) of the Exchange Act, the Issuer hereby agrees with each Holder, for so long as any Transfer Restricted Securities remain outstanding, to make available to any Holder or beneficial owner of Transfer Restricted Securities in connection with any sale thereof and any prospective purchaser of such Transfer Restricted Securities from such Holder or beneficial owner, the information required by Rule 144A(d)(4) under the Securities Act in order to permit resales of such Transfer Restricted Securities pursuant to Rule 144A.

8. PARTICIPATION IN UNDERWRITTEN REGISTRATIONS. No Holder may participate in any Underwritten Registration hereunder unless such Holder:

(i) agrees to sell such Holder's Transfer Restricted Securities on the basis provided in any underwriting arrangements approved by the Persons entitled hereunder to approve such arrangements and

(ii) completes and executes all reasonable questionnaires, powers of attorney, indemnities, underwriting agreements, lock-up letters and other documents required under the terms of such underwriting arrangements.

9. SELECTION OF UNDERWRITERS. The Holders of Transfer Restricted Securities covered by the Shelf Registration Statement who desire to do so may sell such Transfer Restricted Securities in an Underwritten Offering. In any such Underwritten Offering, the investment banker or investment bankers and manager or managers that will administer the offering will be selected by a Majority of Holders whose Transfer Restricted Securities are included in such offering; provided, that such investment bankers and managers must be reasonably satisfactory to the Issuer.

10. MISCELLANEOUS.

(a) REMEDIES. The Issuer acknowledges and agrees that any failure by the Issuer to comply with its obligations under Section 2 hereof may result in material irreparable injury to the Initial Purchasers or the Holders for which there is no adequate remedy at law, that it will not be

possible to measure damages for such injuries precisely and that, in the event of any such failure, the Initial Purchasers or any Holder may obtain such relief as may be required to specifically enforce the Issuer's obligations under Section 2 hereof. The Issuer further agrees to waive the defense in any action for specific performance that a remedy at law would be adequate.

(b) ADJUSTMENTS AFFECTING TRANSFER RESTRICTED SECURITIES. The Issuer shall not, directly or indirectly, take any action with respect to the Transfer Restricted Securities as a class that would adversely affect the ability of the Holders of Transfer Restricted Securities to include such Transfer Restricted Securities in a registration undertaken pursuant to this Agreement.

(c) NO INCONSISTENT AGREEMENTS. The Issuer will not, on or after the date of this Agreement, enter into any agreement with respect to its securities that is inconsistent with the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. In addition, the Issuer shall not grant to any of its security holders (other than the holders of Transfer Restricted Securities in such capacity) the right to include any of its securities in the Shelf Registration Statement provided for in this Agreement other than the Transfer Restricted Securities. Other than the Stock Purchase Agreement, dated January 18, 1995, between the Issuer and Pfizer, Inc., the Stock Purchase Agreement, dated March 1, 1996, as amended, between the Issuer and Baxter Healthcare Corporation and the Stock Issuance Agreement, dated November 4, 1999, between the Issuer and Alliance Pharmaceutical Corp., the Issuer has not previously entered into any agreement (which has not expired or been terminated) granting any registration rights with respect to its securities to any Person which rights conflict with the provisions hereof.

(d) AMENDMENTS AND WAIVERS. This Agreement may not be amended, modified or supplemented, and waivers or consents to or departures from the provisions hereof may not be given, unless the Issuer has obtained the written consent of a Majority of Holders.

(e) NOTICES. All notices and other communications provided for or permitted hereunder shall be made in writing by hand-delivery, first-class mail (registered or certified, return receipt requested), telex, telecopier, or air courier guaranteeing overnight delivery:

(i) if to a Holder, at the address set forth on the records of the registrar under the Indenture or the transfer agent of the Common Stock, as the case may be; and

(ii) if to the Issuer:

Inhale Therapeutic Systems, Inc.
150 Industrial Road
San Carlos, California 94070
Attention: Stephen L. Hurst, Esq.

With a copy to:

Cooley Godward LLP
3000 Sand Hill Road
Building #3, Suite 230

Menlo Park, California 94025
Attention: Marc P. Tanoury, Esq.

All such notices and communications shall be deemed to have been duly given: at the time delivered by hand, if personally delivered; five Business Days after being deposited in the mail, postage prepaid, if mailed; when answered back, if telexed; when receipt acknowledged, if telecopied; and on the next Business Day, if timely delivered to an air courier guaranteeing overnight delivery.

(f) SUCCESSORS AND ASSIGNS. This Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties, including without limitation and without the need for an express assignment, subsequent Holders of Transfer Restricted Securities; provided, however, that (i) this Agreement shall not inure to the benefit of or be binding upon a successor or assign of a Holder unless and to the extent such successor or assign acquired Transfer Restricted Securities from such Holder and (ii) nothing contained herein shall be deemed to permit any assignment, transfer or other disposition of Transfer Restricted Securities in violation of the terms of the Purchase Agreement or the Indenture. If any transferee of any Holder shall acquire Transfer Restricted Securities, in any manner, whether by operation of law or otherwise, such Transfer Restricted Securities shall be held subject to all of the terms of this Agreement, and by taking and holding such Transfer Restricted Securities such person shall be conclusively deemed to have agreed to be bound by and to perform all of the terms and provisions of this Agreement.

(g) COUNTERPARTS. This Agreement may be executed in any number of counterparts and by the parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

(h) SECURITIES HELD BY THE ISSUER OR THEIR AFFILIATES. Whenever the consent or approval of Holders of a specified percentage of Transfer Restricted Securities is required hereunder, Transfer Restricted Securities held by the Issuer or its "affiliates" (as such term is defined in Rule 405 under the Securities Act) shall not be counted in determining whether such consent or approval was given by the Holders of such required percentage.

(i) HEADINGS. The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(j) GOVERNING LAW. This Agreement shall be governed by, and construed in accordance with, the law of the State of New York, without regard to conflict of laws principles thereof.

(k) SEVERABILITY. If any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions contained herein shall not be affected or impaired thereby.

(l) ENTIRE AGREEMENT. This Agreement is intended by the parties as a final expression of their agreement and intended to be a complete and exclusive statement of the agreement and understanding of the parties hereto in respect of the subject matter contained herein. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein with respect to the registration rights granted by the Issuer with respect to the Transfer Restricted Securities. This Agreement supersedes all prior agreements and understandings between the parties with respect to such subject matter.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

INHALE THERAPEUTIC SYSTEMS, INC.

By_____
Name:
Title:

MERRILL LYNCH, PIERCE, FENNER & SMITH
INCORPORATED
DEUTSCHE BANK SECURITIES INC.
LEHMAN BROTHERS INC.
U.S. BANCORP PIPER JAFFRAY INC.

By: Merrill Lynch, Pierce, Fenner &
Smith Incorporated

By_____
Authorized Signatory

EXHIBIT A

INHALE THERAPEUTIC SYSTEMS, INC.

FORM OF SELLING SECURITYHOLDER NOTICE AND QUESTIONNAIRE

The undersigned beneficial holder of 5% Convertible Subordinated Notes due 2007 (the "Notes") of Inhale Therapeutic Systems, Inc. (the "Issuer"), or common stock, par value $.001 per share (the "Shares" and together with the Notes, the "Transfer Restricted Securities") of the Issuer understands that the Issuer has filed, or intends to file, with the Securities and Exchange Commission (the "Commission") a registration statement (the "Shelf Registration Statement"), for the registration and resale under Rule 415 of the Securities Act of 1933, as amended (the "Securities Act"), of the Transfer Restricted Securities in accordance with the terms of the Registration Rights Agreement, dated as of February 8, 2000 (the "Registration Rights Agreement") between the Issuer and Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Lehman Brothers Inc., Deutsche Bank Securities Inc. and U.S. Bancorp Piper Jaffray Inc. A copy of the Registration Rights Agreement is available from the Issuer upon request at the address set forth below. All capitalized terms not otherwise defined herein have the meaning ascribed thereto in the Registration Rights Agreement.

Each beneficial owner of Transfer Restricted Securities is entitled to the benefits of the Registration Rights Agreement. In order to sell or otherwise dispose of any Transfer Restricted Securities pursuant to the Shelf Registration Statement, a beneficial owner of Transfer Restricted Securities generally will be required to be named as a selling securityholder in the related Prospectus, deliver a Prospectus to purchasers of Transfer Restricted Securities and be bound by those provisions of the Registration Rights Agreement applicable to such beneficial owner (including certain indemnification provisions, as described below). BENEFICIAL OWNERS THAT DO NOT COMPLETE THIS NOTICE AND QUESTIONNAIRE WITHIN 20 BUSINESS DAYS OF RECEIPT HEREOF AND DELIVER IT TO THE ISSUER AS PROVIDED BELOW WILL NOT BE NAMED AS SELLING SECURITYHOLDERS IN THE PROSPECTUS AND THEREFORE WILL NOT BE PERMITTED TO SELL ANY TRANSFER RESTRICTED SECURITIES PURSUANT TO THE SHELF REGISTRATION STATEMENT.

Certain legal consequences arise from being named as a selling securityholder in the Shelf Registration Statement and the related Prospectus. Accordingly, holders and beneficial owners of Transfer Restricted Securities are advised to consult their own securities law counsel regarding the consequences of being named or not being named as a selling securityholder in the Shelf Registration Statement and the related Prospectus.

NOTICE

The undersigned beneficial owner (the "Selling Securityholder") of Transfer Restricted Securities hereby gives notice to the Issuer of its intention to sell or otherwise dispose of Transfer Restricted Securities beneficially owned by it and listed below in Item 3 (unless otherwise specified under Item 3) pursuant to the Shelf Registration Statement. The

undersigned, by signing and returning this Notice and Questionnaire, understands that it will be bound by the terms and conditions of this Notice and Questionnaire and the Registration Rights Agreement.

Pursuant to the Registration Rights Agreement, the undersigned has agreed to indemnify and hold harmless the Issuer, the Issuer's directors, the Issuer's officers who sign the Shelf Registration Statement and each person, if any, who controls the Issuer within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against certain losses arising in connection with statements concerning the undersigned made in the Shelf Registration Statement or the related Prospectus in reliance upon the information provided in this Notice and Questionnaire.

The undersigned hereby provides the following information to the Issuer and represents and warrants that such information is accurate and complete:

QUESTIONNAIRE

1. (a) Full legal name of Selling Securityholder:

(b) Full legal name of registered holder (if not the same as (a) above) through which Transfer Restricted Securities listed in (3) below are held:

(c) Full legal name of DTC participant (if applicable and if not the same as (b) above) through which Transfer Restricted Securities listed in (3) are held:

2. Address for notices to Selling Securityholders:

Telephone:

Fax:

Contact Person:

3. Beneficial ownership of Transfer Restricted Securities:

(a) Type of Transfer Restricted Securities beneficially owned, and principal amount of Notes or number of shares of Common Stock, as the case may be, beneficially owned:

(b) CUSIP No(s). of such Transfer Restricted Securities beneficially owned:

4. Beneficial ownership of the Issuer's securities owned by the Selling Securityholder:

EXCEPT AS SET FORTH BELOW IN THIS ITEM (4), THE UNDERSIGNED IS NOT THE BENEFICIAL OR REGISTERED OWNER OF ANY SECURITIES OF THE ISSUER OTHER THAN THE TRANSFER RESTRICTED SECURITIES LISTED ABOVE IN ITEM (3) ("OTHER SECURITIES").

(a) Type and amount of Other Securities beneficially owned by the Selling Securityholder:

(b) CUSIP No(s). of such Other Securities beneficially owned:

5. Relationship with the Issuer

Except as set forth below, neither the undersigned nor any of its affiliates, officers, directors or principal equity holders (5% or more) has held any position or office or has had any other material relationship with the Issuer (or their predecessors or affiliates) during the past three years.

State any exceptions here:

6. Plan of Distribution

Except as set forth below, the undersigned (including its donees or pledgees) intends to distribute the Transfer Restricted Securities listed above in Item (3) pursuant to the Shelf Registration Statement only as follows (if at all). Such Transfer Restricted Securities may be sold from time to time directly by the undersigned or, alternatively, through underwriters, broker-dealers or agents. If the Transfer Restricted Securities are sold through underwriters or broker-dealers, the Selling Securityholder will be responsible for underwriting discounts or commissions or agent's commissions. Such Transfer Restricted Securities may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of sale, at varying prices determined at the time of sale, or at negotiated prices. Such sales may be effected in transactions (which may involve crosses or block transactions):

(i) on any national securities exchange or quotation service on which the Transfer Restricted Securities may be listed or quoted at the time of sale;

(ii) in the over-the-counter market;

(iii) in transactions otherwise than on such exchanges or services or in the over-the-counter market; or

(iv) through the writing of options.

In connection with sales of the Transfer Restricted Securities or otherwise, the undersigned may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the Transfer Restricted Securities and deliver Transfer Restricted Securities to close out such short positions, or loan or pledge Transfer Restricted Securities to broker-dealers that in turn may sell such securities.

State any exceptions here:

Note: In no event will such method(s) of distribution take the form of an underwritten offering of the Transfer Restricted Securities without the prior agreement of the Issuer.

The undersigned acknowledges that it understands its obligation to comply with the provisions of the Exchange Act and the rules and regulations promulgated thereunder relating to stock manipulation, particularly Regulation M thereunder (or any successor rules or regulations), in connection with any offering of Transfer Restricted Securities pursuant to the Shelf Registration Statement. The undersigned agrees that neither it nor any person acting on its behalf will engage in any transaction in violation of such provisions.

The Selling Securityholder hereby acknowledges its obligations under the Registration Rights Agreement to indemnify and hold harmless certain persons as set forth therein.

Pursuant to the Registration Rights Agreement, the Issuer has agreed under certain circumstances to indemnify the Selling Securityholders against certain liabilities.

In accordance with the undersigned's obligation under the Registration Rights Agreement to provide such information as may be required by law for inclusion in the Shelf Registration Statement, the undersigned agrees to promptly notify the Issuer of any inaccuracies or changes in the information provided herein that may occur subsequent to the date hereof at any time while the Shelf Registration Statement remains effective. All notices hereunder and pursuant to the Registration Rights Agreement shall be made in writing at the address set forth below.

By signing below, the undersigned consents to the disclosure of the information contained herein in its answers to items (1) through (6) above and the inclusion of such information in the Shelf Registration Statement and the related Prospectus. The undersigned understands that such information will be relied upon by the Issuer in connection with the preparation or amendment of the Shelf Registration Statement and the related Prospectus.

IN WITNESS WHEREOF, the undersigned, by authority duly given, has caused this Notice and Questionnaire to be executed and delivered either in person or by its duly authorized agent.

Dated:

Beneficial Owner

By:

Name:
Title:

Please return the completed and executed Notice and Questionnaire to Inhale Therapeutic Systems, Inc. at:

Inhale Therapeutic Systems, Inc.
150 Industrial Road
San Carlos, California 94070
Attention: Stephen L. Hurst, Esq.

Exhibit 4.13

==========

INDENTURE

BETWEEN

INHALE THERAPEUTIC SYSTEMS, INC.,

AS ISSUER

AND

CHASE MANHATTAN BANK AND TRUST COMPANY,
NATIONAL ASSOCIATION

AS TRUSTEE

_____% CONVERTIBLE SUBORDINATED NOTES DUE 2007

DATED AS OF FEBRUARY 8, 2000

==========

CROSS-REFERENCE TABLE*

Trust Indenture Act Section	Indenture Section
310(a)(1)	5.11
(a)(2)	5.11
(a)(3)	n/a
(a)(4)	n/a
(a)(5)	5.11
(b)	5.3; 5.11
(c)	n/a
311(a)	5.12
(b)	5.12
(c)	n/a
312(a)	2.10
(b)	14.3
(c)	14.3
313(a)	5.7
(b)(1)	n/a
(b)(2)	5.7
(c)	5.7; 14.2
(d)	5.7
314(a)(1), (2), (3)	9.6; 14.6
(a)(4)	9.6; 9.7; 14.6
(b)	n/a
(c)(1)	14.5
(c)(2)	14.5
(c)(3)	n/a
(d)	n/a
(e)	14.6
(f)	n/a
315(a)	5.1(a)
(b)	5.6; 14.2
(c)	5.1(b)
(d)	5.1(c)
(e)	4.14
316(a)(last sentence)	2.13
(a)(1)(A)	4.5
(a)(1)(B)	4.4

- ---

"n/a" means not applicable.

*This Cross-Reference Table shall not, for any purpose, be deemed to be a part of the Indenture.

TABLE OF CONTENTS

PAGE

Table of Contents

PAGE

PAGE

PAGE

TABLE OF CONTENTS
(CONTINUED)

INDENTURE, dated as of February 8, 2000, between INHALE THERAPEUTIC SYSTEMS, INC., a corporation duly organized and existing under the laws of the State of Delaware, having its principal office at 150 Industrial Road, San Carlos, California 94070 (the "Company"), and CHASE MANHATTAN BANK AND TRUST COMPANY, NATIONAL ASSOCIATION, a national banking association, as Trustee (the "Trustee"), having its principal corporate trust office at 101 California Street, Suite 2725, San Francisco, California 94111.

RECITALS OF THE COMPANY

The Company has duly authorized the creation of an issue of its 5% Convertible Subordinated Notes due 2007 (herein called the "Securities") of substantially the tenor and amount hereinafter set forth, and to provide therefor the Company has duly authorized the execution and delivery of this Indenture.

All things necessary to make the Securities, when the Securities are executed by the Company and authenticated and delivered hereunder and duly issued by the Company, the valid obligations of the Company, and to make this Indenture a valid agreement of the Company, in accordance with their and its terms, have been done.

NOW, THEREFORE, THIS INDENTURE WITNESSETH:

For and in consideration of the premises and the purchase of the Securities by the Holders thereof, it is mutually covenanted and agreed, for the equal and proportionate benefit of all Holders of the Securities, as follows:

ARTICLE 1

DEFINITIONS AND INCORPORATION
BY REFERENCE

SECTION 1.1 DEFINITIONS.

For all purposes of this Indenture and the Securities, the following terms are defined as follows:

"Act", when used with respect to any Holder of a Security, has the meaning specified in Section 14.4(a) hereof.

"Adjusted Interest Rate" means, with respect to any Reset Transaction, the rate per annum that is the arithmetic average of the rates quoted by two Reference Dealers selected by the Company or its successor as the rate at which interest on the Securities should accrue so that the fair market value, expressed in dollars, of a Security immediately after the later of:

(1) the public announcement of such Reset Transaction; or

(2) the public announcement of a change in dividend policy in connection with such Reset Transaction,

will equal the average Trading Price of a Security for the 20 Trading Days preceding the date of public announcement of such Reset Transaction; provided that the Adjusted Interest Rate shall not be less than 5% per annum.

"Affiliate" of any specified Person means any other Person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified Person. For the purposes of this definition, "control", when used with respect to any specified Person, means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"Bankruptcy Law" means Title 11 of the U.S. Code or any similar federal or state law for the relief of debtors.

"Board of Directors" means either the board of directors of the Company or any committee of that board empowered to act for it with respect to this Indenture.

"Board Resolution" means a resolution duly adopted by the Board of Directors, a copy of which, certified by the Secretary or an Assistant Secretary of the Company to be in full force and effect on the date of such certification, shall have been delivered to the Trustee.

"Business Day", when used with respect to any Place of Payment or Place of Conversion, means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in that Place of Payment or Place of Conversion, as the case may be, are authorized or obligated by law to close.

"Change of Control" means the occurrence of any of the following after the original issuance of the Securities:

(1) the acquisition by any person, including any syndicate or group deemed to be a "person" under Section 13(d)(3) of the Exchange Act, of beneficial ownership, directly or indirectly, through a purchase, merger or other acquisition transaction or series of transactions, of shares of capital stock of the Company entitling such person to exercise 50% or more of the total voting power of all shares of capital stock of the Company entitled to vote generally in elections of directors, other than any such acquisition by the Company, any subsidiary of the Company or any employee benefit plan of the Company; or

(2) any consolidation or merger of the Company with or into any other person, any merger of another person into the Company, or any conveyance, transfer, sale, lease or other disposition of all or substantially all of the properties and assets of the Company to another person, other than (a) any such transaction (x) that does not result in any reclassification, conversion, exchange or cancellation of outstanding shares of capital stock of the Company and (y) pursuant to which holders of capital stock of the Company immediately prior to such transaction have the entitlement to exercise, directly or indirectly, 50% or more of the total voting power of all shares of capital stock of the Company entitled to vote generally in the election of directors of the continuing or surviving person immediately after such transaction and (b) any merger which is effected solely to change the jurisdiction of incorporation of the Company and results in a reclassification, conversion or exchange of outstanding shares of Common Stock solely into shares of common stock of the surviving entity;

provided, however, that a Change of Control shall not be deemed to have occurred if the closing sales price per share of the Common Stock for any five Trading Days within the period of 10 consecutive Trading Days ending immediately after the later of the Change of Control or the public announcement of the Change of Control, in the case of a Change of Control under clause (1) above, or the period of 10 consecutive Trading Days ending immediately before the Change of Control, in the case of a Change of Control under clause (2) above, shall equal or exceed 110% of the Conversion Price of the Securities in effect on each such Trading Day. Beneficial ownership shall be determined in accordance with Rule 13d-3 promulgated by the SEC under the Exchange Act. The term "person" shall include any syndicate or group which would be deemed to be a "person" under Section 13(d)(3) of the Exchange Act.

"Chief Executive Officer" means any co-chief executive officer of the Company.

"Closing Date" means February 8, 2000 or such later date on which the Securities may be delivered pursuant to the Purchase Agreement.

"Closing Price" of any security on any date of determination means:

(1) the closing sale price (or, if no closing sale price is reported, the last reported sale price) of such security on the New York Stock Exchange on such date;

(2) if such security is not listed for trading on the New York Stock Exchange on any such date, the closing sale price as reported in the composite transactions for the principal U.S. securities exchange on which such security is so listed;

(3) if such security is not so listed on a U.S. national or regional securities exchange, the closing sale price as reported by the NASDAQ National Market;

(4) if such security is not so reported, the last quoted bid price for such security in the over-the-counter market as reported by the National Quotation Bureau or similar organization; or

(5) if such bid price is not available, the average of the mid-point of the last bid and ask prices of such security on such date from at least three nationally recognized independent investment banking firms retained for this purpose by the Company.

"Common Stock" means any stock of any class of the Company which has no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company and which is not subject to redemption by the Company. However, subject to the provisions of Section 12.11 hereof, shares issuable on conversion of Securities shall include only shares of the class designated as Common Stock, par value $0.0001 per share, of the Company at the date of this Indenture or shares of any class or classes resulting from any reclassification or reclassifications thereof and which have no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company and which are not subject to redemption by the Company, provided that if at any time there shall be more than one such resulting class, the shares of each such class then so issuable shall be substantially in the proportion which the total number of shares of such class resulting from all such reclassifications bears to the total number of shares of all such classes resulting from all such reclassifications.

"Company" means the corporation named as the "Company" in the first paragraph of this instrument until a successor corporation shall have become such pursuant to the applicable provisions of this Indenture, and thereafter "Company" shall mean such successor corporation.

"Company Notice" has the meaning specified in Section 11.3 hereof.

"Company Order" means a written order signed in the name of the Company by both (1) the Chairman of the Board, the Chief Executive Officer, the President or a Vice President and (2) so long as not the same as the officer signing pursuant to clause (1), the

Chief Financial Officer, the Treasurer or the Secretary of the Company, and delivered to the Trustee.

"Conversion Agent" means any Person authorized by the Company to convert Securities in accordance with Article 12 hereof.

"Conversion Price" has the meaning specified in Section 12.1 hereof.

"Corporate Trust Office" means for purposes of presentation or surrender of Securities for payment, registration, transfer, exchange or conversion or for service of notices or demands upon the Company, the office of the Trustee located in The City of New York at which at any particular time its corporate trust business shall be administered (which at the date of this Indenture is located at 55 Water Street, Room 234, North Building, New York, New York 10041), and for all other purposes, the office of the Trustee located in the City of San Francisco (which at the date of this Indenture is located at 101 California Street, Suite 2725, San Francisco, CA 94111).

"Corporation" means corporations, associations, limited liability companies, companies and business trusts.

"Current Market Price" has the meaning set forth in Section 12.4(g).

"Custodian" means any receiver, trustee, assignee, liquidator, sequestrator or similar official under any Bankruptcy Law.

"Default" means an event which is, or after notice or lapse of time or both would be, an Event of Default.

"Default Exception" has the meaning specified in Section 4.1(d) hereof.

"Defaulted Interest" has the meaning specified in Section 2.17 hereof.

"Depositary" means The Depository Trust Company, its nominees and their respective successors.

"Designated Senior Debt" means Senior Debt of the Company which, at the date of determination, has an aggregate amount outstanding of, or under which, at the date of determination, the holders thereof are committed to lend up to, at least $25 million and is specifically designated in the instrument, agreement or other document evidencing or governing that Senior Debt as "Designated Senior Debt" for purposes of this Indenture (provided that such instrument, agreement or other document may place limitations and conditions on the right of such Senior Debt to exercise the rights of Designated Senior Debt).

"Dividend Yield" on any security for any period means the dividends paid or proposed to be paid pursuant to an announced dividend policy on such security for such period divided by, if with respect to dividends paid on such security, the average Closing

Price of such security during such period and, if with respect to dividends proposed to be paid on such security, the Closing Price of such security on the effective date of the related Reset Transaction.

"Dollar," "U.S. Dollar" or "U.S. $" means a dollar or other equivalent unit in such coin or currency of the United States as at the time shall be legal tender for the payment of public and private debts.

"DTC Participants" has the meaning specified in Section 2.8 hereof.

"Event of Default" has the meaning specified in Section 4.1 hereof.

"Exchange Act" means the Securities Exchange Act of 1934, as amended.

"Expiration Time" has the meaning specified in Section 12.4(f) hereof.

"Fair market value" has the meaning set forth in Section 12.4(g) hereof.

"Global Security" has the meaning specified in Section 2.2 hereof.

"Guarantee" means any obligation, contingent or otherwise, of any Person, directly or indirectly guaranteeing any Indebtedness of any other Person and any obligation, direct or indirect, contingent or otherwise, of such Person:

(1) to purchase or pay (or advance or supply funds for the purchase or payment of) such Indebtedness of such other Person (whether arising by virtue of partnership arrangements, or by agreement to keep-well, to purchase assets, goods, securities or services, to take-or-pay, or maintain financial statement conditions or otherwise); or

(2) entered into for purposes of assuring in any other manner the obligee of such Indebtedness of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part);

provided, however, that the term "guarantee" will not include endorsements for collection or deposit in the ordinary course of business. The term "guarantee" used as a verb has a corresponding meaning.

"Holder", when used with respect to any Security, means the Person in whose name the Security is registered in the Register.

"Indebtedness", when used with respect to any Person, and without duplication means:

(1) all indebtedness, obligations and other liabilities (contingent or otherwise) of such Person for borrowed money (including obligations of the Company in respect of overdrafts, foreign exchange contracts, currency exchange agreements, Interest

Rate Protection Agreements, and any loans or advances from banks, whether or not evidenced by notes or similar instruments) or evidenced by bonds, debentures, notes or other instruments for the payment of money, or incurred in connection with the acquisition of any property, services or assets (whether or not the recourse of the lender is to the whole of the assets of such Person or to only a portion thereof), other than any account payable or other accrued current liability or obligation to trade creditors incurred in the ordinary course of business in connection with the obtaining of materials or services;

(2) all reimbursement obligations and other liabilities (contingent or otherwise) of such Person with respect to letters of credit, bank guarantees, bankers' acceptances, surety bonds, performance bonds or other guaranty of contractual performance;

(3) all obligations and liabilities (contingent or otherwise) in respect of (a) leases of such Person required, in conformity with generally accepted accounting principles, to be accounted for as capitalized lease obligations on the balance sheet of such Person and (b) any lease or related documents (including a purchase agreement) in connection with the lease of real property which provides that such Person is contractually obligated to purchase or cause a third party to purchase the leased property and thereby guarantee a minimum residual value of the leased property to the landlord and the obligations of such Person under such lease or related document to purchase or to cause a third party to purchase the leased property;

(4) all obligations of such Person (contingent or otherwise) with respect to an interest rate or other swap, cap or collar agreement or other similar instrument or agreement or foreign currency hedge, exchange, purchase or similar instrument or agreement;

(5) all direct or indirect guaranties or similar agreements by such Person in respect of, and obligations or liabilities (contingent or otherwise) of such Person to purchase or otherwise acquire or otherwise assure a creditor against loss in respect of, indebtedness, obligations or liabilities of another Person of the kind described in clauses (1) through (4);

(6) any indebtedness or other obligations described in clauses (1) through (4) secured by any mortgage, pledge, lien or other encumbrance existing on property which is owned or held by such Person, regardless of whether the indebtedness or other obligation secured thereby shall have been assumed by such Person; and

(7) any and all deferrals, renewals, extensions and refundings of, or amendments, modifications or supplements to, any indebtedness, obligation or liability of the kind described in clauses (1) through (6).

"Indenture" means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into pursuant to the applicable provisions hereof.

"Initial Purchasers" mean Merrill Lynch, Pierce, Fenner & Smith Incorporated, Deutsche Bank Securities Inc., Lehman Brothers Inc. and U.S. Bancorp Piper Jaffray Inc.

"Interest Payment Date" means each February 8 and August 8.

"Interest Rate" means, (a) if a Reset Transaction has not occurred, 5% per annum, or (b) following the occurrence of a Reset Transaction, the Adjusted Interest Rate related to such Reset Transaction to, but not including the effective date of any succeeding Reset Transaction.

"Interest Rate Protection Agreement" means, with respect to any Person, any interest rate swap agreement, interest rate cap or collar agreement or other financial agreement or arrangement designed to protect such person against fluctuations in interest rates, as in effect from time to time.

"Internal Revenue Code" means the Internal Revenue Code of 1986, as amended.

"Liquidated Damages" means all liquidated damages, if any, payable pursuant to Section 3 of the Registration Rights Agreement.

"Maturity" means the date on which the principal of such Security becomes due and payable as therein or herein provided, whether at the Stated Maturity or by acceleration, conversion, call for redemption, exercise of a Repurchase Right or otherwise.

"Nasdaq National Market" means the National Association of Securities Dealers Automated Quotation National Market or any successor national securities exchange or automated over-the-counter trading market in the United States.

"Non-Electing Share" has the meaning specified in Section 12.11 hereof.

"Officer" of the Company means the Chairman of the Board, the Chief Executive Officer, the President, the Chief Financial Officer, the Treasurer, any Vice President or the Secretary of the Company.

"Officers' Certificate" means a certificate signed by both (1) the Chairman of the Board, the Chief Executive Officer, the President or a Vice President and (2) so long as not the same as the officer signing pursuant to clause (1), the Chief Financial Officer or the Secretary of the Company, and delivered to the Trustee.

"Opinion of Counsel" means a written opinion of counsel, who may be counsel to the Company (and may include directors or employees of the Company) and which opinion is acceptable to the Trustee which acceptance shall not be unreasonably withheld.

"Outstanding", when used with respect to Securities, means, as of the date of determination, all Securities theretofore authenticated and delivered under this Indenture, except Securities:

(1) previously canceled by the Trustee or delivered to the Trustee for cancellation;

(2) for the payment or redemption of which money in the necessary amount has been previously deposited with the Trustee or any Paying Agent (other than the Company) in trust or set aside and segregated in trust by the Company (if the Company shall act as its own Paying Agent) for the Holders of such Securities, provided that if such Securities are to be redeemed, notice of such redemption has been duly given pursuant to this Indenture; and

(3) which have been paid, in exchange for or in lieu of which other Securities have been authenticated and delivered pursuant to this Indenture, other than any such Securities in respect of which there shall have been presented to the Trustee proof satisfactory to it that such Securities are held by a bona fide purchaser in whose hands such Securities are valid obligations of the Company.

"Paying Agent" has the meaning specified in Section 2.5 hereof.

"Payment Blockage Notice" has the meaning specified in Section 13.1(d) hereof.

"Person" means any individual, corporation, limited liability company, partnership, joint venture, association, joint-stock company, trust, estate, unincorporated organization or government or any agency or political subdivision thereof.

"Physical Securities" has the meaning specified in Section 2.2 hereof.

"Place of Conversion" means any city in which any Conversion Agent is located.

"Place of Payment" means any city in which any Paying Agent is located.

"Predecessor Security" of any particular Security means every previous Security evidencing all or a portion of the same debt as that evidenced by such particular Security; and, for the purposes of this definition, any Security authenticated and delivered under Section 2.12 hereof in exchange for or in lieu of a mutilated, destroyed, lost or stolen Security shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Security.

"Purchase Agreement" means the Purchase Agreement, dated February 2, 2000, between the Company and the Initial Purchasers.

"QIB" means a "qualified institutional buyer" as defined in Rule 144A.

"Quoted Price" of the Common Stock means the last reported sale price of the Common Stock on the Nasdaq National Market, or, if the Common Stock is listed on a national securities exchange, then on such exchange, or if the Common Stock is not quoted on Nasdaq National Market or listed on an exchange, the average of the last bid and asked price on the National Association of Securities Dealers Automated Quotation System.

"Record Date" means either a Regular Record Date or a Special Record Date, as the case may be, provided that, for purposes of Section 12.4 hereof, Record Date has the meaning specified in 12.4(g) hereof.

"Redemption Date", when used with respect to any Security to be redeemed, means the Optional Redemption Date in the event of an Optional Redemption or the Provisional Redemption Date, in the event of a Provisional Redemption, as the case may be.

"Redemption Price", when the Optional Redemption Price, in the event of an Optional Redemption, or the Provisional Redemption Price, in the event of a Provisional Redemption, as the case may be.

"Reference Dealer" means a dealer engaged in the trading of convertible securities.

"Reference Period" has the meaning set forth in Section 12.4(d) hereof.

"Register" has the meaning specified in Section 2.5 hereof.

"Registrar" has the meaning specified in Section 2.5 hereof.

"Registration Rights Agreement" means the Registration Rights Agreement dated as of February 8, 2000, between the Company and the Initial Purchasers.

"Regular Record Date" for the interest on the Securities (including Liquidated Damages, if any) payable means the January 24 (whether or not a Business Day) next preceding a February 8 Interest Payment Date and the July 24 (whether or not a Business Day) next preceding an August 8 Interest Payment Date.

"Repurchase Date" has the meaning specified in Section 11.1 hereof.

"Repurchase Price" has the meaning specified in Section 11.1 hereof.

"Repurchase Right" has the meaning specified in Section 11.1 hereof.

"Reset Transaction" means a merger, consolidation or statutory share exchange to which the entity that is the issuer of the shares of common stock into which the Securities are then convertible into is a party, a sale of all or substantially all the assets of that entity, a recapitalization of those shares of common stock or a distribution described in

Section 12.4(d) hereof, after the effective date of which transaction or distribution the Securities would be convertible into:

(1) shares of an entity the common stock of which had a Dividend Yield for the four fiscal quarters of such entity immediately preceding the public announcement of such transaction or distribution that was more than 2.5% higher then the Dividend Yield on the Common Stock (or other common stock then issuable upon conversion of the Securities) for the four fiscal quarters preceding the public announcement of such transaction or distribution, or

(2) shares of an entity that announces a dividend policy prior to the effective date of such transaction or distribution which policy, if implemented, would result in a Dividend Yield on such entity's common stock for the next four fiscal quarters that would result in such a 2.5% basis point increase.

"Responsible Officer", when used with respect to the Trustee, means any officer of the Trustee, including any vice president, assistant vice president, secretary, assistant secretary, the treasurer, any assistant treasurer, the managing director or any other officer of the Trustee customarily performing functions similar to those performed by any of the above designated officers and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of such officer's knowledge of and familiarity with the particular subject.

"Restricted Securities" means the Securities defined as such in Section 2.3 hereof.

"Restricted Securities Legend" has the meaning set forth in Section 2.3(a) hereof.

"Rule 144" means Rule 144 under the Securities Act (including any successor rule thereof), as the same may be amended from time to time.

"Rule 144A" means Rule 144A as promulgated under the Securities Act (including any successor rule thereof), as the same may be amended from time to time.

"SEC" means the Securities and Exchange Commission.

"Securities" has the meaning ascribed to it in the first paragraph under the caption "Recitals of the Company".

"Securities Act" means the Securities Act of 1933, as amended.

"Senior Debt" means the principal of, premium, if any, interest (including all interest accruing subsequent to the commencement of any bankruptcy or similar proceeding, whether or not a claim for post-petition interest is allowable as a claim in any such proceeding) and rent payable on or termination payment with respect to or in connection with, and all fees, costs, expenses and other amounts accrued or due on or in connection with, Indebtedness of the Company, whether outstanding on the date of this

Indenture or thereafter created, incurred, assumed, guaranteed or in effect guaranteed by the Company (including all deferrals, renewals, extensions or refundings of, or amendments, modifications or supplements to, the foregoing), unless in the case of any particular Indebtedness the instrument creating or evidencing the same or the assumption or guarantee thereof expressly provides that such Indebtedness shall not be senior in right of payment to the Securities or expressly provides that such Indebtedness is PARI PASSU or junior to the Securities. The Securities shall not be senior in right of payment to the outstanding 6 3/4 % Convertible Subordinated Debentures due 2006 (the "2006 Debentures") and shall rank PARI PASSU with the 2006 Debentures. The 2006 Debentures shall not be Senior Debt, as that term is defined herein. Notwithstanding the foregoing, the term "Senior Debt" shall include, without limitation, all Designated Senior Debt, and shall not include Indebtedness of the Company to any Subsidiary.

"Significant Subsidiary" means any Subsidiary which is a "significant subsidiary" within the meaning of Rule 405 under the Securities Act.

"Special Record Date" for the payment of any Defaulted Interest means a date fixed by the Trustee pursuant to Section 2.17 hereof.

"Stated Maturity" means the date specified in any Security as the fixed date for the payment of principal on such Security or on which an installment of interest (including Liquidated Damages, if any) on such Security is due and payable.

"Subsidiary" means a corporation more than 50% of the outstanding voting stock of which is owned, directly or indirectly, by the Company or by one or more other Subsidiaries, or by the Company and one or more other Subsidiaries. For the purposes of this definition only, "voting stock" means stock which ordinarily has voting power for the election of directors, whether at all times or only so long as no senior class of stock has such voting power by reason of any contingency.

"TIA" means the Trust Indenture Act of 1939 (15 U.S. Code Section 77aaa-77bbbb), as in effect on the date of this Indenture; provided, however, that in the event the TIA is amended after such date, "TIA" means, to the extent required by such amendment, the Trust Indenture Act of 1939, as so amended, or any successor statute.

"Trading Day" means:

(1) if the applicable security is listed or admitted for trading on the New York Stock Exchange or another national security exchange, a day on which the New York Stock Exchange or such other national security exchange is open for business;

(2) if the applicable security is quoted on the Nasdaq National Market, a day on which trades may be made thereon; or

(3) if the applicable security is not so listed, admitted for trading or quoted, any day other than a Saturday or Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

"Trading Price" of a security on any date of determination means:

(1) the closing sale price (or, if no closing sale price is reported, the last reported sale price) of such security on the New York Stock Exchange on such date;

(2) if such security is not listed for trading on the New York Stock Exchange on any such date, the closing sale price as reported in the composite transactions for the principal U.S. securities exchange on which such security is so listed;

(3) if such security is not so listed on a U.S. national or regional securities exchange, the closing sale price as reported by the NASDAQ National Market;

(4) if such security is not so reported, the last price quoted by Interactive Data Corporation for such security or, if Interactive Data Corporation is not quoting such price, a similar quotation service selected by the Company;

(5) if such security is not so quoted, the average of the mid-point of the last bid and ask prices for such security from at least two dealers recognized as market-makers for such security; or

(6) if such security is not so quoted, the average of the last bid and ask prices for such security from a Reference Dealer.

"Transfer Agent" means any Person, which may be the Company, authorized by the Company to exchange or register the transfer of Securities.

"Trigger Event" has the meaning specified in Section 12.4(d) hereof.

"Trustee" means the Person named as the "Trustee" in the first paragraph of this instrument until a successor Trustee shall have become such pursuant to the applicable provisions of this Indenture, and thereafter "Trustee" shall mean such successor Trustee.

"U.S. Government Obligations" means: (1) direct obligations of the United States of America for the payment of which the full faith and credit of the United States of America is pledged or (2) obligations of a person controlled or supervised by and acting as an agency or instrumentality of the United States of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America and which in either case, are non-callable at the option of the issuer thereof.

"Vice President", when used with respect to the Company, means any vice president, whether or not designated by a number or a word or words added before or after the title "vice president".

SECTION 1.2 INCORPORATION BY REFERENCE OF TRUST INDENTURE ACT.

Whenever this Indenture refers to a provision of the TIA, the provision is incorporated by reference in and made a part of this Indenture.

The following TIA terms used in this Indenture have the following meanings:

"indenture securities" means the Securities;

"indenture security holder" means a Holder;

"indenture to be qualified" means this Indenture;

"indenture trustee" or "institutional trustee" means the Trustee; and

"obligor" on the Securities means the Company and any other obligor on the indenture securities.

All other TIA terms used in this Indenture that are defined by the TIA, defined by TIA reference to another statute or defined by SEC rule have the meanings assigned to them by such definitions.

SECTION 1.3 RULES OF CONSTRUCTION.

For all purposes of this Indenture, except as otherwise expressly provided or unless the context otherwise requires:

(1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;

(2) all accounting terms not otherwise defined herein have the meanings assigned to them in accordance with accounting principles generally accepted in the United States prevailing at the time of any relevant computation hereunder; and

(3) the words "herein", "hereof" and "hereunder" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision.

ARTICLE 2

THE SECURITIES

SECTION 2.1 TITLE AND TERMS.

The Securities shall be known and designated as the "5% Convertible Subordinated Notes due 2007"of the Company. The aggregate principal amount of Securities which may be authenticated and delivered under this Indenture is limited to $200,000,000 (or $230,000,000 if the over-allotment option set forth in Section 2 of the Purchase Agreement is exercised in full), except for securities authenticated and delivered upon registration of, transfer of, or in exchange for, or in lieu of other Securities pursuant to Section 2.7, 2.8, 2.9, 2.12, 7.5, 10.8, 11.1 or 12.2 hereof. The Securities shall be issuable in denominations of $1,000 or integral multiples thereof.

The Securities shall mature on February 8, 2007.

Interest shall accrue from February 8, 2000 at the Interest Rate until the principal thereof is paid or made available for payment. Interest shall be payable semiannually in arrears on February 8 and August 8 in each year, commencing August 8, 2000.

Interest on the Securities shall be computed (i) for any full semiannual period for which a particular Interest Rate is applicable on the basis of a 360-day year of twelve 30-day months and (ii) for any period for which a particular Interest Rate is applicable shorter than a full semiannual period for which interest is calculated, on the basis of a 30-day month and, for such periods of less than a month, the actual number of days elapsed over a 30-day month. For purposes of determining the Interest Rate, the Trustee may assume that a Reset Transaction has not occurred unless the Trustee has received an Officers' Certificate stating that a Reset Transaction has occurred and specifying the Adjusted Interest Rate then in effect.

A Holder of any Security at the close of business on a Regular Record Date shall be entitled to receive interest (including Liquidated Damages, if any) on such Security on the corresponding Interest Payment Date. A Holder of any Security which is converted after the close of business on a Regular Record Date and prior to the corresponding Interest Payment Date (other than any Security whose Maturity is prior to such Interest Payment Date) shall be entitled to receive interest (including Liquidated Damages, if any) on the principal amount of such Security, notwithstanding the conversion of such Security prior to such Interest Payment Date. However, any such Holder which surrenders any such Security for conversion during the period between the close of business on such Regular Record Date and ending with the opening of business on the corresponding Interest Payment Date shall be required to pay the Company an amount equal to the interest (including Liquidated Damages, if any) on the principal amount of such Security so converted, which is payable by the Company to such Holder on such Interest Payment Date, at the time such Holder surrenders such Security for conversion. Notwithstanding the foregoing, any such Holder which surrenders for conversion any Security which has been called for redemption by the Company in a notice of redemption given by the Company pursuant to Section 10.5 hereof shall be entitled to receive (and retain) such interest (including Liquidated Damages, if any) and need not pay the Company an amount equal to the interest (including

Liquidated Damages, if any) on the principal amount of such Security so converted at the time such Holder surrenders such Security for conversion.

Principal of, and premium, if any, and interest on, Global Securities shall be payable to the Depositary in immediately available funds.

Principal and premium, if any, on Physical Securities shall be payable at the office or agency of the Company maintained for such purpose, initially the Corporate Trust Office of the Trustee. Interest on Physical Securities will be payable by (i) U.S. Dollar check drawn on a bank in The City of New York mailed to the address of the Person entitled thereto as such address shall appear in the Register, or (ii) upon application to the Registrar not later than the relevant Record Date by a Holder of an aggregate principal amount in excess of $5,000,000, wire transfer in immediately available funds.

The Securities shall be redeemable at the option of the Company as provided in Article 10 hereof.

The Securities shall have a Repurchase Right exercisable at the option of Holders as provided in Article 11 hereof.

The Securities shall be convertible as provided in Article 12 hereof.

The Securities shall be subordinated in right of payment to Senior Debt of the Company as provided in Article 13 hereof.

SECTION 2.2 FORM OF SECURITIES.

The Securities and the Trustee's certificate of authentication to be borne by such Securities shall be substantially in the form annexed hereto as Exhibit A, which is incorporated in and made a part of this Indenture. The terms and provisions contained in the form of Security shall constitute, and are hereby expressly made, a part of this Indenture and to the extent applicable, the Company and the Trustee, by their execution and delivery of this Indenture, expressly agree to such terms and provisions and to be bound thereby.

Any of the Securities may have such letters, numbers or other marks of identification and such notations, legends and endorsements as the officers executing the same may approve (execution thereof to be conclusive evidence of such approval) and as are not inconsistent with the provisions of this Indenture, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any securities exchange or automated quotation system on which the Securities may be listed or designated for issuance, or to conform to usage.

The Securities will be offered and sold only to QIBs in reliance on Rule 144A and shall be issued initially only in the form of one or more permanent Global Securities (each, a "Global Security") in registered form without interest coupons. The Global Securities shall be:

(1) duly executed by the Company and authenticated by the Trustee as hereinafter provided;

(2) registered in the name of the Depositary (or its nominee) for credit to the respective accounts of the Holders at the Depositary; and

(3) deposited with the Trustee, as custodian for the Depositary.

The Global Securities shall be substantially in the form of Security set forth in Exhibit A annexed hereto (including the text and schedule called for by footnotes 1 and 2 thereto). The aggregate principal amount of the Global Securities may from time to time be increased or decreased by adjustments made on the records of the Trustee, as custodian for the Depositary (or its nominee), in accordance with the instructions given by the Holder thereof, as hereinafter provided.

Securities issued in exchange for interests in the Global Securities pursuant to Section 2.8(d) hereof shall be issued in the form of permanent definitive Securities (the "Physical Securities") in registered form without interest coupons. The Physical Securities shall be substantially in the form set forth in Exhibit A annexed hereto.

The Securities shall be typed, printed, lithographed or engraved or produced by any combination of these methods or may be produced in any other manner permitted by the rules of any securities exchange on which the Securities may be listed, all as determined by the Officers executing such Securities, as evidenced by their execution of such Securities.

SECTION 2.3 LEGENDS.

(A) RESTRICTED SECURITIES LEGENDS.

Each Security issued hereunder shall, upon issuance, bear the legend set forth in Section 2.3(a)(i) or Section 2.3(a)(ii) (each, a "Restricted Securities Legend"), as the case may be, and such legend shall not be removed except as provided in Section 2.3(a)(iii). Each Security that bears or is required to bear the Restricted Securities Legend set forth in Section 2.3(a)(i) (together with any Common Stock issued upon conversion of the Securities and required to bear the Restricted Securities Legend set forth in Section 2.3(a)(ii), collectively, the "Restricted Securities") shall be subject to the restrictions on transfer set forth in this Section 2.3(a) (including the Restricted Securities Legend set forth below), and the Holder of each such Restricted Security, by such Holder's acceptance thereof, shall be deemed to have agreed to be bound by all such restrictions on transfer.

As used in Section 2.3(a), the term "transfer" encompasses any sale, pledge, transfer or other disposition whatsoever of any Restricted Security.

(i) Restricted Securities Legend for Securities.

Except as provided in Section 2.3(a)(iii), until two years after the original issuance date of any Security, any certificate evidencing such Security (and all securities issued in exchange therefor or substitution thereof, other than Common Stock, if any, issued upon conversion thereof which shall bear the legend set forth in Section 2.3(a)(ii), if applicable) shall bear a Restricted Securities Legend in substantially the following form:

THE SECURITY EVIDENCED BY THIS CERTIFICATE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY STATE SECURITIES LAWS, AND MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. BY ACQUISITION HEREOF, THE HOLDER (1) REPRESENTS THAT IT IS A "QUALIFIED INSTITUTIONAL BUYER" AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT; (2) AGREES THAT IT WILL NOT WITHIN TWO YEARS AFTER THE ORIGINAL ISSUANCE OF THIS SECURITY RESELL OR OTHERWISE TRANSFER THE SECURITY EVIDENCED HEREBY OR THE COMMON STOCK ISSUABLE UPON CONVERSION OF SUCH SECURITY EXCEPT (A) TO THE COMPANY OR ANY SUBSIDIARY THEREOF, (B) TO A QUALIFIED INSTITUTIONAL BUYER IN COMPLIANCE WITH RULE 144A UNDER THE SECURITIES ACT, (C) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (D) PURSUANT TO A REGISTRATION STATEMENT WHICH HAS BEEN DECLARED EFFECTIVE UNDER THE SECURITIES ACT AND WHICH CONTINUES TO BE EFFECTIVE AT THE TIME OF SUCH TRANSFER; AND (3) AGREES THAT IT WILL DELIVER TO EACH PERSON TO WHOM THE SECURITY EVIDENCED HEREBY IS TRANSFERRED (OTHER THAN A TRANSFER PURSUANT TO CLAUSE 2(D) ABOVE) A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND. IN CONNECTION WITH ANY TRANSFER OF THE SECURITY EVIDENCED HEREBY WITHIN TWO YEARS AFTER THE ORIGINAL ISSUANCE OF SUCH SECURITY (OTHER THAN A TRANSFER PURSUANT TO CLAUSE (2)(D) ABOVE), THE HOLDER MUST CHECK THE APPROPRIATE BOX SET FORTH ON THE REVERSE HEREOF RELATING TO THE MANNER OF SUCH TRANSFER AND SUBMIT THIS CERTIFICATE TO THE TRUSTEE (OR ANY SUCCESSOR TRUSTEE, AS APPLICABLE). IF THE PROPOSED TRANSFER IS PURSUANT TO CLAUSE (2)(C) ABOVE, THE HOLDER MUST, PRIOR TO SUCH TRANSFER, FURNISH TO THE TRUSTEE (OR ANY SUCCESSOR TRUSTEE, AS APPLICABLE), SUCH CERTIFICATIONS, LEGAL OPINIONS OR OTHER INFORMATION AS THE COMPANY MAY REASONABLY REQUIRE TO CONFIRM THAT SUCH TRANSFER IS BEING MADE PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT. THIS LEGEND WILL BE REMOVED UPON THE EARLIER OF THE TRANSFER OF THE SECURITY EVIDENCED HEREBY PURSUANT TO CLAUSE (2)(D) ABOVE OR THE EXPIRATION OF TWO YEARS FROM THE ORIGINAL ISSUANCE OF THE SECURITY EVIDENCED HEREBY.

AS USED HEREIN, THE TERMS "UNITED STATES" AND "U.S. PERSON" HAVE THE MEANINGS GIVEN TO THEM BY REGULATION S UNDER THE SECURITIES ACT.

(ii) Restricted Securities Legend for Common Stock Issued Upon Conversion of the Securities.

Until two years after the original issuance date of any Security, any stock certificate representing Common Stock issued upon conversion of such Security shall bear a Restricted Securities Legend in substantially the following form:

THE SECURITY EVIDENCED HEREBY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY STATE SECURITIES LAWS, AND MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. THE HOLDER HEREOF AGREES THAT UNTIL THE EXPIRATION OF TWO YEARS AFTER THE ORIGINAL ISSUANCE OF THE SECURITY UPON THE CONVERSION OF WHICH THE COMMON STOCK EVIDENCED HEREBY WAS ISSUED, (1) IT WILL NOT RESELL OR OTHERWISE TRANSFER THE SECURITY EXCEPT (A) TO THE COMPANY OR ANY SUBSIDIARY THEREOF, (B) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (C) PURSUANT TO A REGISTRATION STATEMENT WHICH HAS BEEN DECLARED EFFECTIVE UNDER THE SECURITIES ACT AND WHICH CONTINUES TO BE EFFECTIVE AT THE TIME OF SUCH TRANSFER; (2) PRIOR TO ANY SUCH TRANSFER OTHER THAN A TRANSFER PURSUANT TO CLAUSE 1(C) ABOVE, IT WILL FURNISH TO SUCH TRANSFER AGENT (OR ANY SUCCESSOR TRANSFER AGENT, AS APPLICABLE), SUCH CERTIFICATIONS, LEGAL OPINIONS OR OTHER INFORMATION AS THE COMPANY MAY REASONABLY REQUIRE TO CONFIRM THAT SUCH TRANSFER IS BEING MADE PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT; AND (3) IT WILL DELIVER TO EACH PERSON TO WHOM THE COMMON STOCK EVIDENCED HEREBY IS TRANSFERRED (OTHER THAN A TRANSFER PURSUANT TO A CLAUSE (1)(C) ABOVE) A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND. THIS LEGEND WILL BE REMOVED UPON THE EARLIER OF THE TRANSFER OF THE COMMON STOCK EVIDENCED HEREBY PURSUANT TO CLAUSE (1)(C) ABOVE OR THE EXPIRATION OF TWO YEARS FROM THE ORIGINAL ISSUANCE OF THE SECURITY UPON THE CONVERSION OF WHICH THE COMMON STOCK EVIDENCED HEREBY WAS ISSUED. AS USED HEREIN, THE TERMS "UNITED STATES" AND "U.S. PERSON" HAVE THE MEANINGS GIVEN TO THEM BY REGULATION S UNDER THE SECURITIES ACT.

(iii) Removal of the Restricted Securities Legends.

Each Security or share of Common Stock issued upon conversion of such Security shall bear the Restricted Securities Legend set forth in Section 2.3(a)(i) or 2.3(a)(ii), as the case may be, until the earlier of:

(A) two years after the original issuance date of such Security;

(B) such Security or Common Stock has been sold pursuant to a registration statement that has been declared effective under the Securities Act (and which continues to be effective at the time of such sale); or

(C) such Common Stock has been issued upon conversion of Securities that have been sold pursuant to a registration statement that has been declared effective under the Securities Act (and which continues to be effective at the time of such sale).

The Holder must give notice thereof to the Trustee and any transfer agent for the Common Stock, as applicable.

Notwithstanding the foregoing, the Restricted Securities Legend may be removed if there is delivered to the Company such satisfactory evidence, which may include an opinion of independent counsel, as may be reasonably required by the Company that neither such legend nor the restrictions on transfer set forth therein are required to ensure that transfers of such Security will not violate the registration requirements of the Securities Act. Upon provision of such satisfactory evidence, the Trustee, at the written direction of the Company, shall authenticate and deliver in exchange for such Securities another Security or Securities having an equal aggregate principal amount that does not bear such legend. If the Restricted Securities Legend has been removed from a Security as provided above, no other Security issued in exchange for all or any part of such Security shall bear such legend, unless the Company has reasonable cause to believe that such other Security is a "restricted security" within the meaning of Rule 144 and instructs the Trustee in writing to cause a Restricted Securities Legend to appear thereon.

Any Security (or security issued in exchange or substitution thereof) as to which such restrictions on transfer shall have expired in accordance with their terms or as to which the conditions for removal of the Restricted Securities Legend set forth in Section 2.3(a)(i) as set forth therein have been satisfied may, upon surrender of such Security for exchange to the Registrar in accordance with the provisions of Section 2.7 hereof, be exchanged for a new Security or Securities, of like tenor and aggregate principal amount, which shall not bear the Restricted Securities Legend required by Section 2.3(a)(i).

Any such Common Stock as to which such restrictions on transfer shall have expired in accordance with their terms or as to which the conditions for removal of the Restricted Securities Legend set forth in Section 2.3(a)(ii) as set forth therein have been satisfied may, upon surrender of the certificates representing such shares of Common Stock for exchange in accordance with the procedures of the transfer agent for the Common Stock, be exchanged for a new certificate or

certificates for a like aggregate number of shares of Common Stock, which shall not bear the Restricted Securities Legend required by Section 2.3(a)(ii).

(b) GLOBAL SECURITY LEGEND.

Each Global Security shall also bear the following legend on the face thereof:

UNLESS THIS CERTIFICATE IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY ("DTC") TO INHALE THERAPEUTIC SYSTEMS, INC. (OR ITS SUCCESSOR) OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE, CONVERSION OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR IN SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT HEREON IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL SINCE THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.

SECTION 2.4 EXECUTION, AUTHENTICATION, DELIVERY AND DATING.

Two Officers shall execute the Securities on behalf of the Company by manual or facsimile signature. If an Officer whose signature is on a Security no longer holds that office at the time the Security is authenticated, the Security shall be valid nevertheless.

At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities executed by the Company to the Trustee for authentication, together with a Company Order for the authentication and delivery of such Securities, and the Trustee in accordance with such Company Order shall authenticate and deliver such Securities as in this Indenture provided and not otherwise.

Each Security shall be dated the date of its authentication.

No Security shall be entitled to any benefit under this Indenture, or be valid or obligatory for any purpose, unless there appears on such Security a certificate of authentication substantially in the form provided for herein executed by or on behalf of the Trustee by manual signature, and such certificate upon any Security shall be conclusive evidence, and the only evidence, that such Security has been duly authenticated and delivered hereunder.

The Trustee may appoint an authenticating agent or agents reasonably acceptable to the Company with respect to the Securities. Unless limited by the terms of such appointment, an authenticating agent may authenticate Securities whenever the Trustee may do so. Each reference in this Indenture to authentication by the Trustee includes authentication by such agent.

SECTION 2.5 REGISTRAR AND PAYING AGENT.

The Company shall maintain an office or agency where Securities may be presented for registration of transfer or for exchange (the "Registrar") and an office or agency where Securities may be presented for payment (the "Paying Agent"). The Registrar shall keep a register of the Securities (the "Register") and of their transfer and exchange. The Company may appoint one or more co-Registrars and one or more additional Paying Agents for the Securities. The term "Paying Agent" includes any additional paying agent and the term "Registrar" includes any additional registrar. The Company may change any Paying Agent or Registrar without prior notice to any Holder.

The Company will cause each Paying Agent (other than the Trustee) to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section, that such Paying Agent will:

(1) hold all sums held by it for the payment of the principal of and premium, if any, or interest (including Liquidated Damages, if any) on Securities in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as provided in this Indenture;

(2) give the Trustee notice of any Default by the Company in the making of any payment of principal and premium, if any, or interest (including Liquidated Damages, if any); and

(3) at any time during the continuance of any such Default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent.

The Company shall give prompt written notice to the Trustee of the name and address of any Agent who is not a party to this Indenture. If the Company fails to appoint or maintain another entity as Registrar or Paying Agent, the Trustee shall act as such. The Company or any Affiliate of the Company may act as Paying Agent or Registrar; provided, however, that none of the Company, its subsidiaries or the Affiliates of the foregoing shall act:

(i) as Paying Agent in connection with redemptions, offers to purchase and discharges, as otherwise specified in this Indenture, and

(ii)as Paying Agent or Registrar if a Default or Event of Default has occurred and is continuing.

The Company hereby initially appoints the Trustee as Registrar and Paying Agent for the Securities.

SECTION 2.6 PAYING AGENT TO HOLD ASSETS IN TRUST.

Not later than 11:00 a.m. (New York City time) on each due date of the principal, premium, if any, and interest (including Liquidated Damages, if any) on any Securities, the Company shall deposit with one or more Paying Agents money in immediately available funds sufficient to pay such principal, premium, if any, and interest (including Liquidated Damages, if any) so becoming due. The Company at any time may require a Paying Agent to pay all money held by it to the Trustee. Upon payment over to the Trustee, the Paying Agent (if other than the Company) shall have no further liability for the money so paid over to the Trustee.

If the Company shall act as a Paying Agent, it shall, prior to or on each due date of the principal of and premium, if any, or interest (including Liquidated Damages, if any) on any of the Securities, segregate and hold in trust for the benefit of the Holders a sum sufficient with monies held by all other Paying Agents, to pay the principal and premium, if any, or interest (including Liquidated Damages, if any) so becoming due until such sums shall be paid to such Persons or otherwise disposed of as provided in this Indenture, and shall promptly notify the Trustee of its action or failure to act.

SECTION 2.7 GENERAL PROVISIONS RELATING TO TRANSFER AND EXCHANGE.

The Securities are issuable only in registered form. A Holder may transfer a Security only by written application to the Registrar stating the name of the proposed transferee and otherwise complying with the terms of this Indenture. No such transfer shall be effected until, and such transferee shall succeed to the rights of a Holder only upon, final acceptance and registration of the transfer by the Registrar in the Register. Furthermore, any Holder of a Global Security shall, by acceptance of such Global Security, agree that transfers of beneficial interests in such Global Security may be effected only through a book-entry system maintained by the Holder of such Global Security (or its agent) and that ownership of a beneficial interest in the Security shall be required to be reflected in a book-entry. Notwithstanding the foregoing, in the case of a Restricted Security, a beneficial interest in a Global Security being transferred in reliance on an exemption from the registration requirements of the Securities Act other than in accordance with Rule 144 and Rule 144A may only be transferred for a Physical Security.

When Securities are presented to the Registrar with a request to register the transfer or to exchange them for an equal aggregate principal amount of Securities of other authorized denominations, the Registrar shall register the transfer or make the exchange as requested if its requirements for such transactions are met (including that such Securities are duly endorsed or accompanied by a written instrument of transfer duly executed by the Holder thereof or by an attorney who is authorized in writing to act on behalf of the Holder). Subject to Section 2.4 hereof, to permit registrations of transfers and exchanges, the Company shall execute and the Trustee shall authenticate Securities at the Registrar's request. No service charge shall be made for any registration of transfer or exchange or redemption of the Securities, but the Company may require payment of a sum sufficient to cover any transfer tax or similar governmental charge payable in connection therewith (other than any such transfer taxes or other similar governmental charge payable upon exchanges pursuant to Section 2.14, 7.5 or 10.8 hereof).

Neither the Company nor the Registrar shall be required to exchange or register a transfer of any Securities:

(1) for a period of 15 Business Days prior to the day of any selection of Securities for redemption under Article 10 hereof;

(2) so selected for redemption or, if a portion of any Security is selected for redemption, such portion thereof selected for redemption; or

(3) surrendered for conversion or, if a portion of any Security is surrendered for conversion, such portion thereof surrendered for conversion.

SECTION 2.8 BOOK-ENTRY PROVISIONS FOR THE GLOBAL SECURITIES.

(a) The Global Securities initially shall:

(i) be registered in the name of the Depositary (or a nominee thereof);

(ii)be delivered to the Trustee as custodian for such Depositary; and

(iii) bear the Restricted Securities Legend as set forth in Section 2.3(a)(i) hereof.

Members of, or participants in, the Depositary ("DTC Participants") shall have no rights under this Indenture with respect to any Global Security held on their behalf by the Depositary, or the Trustee as its custodian, or under such Global Security, and the Depositary may be treated by the Company, the Trustee and any agent of the Company or the Trustee as the absolute owner of such Global Security for all purposes whatsoever. Notwithstanding the foregoing, nothing contained herein shall prevent the Company, the Trustee or any agent of the Company or Trustee from giving effect to any written certification, proxy or other authorization furnished by the Depositary or impair, as between the Depositary and the DTC Participants, the operation of customary practices governing the exercise of the rights of a Holder of any Security.

(b) The registered Holder of a Global Security may grant proxies and otherwise authorize any Person, including DTC Participants and Persons that may hold interests through DTC Participants, to take any action which a Holder is entitled to take under this Indenture or the Securities.

(c) A Global Security may not be transferred, in whole or in part, to any Person other than the Depositary (or a nominee thereof), and no such transfer to any such other Person may be registered. Beneficial interests in a Global Security may be transferred in accordance with the rules and procedures of the Depositary and the provisions of Section 2.9 hereof.

(d) If at any time:

(i) the Depositary notifies the Company in writing that it is no longer willing or able to continue to act as Depositary for the Global Securities, or the Depositary ceases to

be a "clearing agency" registered under the Exchange Act and a successor depositary for the Global Securities is not appointed by the Company within 90 days of such notice or cessation;

(ii) the Company, at its option, notifies the Trustee in writing that it elects to cause the issuance of the Securities in definitive form under this Indenture in exchange for all or any part of the Securities represented by a Global Security or Global Securities; or

(iii) an Event of Default has occurred and is continuing and the Registrar has received a request from the Depositary for the issuance of Physical Securities in exchange for such Global Security or Global Securities,

the Depositary shall surrender such Global Security or Global Securities to the Trustee for cancellation and the Company shall execute, and the Trustee, upon receipt of an Officers' Certificate and Company Order for the authentication and delivery of Securities, shall authenticate and deliver in exchange for such Global Security or Global Securities, Physical Securities of like tenor as that of the Global Securities in an aggregate principal amount equal to the aggregate principal amount of such Global Security or Global Securities. Such Physical Securities shall be registered in such names as the Depositary shall identify in writing as the beneficial owners of the Securities represented by such Global Security or Global Securities (or any nominee thereof).

Notwithstanding the foregoing, in connection with any transfer of beneficial interests in a Global Security to beneficial owners pursuant to Section 2.8(d) hereof, the Registrar shall reflect on its books and records the date and a decrease in the principal amount of such Global Security in an amount equal to the principal amount of the beneficial interest in such Global Security to be transferred.

SECTION 2.9 SPECIAL TRANSFER PROVISIONS.

Unless a Security is transferred after the time period referred to in Rule 144(k) under the Securities Act or otherwise sold pursuant to a registration statement that has been declared effective under the Securities Act (and which continues to be effective at the time of such sale), the following provisions shall apply.

With respect to the registration of any proposed transfer of Securities to a QIB:

(i) If the Securities to be transferred consist of an interest in the Global Securities, the transfer of such interest may be effected only through the book-entry system maintained by the Depositary.

(ii)If the Securities to be transferred consist of Physical Securities, the Registrar shall register the transfer if such transfer is being made by a proposed transferor who has checked the box provided for on the form of Security stating, or has otherwise advised the Company and the Registrar in writing, that the sale has been made in

compliance with the provisions of Rule 144A to a transferee who has signed the certification provided for on the form of Security stating or has otherwise advised the Company and the Registrar in writing that:

(A) it is purchasing the Securities for its own account or an account with respect to which it exercises sole investment discretion, in each case for investment and not with a view to distribution;

(B) it and any such account is a QIB within the meaning of Rule 144A;

(C) it is aware that the sale to it is being made in reliance on Rule 144A;

(D) it acknowledges that it has received such information regarding the Company as it has requested pursuant to Rule 144A or has determined not to request such information; and

(E) it is aware that the transferor is relying upon its foregoing representations in order to claim the exemption from registration provided by Rule 144A.

In addition, the Registrar shall reflect on its books and records the date and an increase in the principal amount of the Global Securities in an amount equal to the principal amount of the Physical Securities to be transferred, and the Trustee shall cancel the Physical Securities so transferred.

By its acceptance of any Security bearing the Restricted Securities Legend, each Holder of such a Security acknowledges the restrictions on transfer of such Security set forth in this Indenture and agrees that it will transfer such Security only as provided in this Indenture. The Registrar shall not register a transfer of any Security unless such transfer complies with the restrictions on transfer of such Security set forth in this Indenture. The Registrar shall be entitled to receive and rely on written instructions from the Company verifying that such transfer complies with such restrictions on transfer. In connection with any transfer of Securities, each Holder agrees by its acceptance of the Securities to furnish the Registrar or the Company such certifications, legal opinions or other information as either of them may reasonably require to confirm that such transfer is being made pursuant to an exemption from, or a transaction not subject to, the registration requirements of the Securities Act; provided that the Registrar shall not be required to determine (but may rely on a determination made by the Company with respect to) the sufficiency of any such certifications, legal opinions or other information.

The Registrar shall retain copies of all letters, notices and other written communications received pursuant to Section 2.8 hereof or this Section 2.9. The Company shall have the right to inspect and make copies of all such letters, notices or other written communications at any reasonable time upon the giving of reasonable written notice to the Registrar.

SECTION 2.10 HOLDER LISTS.

The Trustee shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of Holders and shall otherwise comply with Section 312(a) of the TIA. If the Trustee is not the Registrar, the Company shall furnish to the Trustee prior to or on each Interest Payment Date and at such other times as the Trustee may request in writing a list in such form and as of such date as the Trustee may reasonably require of the names and addresses of Holders relating to such Interest Payment Date or request, as the case may be.

SECTION 2.11 PERSONS DEEMED OWNERS.

The Company, the Trustee and any agent of the Company or the Trustee may treat the registered Holder of a Global Security as the absolute owner of such Global Security for the purpose of receiving payment thereof or on account thereof and for all other purposes whatsoever, whether or not such Security be overdue, and notwithstanding any notice of ownership or writing thereon, or any notice of previous loss or theft or other interest therein. The Company, the Trustee and any agent of the Company or the Trustee may treat the Person in whose name any Security is registered as the owner of such Security for the purpose of receiving payment of principal of and premium, if any, and interest (including Liquidated Damages, if any) on such Security and for all other purposes whatsoever, whether or not such Security be overdue, and notwithstanding any notice of ownership or writing thereon, or any notice of previous loss or theft or other interest therein.

SECTION 2.12 MUTILATED, DESTROYED, LOST OR STOLEN SECURITIES.

If any mutilated Security is surrendered to the Trustee, the Company shall execute and the Trustee shall authenticate and deliver in exchange therefor a new Security of like tenor and principal amount and bearing a number not contemporaneously outstanding.

If there is delivered to the Company and the Trustee

(1) evidence to their satisfaction of the destruction, loss or theft of any Security, and

(2) such security or indemnity as may be required by them to save each of them and any agent of either of them harmless, then, in the absence of notice to the Company or the Trustee that such Security has been acquired by a bona fide purchaser, the Company shall execute and, upon request, the Trustee shall authenticate and deliver, in lieu of any such destroyed, lost or stolen Security, a new Security of like tenor and principal amount and bearing a number not contemporaneously outstanding.

In case any such mutilated, destroyed, lost or stolen Security has become or is about to become due and payable, the Company in its discretion, but subject to any conversion rights, may, instead of issuing a new Security, pay such Security, upon satisfaction of the condition set forth in the preceding paragraph.

Upon the issuance of any new Security under this Section, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith.

Every new Security issued pursuant to this Section in lieu of any destroyed, lost or stolen Security shall constitute an original additional contractual obligation of the Company, whether or not the destroyed, lost or stolen Security shall be at any time enforceable by anyone, and such new Security shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities duly issued hereunder.

The provisions of this Section are exclusive and shall preclude (to the extent lawful) all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities.

SECTION 2.13 TREASURY SECURITIES.

In determining whether the Holders of the requisite principal amount of Outstanding Securities are present at a meeting of Holders for quorum purposes or have given any request, demand, authorization, direction, notice, consent or waiver hereunder, Securities owned by the Company or any Affiliate of the Company shall be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee shall be protected in relying upon any such determination as to the presence of a quorum or upon any such request, demand, authorization, direction, notice, consent or waiver, only such Securities of which the Trustee has received written notice and are so owned shall be so disregarded.

SECTION 2.14 TEMPORARY SECURITIES.

Pending the preparation of Securities in definitive form, the Company may execute and the Trustee shall, upon written request of the Company, authenticate and deliver temporary Securities (printed or lithographed). Temporary Securities shall be issuable in any authorized denomination, and substantially in the form of the Securities in definitive form but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Company. Every such temporary Security shall be executed by the Company and authenticated by the Trustee upon the same conditions and in substantially the same manner, and with the same effect, as the Securities in definitive form. Without unreasonable delay, the Company will execute and deliver to the Trustee Securities in definitive form (other than in the case of Securities in global form) and thereupon any or all temporary Securities (other than any such Securities in global form) may be surrendered in exchange therefor, at each office or agency maintained by the Company pursuant to Section 9.2 and the Trustee shall authenticate and deliver in exchange for such temporary Securities an equal aggregate principal amount of Securities in definitive form. Such exchange shall be made by the Company at its own expense and without any charge therefor. Until so exchanged, the temporary Securities shall in all respects be entitled to the same benefits and subject to the same limitations under this Indenture as Securities in definitive form authenticated and delivered hereunder.

SECTION 2.15 CANCELLATION.

All securities surrendered for payment, redemption, repurchase, conversion, registration of transfer or exchange shall, if surrendered to any Person other than the Trustee, be delivered to the Trustee. All Securities so delivered shall be canceled promptly by the Trustee, and no Securities shall be issued in lieu thereof except as expressly permitted by any of the provisions of this Indenture. Upon written instructions of the Company, the Trustee shall destroy canceled Securities and, after such destruction, shall deliver a certificate of such destruction to the Company. If the Company shall acquire any of the Securities, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless the same are delivered to the Trustee for cancellation.

SECTION 2.16 CUSIP NUMBERS.

The Company in issuing the Securities may use "CUSIP" numbers (if then generally in use), and the Trustee shall use CUSIP numbers in notices of redemption or exchange as a convenience to Holders; provided that any such notice shall state that no representation is made as to the correctness of such numbers either as printed on the Securities or as contained in any such notice and that reliance may be placed only on the other identification numbers printed on the Securities, and any such redemption shall not be affected by any defect in or omission of such numbers. The Company shall promptly notify the Trustee of any change in the CUSIP numbers.

SECTION 2.17 DEFAULTED INTEREST.

If the Company fails to make a payment of interest (including Liquidated Damages, if any) on any Security when due and payable ("Defaulted Interest"), it shall pay such Defaulted Interest plus (to the extent lawful) any interest payable on the Defaulted Interest, in any lawful manner. It may elect to pay such Defaulted Interest, plus any such interest payable on it, to the Persons who are Holders of such Securities on which the interest is due on a subsequent Special Record Date. The Company shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each such Security. The Company shall fix any such Special Record Date and payment date for such payment. At least 15 days before any such Special Record Date, the Company shall mail to Holders affected thereby a notice that states the Special Record Date, the Interest Payment Date, and amount of such interest (and such Liquidated Damages, if any) to be paid.

ARTICLE 3

SATISFACTION AND DISCHARGE

SECTION 3.1 SATISFACTION AND DISCHARGE OF INDENTURE.

When:

(1) The Company shall deliver to the trustee for cancellation all securities previously authenticated (other than any securities which have been destroyed, lost or stolen and in lieu of, or in substitution for which, other securities shall have been authenticated and delivered) and not previously canceled, or

(2) all the securities not previously canceled or delivered to the trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption,

(A) the Company shall deposit with the Trustee, in trust, cash in U.S. dollars and/or U.S. Government Obligations which through the payment of interest and principal in respect thereof, in accordance with their terms, will provide (and without reinvestment and assuming no tax liability will be imposed on such Trustee), not later than one day before the due date of any payment of money, an amount in cash, sufficient, in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay principal of, premium, if any, or interest (including Liquidated Damages, if any) on all of the Securities (other than any Securities which shall have been mutilated, destroyed, lost or stolen and in lieu of or in substitution for which other Securities shall have been authenticated and delivered) not previously canceled or delivered to the Trustee for cancellation, on the dates such payments of principal, premium, if any, or interest (including Liquidated Damages, if any) are due to such date of maturity or redemption, as the case may be, and

(B) the Company shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel to the effect that (x) the Company has received from, or there has been published by, the Internal Revenue Service a ruling or (y) since the date of execution of this Indenture, there has been a change in the applicable federal income tax law, in the case of either clause (x) or (y) to the effect that, and based thereon such Opinion of Counsel shall confirm that, the Holders will not recognize income, gain or loss for federal income tax purposes as a result of such deposit and discharge and will be subject to federal income tax on the same amount and in the same manner and at the same times as would have been the case if such deposit and discharge had not occurred, and

if, in the case of either clause (1) or (2), the Company shall also pay or cause to be paid all other sums payable hereunder by the Company, then this Indenture shall cease to be of further effect (except as to:

(i) remaining rights of registration of transfer, substitution and exchange and conversion of Securities,

(ii) rights hereunder of Holders to receive payments of principal of and premium, if any, and interest (including Liquidated Damages, if any) on, the Securities and the other rights, duties and obligations of Holders, as beneficiaries hereof with respect to the amounts, if any, so deposited with the Trustee, and

(iii) the rights, obligations and immunities of the Trustee hereunder),

and the Trustee, on demand of the Company accompanied by an Officers' Certificate and an Opinion of Counsel and at the cost and expense of the Company, shall execute proper instruments acknowledging satisfaction of and discharging this Indenture; provided, however, the Company shall reimburse the Trustee for all amounts due the Trustee under Section 5.8 hereof and for any costs or expenses thereafter reasonably and properly incurred by the Trustee and to compensate the Trustee for any services thereafter reasonably and properly rendered by the Trustee in connection with this Indenture or the Securities.

SECTION 3.2 DEPOSITED MONIES TO BE HELD IN TRUST.

Subject to Section 3.3 hereof, all monies deposited with the Trustee pursuant to Section 3.1 hereof shall be held in trust and applied by it to the payment, notwithstanding the provisions of Article 13 hereof, either directly or through any Paying Agent (including the Company if acting as its own Paying Agent), to the Holders of the particular Securities for the payment or redemption of which such monies have been deposited with the Trustee, of all sums due and to become due thereon for principal, premium, if any, and interest (including Liquidated Damages, if any). All monies deposited with the Trustee pursuant to Section 3.1 hereof (and held by it or any Paying Agent) for the payment of Securities subsequently converted shall be returned to the Company upon request of the Company.

SECTION 3.3 RETURN OF UNCLAIMED MONIES.

The Trustee and the Paying Agent shall pay to the Company any money held by them for the payment of principal or premium, if any, or interest (including Liquidated Damages, if any) that remains unclaimed for two years after the date upon which such payment shall have become due. After payment to the Company, Holders entitled to the money must look to the Company for payment as general creditors unless an applicable abandoned property law designates another Person, and all liability of the Trustee and such Paying Agent with respect to such money shall cease.

ARTICLE 4

DEFAULTS AND REMEDIES

SECTION 4.1 EVENTS OF DEFAULT.

An "Event of Default" with respect to the Securities occurs when any of the following occurs (whatever the reason for such Event of Default and whether it shall be occasioned by the provisions of Article 13 hereof or be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(a) the Company defaults in the payment of the principal of or premium, if any, on any of the Securities when it becomes due and payable at Maturity, upon redemption or exercise of a Repurchase Right or otherwise, whether or not such payment is prohibited by Article 13 hereof; or

(b) the Company defaults in the payment of interest (including Liquidated Damages, if any) on any of the Securities when it becomes due and payable and such default continues for a period of 30 days, whether or not such payment is prohibited by Article 13 hereof; or

(c) the Company fails to perform or observe any other term, covenant or agreement contained in the Securities or this Indenture and the default continues for a period of 60 days after written notice of such failure, requiring the Company to remedy the same, shall have been given to the Company by the Trustee or to the Company and the Trustee by the Holders of at least 25% in aggregate principal amount of the Outstanding Securities; or

(d) (i) the Company fails to make any payment by the end of the applicable grace period, if any, after the maturity of any Indebtedness for borrowed money in an amount in excess of $5,000,000 (provided that such failure shall not constitute an Event of Default if (1) the Company determines, in good faith, that a lessor under a lease described in clause (3)(a) of the definition of Indebtedness breached a covenant under the lease and the Company has given notice of the breach to the lessor and the Trustee and (2) as a result of the breach, the Company withholds payment under the lease) (a "Default Exception"), or (ii) there is an acceleration of any Indebtedness for borrowed money in an amount in excess of $5,000,000 because of a default with respect to such Indebtedness (other than a Default Exception) without such Indebtedness having been discharged or such acceleration having been cured, waived, rescinded or annulled, in the case of either (i) or (ii) above, for a period of 30 days after written notice to the Company by the Trustee or to the Company and the Trustee by Holders of at least 25% in aggregate principal amount of the Outstanding Securities; or

(e) the entry by a court having jurisdiction in the premises of (i) a decree or order for relief in respect of the Company in an involuntary case or proceeding under any applicable U.S. federal or state bankruptcy, insolvency, reorganization or other similar law or (ii) a decree or order adjudging the Company a bankrupt or insolvent, or approving as properly filed a petition seeking reorganization, arrangement, adjustment or composition of or in respect of the Company

under any applicable U.S. federal or state law, or appointing a custodian, receiver, liquidator, assignee, trustee, sequestrator or other similar official of the Company or of any substantial part of its property, or ordering the winding up or liquidation of its affairs, and the continuance of any such decree or order for relief or any such other decree or order unstayed and in effect for a period of 60 consecutive days; or

(f) the commencement by the Company of a voluntary case or proceeding under any applicable U.S. federal or state bankruptcy, insolvency, reorganization or other similar law or of any other case or proceeding to be adjudicated a bankrupt or insolvent, or the consent by the Company to the entry of a decree or order for relief in respect of the Company in an involuntary case or proceeding under any applicable U.S. federal or state bankruptcy, insolvency, reorganization or other similar law or to the commencement of any bankruptcy or insolvency case or proceeding against the Company, or the filing by the Company of a petition or answer or consent seeking reorganization or relief under any applicable U.S. federal or state law, or the consent by the Company to the filing of such petition or to the appointment of or the taking possession by a custodian, receiver, liquidator, assignee, trustee, sequestrator or other similar official of the Company or of any substantial part of its property, or the making by the Company of an assignment for the benefit of creditors, or the admission by the Company in writing of its inability to pay its debts generally as they become due, or the taking of corporate action by the Company expressly in furtherance of any such action.

SECTION 4.2 ACCELERATION OF MATURITY; RESCISSION AND ANNULMENT.

If an Event of Default with respect to Outstanding Securities (other than an Event of Default specified in Section 4.1(e) or 4.1(f) hereof) occurs and is continuing, the Trustee or the Holders of at least 25% in aggregate principal amount of the Outstanding Securities, by written notice to the Company, may declare due and payable 100% of the principal amount of all Outstanding Securities plus any accrued and unpaid interest to the date of payment. Upon a declaration of acceleration, such principal and accrued and unpaid interest to the date of payment shall be immediately due and payable.

If an Event of Default specified in Section 4.1(e) or 4.1(f) hereof occurs, all unpaid principal and accrued and unpaid interest (including Liquidated Damages, if any) on the Outstanding Securities shall become and be immediately due and payable, without any declaration or other act on the part of the Trustee or any Holder.

The Holders of a majority in aggregate principal amount of the Outstanding Securities by written notice to the Trustee may rescind and annul an acceleration and its consequences if:

(1) all existing Events of Default, other than the nonpayment of principal of or interest on the Securities which have become due solely because of the acceleration, have been remedied, cured or waived, and

(2) the rescission would not conflict with any judgment or decree of a court of competent jurisdiction;

provided, however, that in the event such declaration of acceleration has been made based on the existence of an Event of Default under Section 4.1(d) hereof and such Event of Default has been remedied, cured or waived in accordance with Section 4.1(d) hereof, then, without any further action by the Holders, such declaration of acceleration shall be rescinded automatically and the consequences of such declaration shall be annulled. No such rescission or annulment shall affect any subsequent Default or impair any right consequent thereon.

SECTION 4.3 OTHER REMEDIES.

If an Event of Default with respect to Outstanding Securities occurs and is continuing, the Trustee may pursue any available remedy by proceeding at law or in equity to collect the payment of principal of or interest on the Securities or to enforce the performance of any provision of the Securities.

The Trustee may maintain a proceeding in which it may prosecute and enforce all rights of action and claims under this Indenture or the Securities, even if it does not possess any of the Securities or does not produce any of them in the proceeding.

SECTION 4.4 WAIVER OF PAST DEFAULTS.

The Holders, either (a) through the written consent of not less than a majority in aggregate principal amount of the Outstanding Securities, or (b) by the adoption of a resolution, at a meeting of Holders of the Outstanding Securities at which a quorum is present, by the Holders of at least a majority in aggregate principal amount of the Outstanding Securities represented at such meeting, may, on behalf of the Holders of all of the Securities, waive an existing Default or Event of Default, except a Default or Event of Default:

(1) in the payment of the principal of or premium, if any, or interest (including Liquidated Damages, if any) on any Security (provided, however, that subject to Section 4.7 hereof, the Holders of a majority in aggregate principal amount of the Outstanding Securities may rescind an acceleration and its consequences, including any related payment default that resulted from such acceleration); or

(2) in respect of a covenant or provision hereof which, under Section 7.2 hereof, cannot be modified or amended without the consent of the Holders of each Outstanding Security affected.

Upon any such waiver, such Default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured, for every purpose of this Indenture; provided, however, that no such waiver shall extend to any subsequent or other Default or impair any right consequent thereon.

SECTION 4.5 CONTROL BY MAJORITY.

The Holders of a majority in aggregate principal amount of the Outstanding Securities (or such lesser amount as shall have acted as a meeting pursuant to the provisions of this Indenture)

shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee. However, the Trustee may refuse to follow any direction that:

(1) conflicts with any law or with this Indenture;

(2) the Trustee determines may be unduly prejudicial to the rights of the Holders not joining therein, or

(3) may expose the Trustee to personal liability.

The Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction.

SECTION 4.6 LIMITATION ON SUIT.

No Holder of any Security shall have any right to pursue any remedy with respect to this indenture or the Securities (including, instituting any proceeding, judicial or otherwise, with respect to this Indenture or for the appointment of a receiver or trustee) unless:

(1) such Holder has previously given written notice to the Trustee of an Event of Default that is continuing;

(2) the Holders of at least 25% in aggregate principal amount of the Outstanding Securities shall have made written request to the Trustee to pursue the remedy;

(3) such Holder or Holders have offered to the Trustee indemnity satisfactory to it against any costs, expenses and liabilities incurred in complying with such request;

(4) the Trustee has failed to comply with the request for 60 days after its receipt of such notice, request and offer of indemnity; and

(5) during such 60-day period, no direction inconsistent with such written request has been given to the Trustee by the Holders of a majority in aggregate principal amount of the Outstanding Securities (or such amount as shall have acted at a meeting pursuant to the provisions of this Indenture);

provided, however, that no one or more of such Holders may use this Indenture to prejudice the rights of another Holder or to obtain preference or priority over another Holder.

SECTION 4.7 UNCONDITIONAL RIGHTS OF HOLDERS TO RECEIVE PAYMENT AND TO CONVERT.

Notwithstanding any other provision in this Indenture, the Holder of any Security shall have the right, which is absolute and unconditional, to receive payment of the principal of and premium, if any, and interest (including Liquidated Damages, if any) on such Security on the

Stated Maturity expressed in such Security (or, in the case of redemption, on the Redemption Date, or in the case of the exercise of a Repurchase Right, on the Repurchase Date) and to convert such Security in accordance with Article 12, and to bring for the enforcement of any such payment on or after such respective dates and right to convert, and such rights shall not be impaired or affected without the consent of such Holder.

SECTION 4.8 COLLECTION OF INDEBTEDNESS AND SUITS FOR ENFORCEMENT BY THE TRUSTEE.

The Company covenants that if:

(1) a Default or Event of Default is made in the payment of any interest (including Liquidated Damages, if any) on any Security when such interest (including Liquidated Damages, if any) becomes due and payable and such Default or Event of Default continues for a period of 30 days, or

(2) a Default or Event of Default is made in the payment of the principal of or premium, if any, on any Security at the Maturity thereof,

the Company will, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Securities, the whole amount then due and payable (as expressed therein or as a result of any acceleration effected pursuant to Section 4.2 hereof) on such Securities for principal and premium, if any, and interest (including Liquidated Damages, if any) and, to the extent that payment of such interest shall be legally enforceable, interest on any overdue principal and premium, if any, and on any overdue interest (including Liquidated Damages, if any), calculated using the Interest Rate, and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel.

If the Company fails to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, may institute a judicial proceeding for the collection of the sums so due and unpaid, may prosecute such proceeding to judgment or final decree and may enforce the same against the Company and collect the moneys adjudged or decreed to be payable in the manner provided by law out of the property of the Company, wherever situated.

If an Event of Default occurs and is continuing, the Trustee may in its discretion proceed to protect and enforce its rights and the rights of the Holders of Securities by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any such rights, whether for the specific enforcement of any covenant or agreement in this Indenture or in aid of the exercise of any power granted herein, or to enforce any other proper remedy.

SECTION 4.9 TRUSTEE MAY FILE PROOFS OF CLAIM.

In case of the pendency of any receivership, insolvency, liquidation, bankruptcy, reorganization, arrangement, adjustment, composition or other judicial proceeding relative to the Company or the property of the Company or its creditors, the Trustee (irrespective of whether the principal of the Securities shall then be due and payable as therein expressed or by declaration or

otherwise and irrespective of whether the Trustee shall have made any demand on the Company for the payment of overdue principal or interest (including Liquidated Damages, if any)) shall be entitled and empowered, by intervention in such proceeding or otherwise,

(1) to file and prove a claim for the whole amount of principal and premium, if any, and interest (including Liquidated Damages, if any) owing and unpaid in respect of the Securities and to file such other papers or documents as may be necessary or advisable in order to have the claims of the Trustee (including any claim for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel) and of the Holders of Securities allowed in such judicial proceeding, and

(2) to collect and receive any moneys or other property payable or deliverable on any such claim and to distribute the same;

and any custodian, receiver, assignee, trustee, liquidator, sequestrator or other similar official in any such judicial proceedings is hereby authorized by each Holder of Securities to make such payments to the Trustee and, in the event that the Trustee shall consent to the making of such payments directly to the Holders of Securities, to pay to the Trustee any amount due to it for the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel and any other amounts due the Trustee under Section 5.8.

Nothing contained herein shall be deemed to authorize the Trustee to authorize or consent to or accept, or adopt on behalf of any Holder of a Security, any plan of reorganization, arrangement, adjustment or composition affecting the Securities or the rights of any Holder thereof or to authorize the Trustee to vote in respect of the claim of any Holder of a Security in any such proceeding.

SECTION 4.10 RESTORATION OF RIGHTS AND REMEDIES.

If the Trustee or any Holder of a Security has instituted any proceeding to enforce any right or remedy under this Indenture and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to any determination in such proceeding, the Company, the Trustee and the Holders of Securities shall be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders shall continue as though no such proceeding had been instituted.

SECTION 4.11 RIGHTS AND REMEDIES CUMULATIVE.

Except as otherwise provided with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities in the last paragraph of Section 2.12, no right or remedy conferred in this Indenture upon or reserved to the Trustee or to the Holders of Securities is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or hereafter existing at law or in equity or otherwise. The assertion or employment of

any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

SECTION 4.12 DELAY OR OMISSION NOT WAIVER.

No delay or omission of the Trustee or of any Holder of any Security to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of any such Event of Default or any acquiescence therein. Every right and remedy given by this Article or by law to the Trustee or to the Holders of Securities may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or by the Holders of Securities, as the case may be.

SECTION 4.13 APPLICATION OF MONEY COLLECTED.

Subject to Article 13, any money collected by the Trustee pursuant to this Article shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such money on account of principal or premium, if any, or interest (including Liquidated Damages, if any), upon presentation of the Securities and the notation thereon of the payment if only partially paid and upon surrender thereof if fully paid:

FIRST: To the payment of all amounts due the Trustee;

SECOND: To the payment of the amounts then due and unpaid for principal of and premium, if any, and interest (including Liquidated Damages, if any) on the Securities and coupons in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities for principal and premium, if any, and interest (including Liquidated Damages, if any), respectively; and

THIRD: Any remaining amounts shall be repaid to the Company.

SECTION 4.14 UNDERTAKING FOR COSTS.

All parties to this Indenture agree, and each Holder of any Security by such Holder's acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken, suffered or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this Section shall not apply to any suit instituted by the Company, to any suit instituted by the Trustee, to any suit instituted by any Holder, or group of Holders, holding in the aggregate more than 10% in aggregate principal amount of the Outstanding Securities, or to any suit instituted by any Holder of any Security for the enforcement of the payment of the principal of or premium, if any, or interest (including Liquidated Damages, if any) on any Security on or after the Stated Maturity expressed in such

Security (or, in the case of redemption or exercise of a Repurchase Right, on or after the Redemption Date) or for the enforcement of the right to convert any Security in accordance with Article 12.

SECTION 4.15 WAIVER OF STAY OR EXTENSION LAWS.

The Company covenants (to the extent that it may lawfully do so) that it will not at any time insist upon, or plead, or in any manner whatsoever claim to take the benefit or advantage of, any stay or extension law wherever enacted, now or at any time hereafter in force, which may affect the covenants or the performance of this Indenture; and the Company (to the extent that it may lawfully do so) hereby expressly waives all benefit or advantage of any such law and covenants that it will not hinder, delay or impede the execution of any power herein granted to the Trustee, but will suffer and permit the execution of every such power as though no such law had been enacted.

ARTICLE 5

THE TRUSTEE

SECTION 5.1 CERTAIN DUTIES AND RESPONSIBILITIES.

(a) Except during the continuance of an Event of Default,

(1) The Trustee undertakes to perform such duties and only such duties as are specifically set forth in this Indenture or the TIA, and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(2) In the absence of bad faith on its part, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; provided, however, that in the case of any such certificates or opinions which by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall examine the certificates or opinions to determine whether or not, on their face, they conform to the requirements to this Indenture (but need not investigate or confirm the accuracy of any facts stated therein).

(b) In case an Event of Default actually known to a Responsible Officer of the Trustee has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

(c) No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act, or its own willful misconduct, except that:

(1) This paragraph (c) shall not be construed to limit the effect of paragraph (a) of this Section 5.1;

(2) The Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts; and

(3) The Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with a direction received by it of the Holders of a majority in principal amount of the Outstanding Securities (or such lesser amount as shall have acted at a meeting pursuant to the provisions of this Indenture) relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture.

(d) Whether or not herein expressly so provided, every provision of this Indenture relating to the conduct or affecting the liability of or affording protection to the Trustee shall be subject to the provisions of this Section 5.1.

(e) No provision of this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur any liability in the performance of any of its duties hereunder, or in the exercise of any of its rights or powers. The Trustee may refuse to perform any duty or exercise any right or power unless it receives indemnity satisfactory to it against any loss, liability, cost or expense (including, without limitation, reasonable fees of counsel).

(f) The Trustee shall not be obligated to pay interest on any money or other assets received by it unless otherwise agreed in writing with the Company. Assets held in trust by the Trustee need not be segregated from other funds except to the extent required by law.

(g) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, coupon, other evidence of indebtedness or other paper or document, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it shall be entitled to examine the books, records and premises of the Company, personally or by agent or attorney at the sole cost of the Company and shall incur no liability or additional liability of any kind by reason of such inquiry or investigation.

(h) The Trustee shall not be deemed to have notice or actual knowledge of any Event of Default or a Registration Default (as such term is defined in the Registration Rights Agreement) or the obligation of the Company to pay Liquidated Damages unless a Responsible Officer of the Trustee has actual knowledge thereof or unless written notice of any event which is in fact a Default is received by the Trustee pursuant to Section 14.2 hereof, and such notice references the Securities and this Indenture.

(i) The rights, privileges, protections, immunities and benefits given to the Trustee hereunder, including, without limitation, its right to be indemnified, are extended to, and shall be enforceable by, the Trustee in each of its capacities hereunder, and each Paying Agent, authenticating agent, Conversion Agent or Registrar acting hereunder.

SECTION 5.2 CERTAIN RIGHTS OF TRUSTEE.

Subject to the provisions of Section 5.1 hereof and subject to Section 315(a) through (d) of the TIA:

(1) The Trustee may rely on any document believed by it to be genuine and to have been signed or presented by the proper person. The Trustee need not investigate any fact or matter stated in the document.

(2) Before the Trustee acts or refrains from acting, it may require an Officers' Certificate or an Opinion of Counsel, or both. The Trustee shall not be liable for any action it takes or omits to take in good faith in reliance on the Officers' Certificate or Opinion of Counsel

(3) The Trustee may act through attorneys and agents and shall not be responsible for the misconduct or negligence of any attorney or agent appointed with due care.

(4) The Trustee shall not be liable for any action taken or omitted to be taken by it in good faith which it believed to be authorized or within the discretion or rights or powers conferred upon it by this Indenture, unless the Trustee's conduct constitutes negligence.

(5) The Trustee may consult with counsel of its selection and the advice of such counsel as to matters of law shall be full and complete authorization and protection in respect of any action taken, omitted or suffered by it hereunder in good faith and in accordance with the advice or opinion of such counsel.

(6) Unless otherwise specifically provided in this Indenture, any demand, request, direction or notice from the Company shall be sufficient if signed by an Officer of the Company.

(7) The permissive rights of the Trustee to do things enumerated in this Indenture shall not be construed as a duty unless so specified herein.

SECTION 5.3 INDIVIDUAL RIGHTS OF TRUSTEE.

The Trustee in its individual or any other capacity may become the owner or pledgee of Securities and may otherwise deal with the Company or any Affiliate of the Company with the same rights it would have if it were not Trustee. However, in the event that the Trustee acquires any conflicting interest (as such term is defined in Section 310(b) of the TIA), it must eliminate such conflict within 90 days, apply to the SEC for permission to continue as trustee (to the extent permitted under Section 310(b) of the TIA) or resign. Any agent may do the same with like rights and duties. The Trustee is also subject to Sections 5.11 and 5.12 hereof.

SECTION 5.4 MONEY HELD IN TRUST.

Money held by the Trustee in trust hereunder need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for interest on any money received by it hereunder except as otherwise expressly agreed with the Company.

SECTION 5.5 TRUSTEE'S DISCLAIMER.

The recitals contained herein and in the Securities (except for those in the certificate of authentication) shall be taken as the statements of the Company, and the Trustee assumes no

responsibility for their correctness. The Trustee makes no representations as to the validity, sufficiency or priority of this Indenture or of the Securities. The Trustee shall not be accountable for the use or application by the Company of Securities or the proceeds thereof.

SECTION 5.6 NOTICE OF DEFAULTS.

Within 90 days after the occurrence of any Default or Event of Default hereunder of which the Trustee has received written notice, the Trustee shall give notice to Holders pursuant to Section 14.2 hereof, unless such Default or Event of Default shall have been cured or waived; provided, however, that, except in the case of a Default or Event of Default in the payment of the principal of or premium, if any, or interest (including Liquidated Damages, if any), or in the payment of any redemption or repurchase obligation on any Security, the Trustee shall be protected in withholding such notice if and so long as Responsible Officers of the Trustee in good faith determine that the withholding of such notice is in the interest of the Holders.

SECTION 5.7 REPORTS BY TRUSTEE TO HOLDERS.

The Trustee shall transmit to Holders such reports concerning the Trustee and its actions under this Indenture as may be required by Section 313 of the TIA at the times and in the manner provided by the TIA.

A copy of each report at the time of its mailing to Holders shall be filed with the SEC, if required, and each stock exchange, if any, on which the Securities are listed. The Company shall promptly notify the Trustee when the Securities become listed on any stock exchange.

SECTION 5.8 COMPENSATION AND INDEMNIFICATION.

The Company covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, reasonable compensation (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) and the Company covenants and agrees to pay or reimburse the Trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by or on behalf of it in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all agents and other persons not regularly in its employ), except to the extent that any such expense, disbursement or advance is due to its negligence or bad faith. When the Trustee incurs expenses or renders services in connection with an Event of Default specified in Section 4.1 hereof, the expenses (including the reasonable charges and expenses of its counsel) and the compensation for the services are intended to constitute expenses of administration under any bankruptcy law. The Company also covenants to indemnify the Trustee and its officers, directors, employees and agents for, and to hold such Persons harmless against, any loss, liability or expense incurred by them, arising out of or in connection with the acceptance or administration of this Indenture or the trusts hereunder or the performance of their duties hereunder, including the costs and expenses of defending themselves against or investigating any claim of liability in the premises, except to the extent that any such loss, liability or expense was due to the negligence or willful misconduct of such Persons. The obligations of the Company under this Section 5.8 to compensate and indemnify the Trustee and

its officers, directors, employees and agents and to pay or reimburse such Persons for expenses, disbursements and advances shall constitute additional indebtedness hereunder and shall survive the satisfaction and discharge of this Indenture or the earlier resignation or removal of the Trustee. Such additional indebtedness shall be a senior claim to that of the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the benefit of the Holders of particular Securities, and the Securities are hereby subordinated to such senior claim. "Trustee" for purposes of this Section 5.8 shall include any predecessor Trustee, but the negligence or willful misconduct of any Trustee shall not affect the indemnification of any other Trustee.

SECTION 5.9 REPLACEMENT OF TRUSTEE.

A resignation or removal of the Trustee and appointment of a successor Trustee shall become effective only upon the successor Trustee's acceptance of appointment as provided in this Section 5.9.

The Trustee may resign and be discharged from the trust hereby created by so notifying the Company in writing. The Holders of at least a majority in aggregate principal amount of Outstanding Securities may remove the Trustee by so notifying the Trustee and the Company in writing. The Company must remove the Trustee if:

(i) the Trustee fails to comply with Section 5.10 hereof or Section 310 of the TIA;

(ii) the Trustee becomes incapable of acting.

(iii) the Trustee is adjudged a bankrupt or an insolvent or an order for relief is entered with respect to the Trustee under any Bankruptcy Law; or

(iv) a Custodian or public officer takes charge of the Trustee or its property.

If the Trustee resigns or is removed or if a vacancy exists in the office of the Trustee for any reason, the Company shall promptly appoint a successor Trustee. The Trustee shall be entitled to payment of its fees and reimbursement of its expenses while acting as Trustee. Within one year after the successor Trustee takes office, the Holders of at least a majority in aggregate principal amount of Outstanding Securities may appoint a successor Trustee to replace the successor Trustee appointed by the Company.

Any Holder may petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor Trustee if the Trustee fails to comply with Section 5.10 hereof.

If an instrument of acceptance by a successor Trustee shall not have been delivered to the Trustee within 30 days after the giving of such notice of resignation or removal, the resigning or

removed Trustee, as the case may be, may petition, at the expense of the Company, any court of competent jurisdiction for the appointment of a successor Trustee.

A successor Trustee shall deliver a written acceptance of its appointment to the retiring Trustee and to the Company. Thereupon the resignation or removal of the retiring Trustee shall become effective, and the successor Trustee shall have all the rights, powers and duties of the Trustee under this Indenture. The Company shall mail a notice of the successor Trustee's succession to the Holders. The retiring Trustee shall promptly transfer all property held by it as Trustee to the successor Trustee. Notwithstanding replacement of the Trustee pursuant to this Section 5.9, the Company's obligations under Section 5.8 hereof shall continue for the benefit of the retiring Trustee with respect to expenses, losses and liabilities incurred by it prior to such replacement.

SECTION 5.10 SUCCESSOR TRUSTEE BY MERGER, ETC.

Subject to Section 5.11 hereof, if the Trustee consolidates with, merges or converts into, or transfers or sells all or substantially all of its corporate trust business to, another corporation or national banking association, the successor entity without any further act shall be the successor Trustee as to the Securities.

SECTION 5.11 CORPORATE TRUSTEE REQUIRED; ELIGIBILITY.

The Trustee shall at all times satisfy the requirements of Section 310(a)(1), (2) and (5) of the TIA. The Trustee shall at all times have (or, in the case of a corporation included in a bank holding company system, the related bank holding company shall at all times have), a combined capital and surplus of at least $100 million as set forth in its (or its related bank holding company's) most recent published annual report of condition. The Trustee is subject to Section 310(b) of the TIA.

SECTION 5.12 COLLECTION OF CLAIMS AGAINST THE COMPANY.

The Trustee is subject to Section 311(a) of the TIA, excluding any creditor relationship listed in Section 311(b) of the TIA. A Trustee who has resigned or been removed shall be subject to Section 311(a) of the TIA to the extent indicated therein.

ARTICLE 6

CONSOLIDATION, MERGER, CONVEYANCE, TRANSFER OR LEASE

SECTION 6.1 COMPANY MAY CONSOLIDATE, ETC., ONLY ON CERTAIN TERMS.

The Company shall not consolidate with or merge into any other Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, and the Company shall not permit any Person to consolidate with or merge into the Company or convey, transfer or lease its properties and assets substantially as an entirety to the Company, unless:

(1) in the event that the Company shall consolidate with or merge into another Person or convey, transfer or lease its properties and assets substantially as an entirety to any Person, the Person formed by such consolidation or into which the Company is merged or the Person which acquires by conveyance or transfer, or which leases, the properties and assets of the Company substantially as an entirety shall be a corporation, limited liability company, partnership or trust organized and validly existing under the laws of the United States of America, any State thereof or the District of Columbia and, if the entity surviving such transaction or transferee entity is not the Company, then such surviving or transferee entity shall expressly assume, by an indenture supplemental hereto, executed and delivered to the Trustee, in form satisfactory to the Trustee, the due and punctual payment of the principal of and premium, if any and interest (including Liquidated Damages, if any), on all the Securities and the performance of every covenant of this Indenture on the party of the Company to be performed or observed and shall have provided for conversion rights in accordance with Section 12.11 hereof;

(2) at the time of consummation of such transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, shall have happened and be continuing; and

(3) the Company shall have delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that such consolidation, merger, conveyance, transfer or lease and, if a supplemental indenture is required in connection with such transaction, such supplemental indenture comply with this Article and that all conditions precedent herein provided for relating to such transaction have been complied with.

SECTION 6.2 SUCCESSOR CORPORATION SUBSTITUTED.

Upon any consolidation or merger by the Company with or into any other corporation or any conveyance, transfer or lease of the properties and assets of the Company substantially as an entirety to any Person, in accordance with Section 6.1 hereof, the successor corporation formed by such consolidation or into which the Company is merged or to which such conveyance, transfer or lease is made shall succeed to, and be substituted for, and may exercise every right and power of, the Company under this Indenture with the same effect as if such successor

corporation had been named as the Company herein, and thereafter, except in the case of a lease to another Person, the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.

ARTICLE 7

AMENDMENTS, SUPPLEMENTS AND WAIVERS

SECTION 7.1 WITHOUT CONSENT OF HOLDERS OF SECURITIES.

Without the consent of any Holders of Securities, the Company, when authorized by a Board Resolution, and the Trustee, at any time and from time to time, may amend this Indenture and the Securities to:

(a) add to the covenants of the Company for the benefit of the Holders of Securities;

(b) surrender any right or power herein conferred upon the Company;

(c) make provision with respect to the conversion rights of Holders of Securities pursuant to Section 12.11 hereof;

(d) provide for the assumption of the Company's obligations to the Holders of Securities in the case of a merger, consolidation, conveyance, transfer or lease pursuant to Article 6 hereof;

(e) reduce the Conversion Price; provided, that such reduction in the Conversion Price shall not adversely affect the interest of the Holders of Securities (after taking into account tax and other consequences of such reduction) in any material respect;

(f) comply with the requirements of the SEC in order to effect or maintain the qualification of this Indenture under the TIA;

(g) make any changes or modifications to this Indenture necessary in connection with the registration of any Securities under the Securities Act as contemplated in the Registration Rights Agreement, provided, that such action pursuant to this clause (g) does not adversely affect the interests of the Holders of Securities in any material respect;

(h) cure any ambiguity, to correct or supplement any provision herein which may be inconsistent with any other provision herein or which is otherwise defective, or to make any other provisions with respect to matters or questions arising under this Indenture which the Company and the Trustee may deem necessary or desirable and which shall not be inconsistent with the provisions of this Indenture, provided, that such action pursuant to this clause (h) does not adversely affect the interests of the Holders of Securities in any material respect;

(i) add or modify any other provisions with respect to matters or questions arising under this Indenture which the Company and the Trustee may deem necessary or desirable and which shall not be inconsistent with the provisions of this Indenture, provided, that such action pursuant to this clause (i) does not adversely affect the interests of the Holders of Securities in any material respect; or

(j) make provision for the establishment of a book-entry system, in which Holders would have the option to participate, for the clearance and settlement of transactions in Securities originally issued in definitive form.

SECTION 7.2 WITH CONSENT OF HOLDERS OF SECURITIES.

Except as provided below in this Section 7.2, this Indenture or the Securities may be amended or supplemented, and noncompliance in any particular instance with any provision of this Indenture or the Securities may be waived, in each case (i) with the written consent of the Holders of at least a majority in aggregate principal amount of the Outstanding Securities or (ii) by the adoption of a resolution, at a meeting of Holders of the Outstanding Securities at which a quorum is present, by the Holders of a majority in aggregate principal amount of the Outstanding Securities represented at such meeting.

Without the written consent or the affirmative vote of each Holder of Securities, an amendment or waiver under this Section 7.2 may not:

(a) change the Stated Maturity of the principal of, or any installment of interest (including Liquidated Damages, if any) on, any Security;

(b) reduce the principal amount of, or premium, if any, on any Security;

(c) reduce the Interest Rate or interest (including Liquidated Damages, if any) on any Security;

(d) change the currency of payment of principal of, premium, if any, or interest (including Liquidated Damages, if any) on any Security;

(e) impair the right of any Holder to institute suit for the enforcement of any payment in or with respect to any Security;

(f) modify the obligation of the Company to maintain an office or agency in The City of New York pursuant to Section 9.2 hereof;

(g) except as permitted by Section 12.11 hereof, adversely affect the Repurchase Right or the right to convert any Security as provided in Article 12 hereof;

(h) modify the subordination provisions of the Securities in a manner adverse to the Holders of Securities,

(i) modify any of the provisions of this Section, Section 4.4 or Section 14.11, except to increase any percentage contained herein or therein or to provide that certain other provisions of this Indenture cannot be modified or waived without the consent of the Holder of each Outstanding Security affected thereby; or

(j) reduce the requirements of Section 8.4 hereof for quorum or voting, or reduce the percentage in aggregate principal amount of the Outstanding Securities the consent of whose

Holders is required for any such supplemental indenture or the consent of whose Holders is required for any waiver provided for in this Indenture.

It shall not be necessary for any Act of Holders of Securities under this Section to approve the particular form of any proposal supplemental indenture, but it shall be sufficient if such Act shall approve the substance thereof.

SECTION 7.3 COMPLIANCE WITH TRUST INDENTURE ACT.

Every amendment to this Indenture or the Securities shall be set forth in a supplemental indenture that complies with the TIA as then in effect.

SECTION 7.4 REVOCATION OF CONSENTS AND EFFECT OF CONSENTS OR VOTES.

Until an amendment, supplement or waiver becomes effective, a written consent to it by a Holder is a continuing consent by the Holder and every subsequent Holder of a Security or portion of a Security that evidences the same debt as the consenting Holder's Security, even if notation of the consent is not made on any Security; provided, however, that unless a record date shall have been established, any such Holder or subsequent Holder may revoke the consent as to its Security or portion of a Security if the Trustee receives written notice of revocation before the date the amendment, supplement or waiver becomes effective.

An amendment, supplement or waiver becomes effective on receipt by the Trustee of written consents from or affirmative votes by, as the case may be, the Holders of the requisite percentage of aggregate principal amount of the Outstanding Securities, and thereafter shall bind every Holder of Securities; provided, however, if the amendment, supplement or waiver makes a change described in any of the clauses (a) through (j) of Section 7.2 hereof, the amendment, supplement or waiver shall bind only each Holder of a Security which has consented to it or voted for it, as the case may be, and every subsequent Holder of a Security or portion of a Security that evidences the same indebtedness as the Security of the consenting or affirmatively voting, as the case may be, Holder.

SECTION 7.5 NOTATION ON OR EXCHANGE OF SECURITIES.

If an amendment, supplement or waiver changes the terms of a Security:

(a) the Trustee may require the Holder of a Security to deliver such Securities to the Trustee, the Trustee may place an appropriate notation on the Security about the changed terms and return it to the Holder and the Trustee may place an appropriate notation on any Security thereafter authenticated; or

(b) if the Company or the Trustee so determines, the Company in exchange for the Security shall issue and the Trustee shall authenticate a new Security that reflects the changed terms.

Failure to make the appropriate notation or issue a new Security shall not affect the validity and effect of such amendment, supplement or waiver.

SECTION 7.6 TRUSTEE TO SIGN AMENDMENT, ETC.

The Trustee shall sign any amendment authorized pursuant to this Article 7 if the amendment does not adversely affect the rights, duties, liabilities or immunities of the Trustee. If the amendment does adversely affect the rights, duties, liabilities or immunities of the Trustee, the Trustee may but need not sign it. In signing or refusing to sign such amendment, the Trustee shall be entitled to receive and shall be fully protected in relying upon an Officers' Certificate and an Opinion of Counsel as conclusive evidence that such amendment is authorized or permitted by this Indenture.

ARTICLE 8

MEETING OF HOLDERS OF SECURITIES

SECTION 8.1 PURPOSES FOR WHICH MEETINGS MAY BE CALLED.

A meeting of Holders of Securities may be called at any time and from time to time pursuant to this Article to make, give or take any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be made, given or taken by Holders of Securities.

SECTION 8.2 CALL NOTICE AND PLACE OF MEETINGS.

(a) The Trustee may at any time call a meeting of Holders of Securities for any purpose specified in Section 8.1 hereof, to be held at such time and at such place in The City of New York. Notice of every meeting of Holders of Securities, setting forth the time and the place of such meeting and in general terms the action proposed to be taken at such meeting, shall be given, in the manner provided in Section 14.2 hereof, not less than 21 nor more than 180 days prior to the date fixed for the meeting.

(b) In case at any time the Company, pursuant to a Board Resolution, or the Holders of at least 10% in principal amount of the Outstanding Securities shall have requested the Trustee to call a meeting of the Holders of Securities for any purpose specified in Section 8.1 hereof, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have made the first publication of the notice of such meeting within 21 days after receipt of such request or shall not thereafter proceed to cause the meeting to be held as provided herein, then the Company or the Holders of Securities in the amount specified, as the case may be, may determine the time and the place in The City of New York for such meeting and may call such meeting for such purposes by giving notice thereof as provided in paragraph (a) of this Section.

SECTION 8.3 PERSONS ENTITLED TO VOTE AT MEETINGS.

To be entitled to vote at any meeting of Holders of Securities, a Person shall be (a) a Holder of one or more Outstanding Securities, or (b) a Person appointed by an instrument in writing as proxy for a Holder or Holders of one or more Outstanding Securities by such Holder or Holders. The only Persons who shall be entitled to be present or to speak at any meeting of Holders shall be the Persons entitled to vote at such meeting and their counsel, any representatives of the Trustee and its counsel and any representatives of the Company and its counsel.

SECTION 8.4 QUORUM; ACTION.

The Persons entitled to vote a majority in principal amount of the Outstanding Securities shall constitute a quorum. In the absence of a quorum within 30 minutes of the time appointed for any such meeting, the meeting shall, if convened at the request of Holders of Securities, be

dissolved. In any other case, the meeting may be adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such meeting. In the absence of a quorum at any such adjourned meeting, such adjourned meeting may be further adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such adjourned meeting. Notice of the reconvening of any adjourned meeting shall be given as provided in Section 8.2(a) hereof, except that such notice need be given only once and not less than five days prior to the date on which the meeting is scheduled to be reconvened. Notice of the reconvening of an adjourned meeting shall state expressly the percentage of the principal amount of the Outstanding Securities which shall constitute a quorum.

Subject to the foregoing, at the reconvening of any meeting adjourned for a lack of a quorum, the Persons entitled to vote 25% in principal amount of the Outstanding Securities at the time shall constitute a quorum for the taking of any action set forth in the notice of the original meeting.

At a meeting or an adjourned meeting duly reconvened and at which a quorum is present as aforesaid, any resolution and all matters (except as limited by the proviso to Section 7.2 hereof) shall be effectively passed and decided if passed or decided by the Persons entitled to vote not less than a majority in principal amount of Outstanding Securities represented and voting at such meeting.

Any resolution passed or decisions taken at any meeting of Holders of Securities duly held in accordance with this Section shall be binding on all the Holders of Securities, whether or not present or represented at the meeting.

SECTION 8.5 DETERMINATION OF VOTING RIGHTS; CONDUCT AND ADJOURNMENT OF MEETINGS.

(a) Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of Holders of Securities in regard to proof of the holding of Securities and of the appointment of proxies and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall deem appropriate. Except as otherwise permitted or required by any such regulations, the holding of Securities shall be proved in the manner specified in Section 1.3 hereof and the appointment of any proxy shall be proved in the manner specified in Section 1.3 hereof. Such regulations may provide that written instruments appointing proxies, regular on their face, may be presumed valid and genuine without the proof specified in Section 1.3 hereof or other proof.

(b) The Trustee shall, by an instrument in writing, appoint a temporary chairman (which may be the Trustee) of the meeting, unless the meeting shall have been called by the Company or by Holders of Securities as provided in Section 8.2(b) hereof, in which case the Company or the Holders of Securities calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the

meeting shall be elected by vote of the Persons entitled to vote a majority in principal amount of the Outstanding Securities represented at the meeting.

(c) At any meeting each Holder of a Security or proxy shall be entitled to one vote for each $1,000 principal amount of Securities held or represented by him; provided, however, that no vote shall be cast or counted at any meeting in respect of any Security challenged as not Outstanding and ruled by the chairman of the meeting to be not Outstanding. The chairman of the meeting shall have no right to vote, except as a Holder of a Security or proxy.

(d) Any meeting of Holders of Securities duly called pursuant to Section 8.2 hereof at which a quorum is present may be adjourned from time to time by Persons entitled to vote a majority in principal amount of the Outstanding Securities represented at the meeting, and the meeting may be held as so adjourned without further notice.

SECTION 8.6 COUNTING VOTES AND RECORDING ACTION OF MEETINGS.

The vote upon any resolution submitted to any meeting of Holders of Securities shall be by written ballots on which shall be subscribed the signatures of the Holders of Securities or of their representatives by proxy and the principal amounts and serial numbers of the Outstanding Securities held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record, at least in duplicate, of the proceedings of each meeting of Holders of Securities shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more Persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that said notice was given as provided in Section 8.2 hereof and, if applicable, Section 8.4 hereof. Each copy shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting and one such copy shall be delivered to the Company and another to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting. Any record so signed and verified shall be conclusive evidence of the matters therein stated.

ARTICLE 9

COVENANTS

SECTION 9.1 PAYMENT OF PRINCIPAL, PREMIUM AND INTEREST.

The Company will duly and punctually pay the principal of and premium, if any, and interest (including Liquidated Damages, if any) in respect of the Securities in accordance with the terms of the Securities and this Indenture. The Company will deposit or cause to be deposited with the Trustee as directed by the Trustee, no later than the day of the Stated Maturity of any Security or installment of interest (including Liquidated Damages, if any), all payments so due.

SECTION 9.2 MAINTENANCE OF OFFICES OR AGENCIES.

The Company hereby appoints the Trustee's Corporate Trust Office as its office in The City of New York, where Securities may be:

(i) presented or surrendered for payment;

(ii) surrendered for registration of transfer or exchange;

(iii) surrendered for conversion;

and where notices and demands to or upon the Company in respect of the Securities and this Indenture maybe served.

The Company may at any time and from time to time vary or terminate the appointment of any such office or appoint any additional offices for any or all of such purposes; provided, however, that until all of the Securities have been delivered to the Trustee for cancellation, or moneys sufficient to pay the principal of and premium, if any, and interest (including Liquidated Damages, if any) on the Securities have been made available for payment and either paid or returned to the Company pursuant to the provisions of Section 9.3 hereof, the Company will maintain in The City of New York, an office or agency where Securities may be presented or surrendered for payment, where Securities may be surrendered for registration of transfer or exchange, where Securities may be surrendered for conversion and where notices and demands to or upon the Company in respect of the Securities and this Indenture may be served. The Company will give prompt written notice to the Trustee, and notice to the Holders in accordance with Section 14.2 hereof, of the appointment or termination of any such agents and of the location and any change in the location of any such office or agency.

If at any time the Company shall fail to maintain any such required office or agency in The City of New York, or shall fail to furnish the Trustee with the address thereof, presentations and surrenders may be made at, and notices and demands may be served on, the Corporate Trust Office of the Trustee.

SECTION 9.3 CORPORATE EXISTENCE.

Subject to Article 6 hereof, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence, rights (charter and statutory) and franchises; provided, however, that the Company shall not be required to preserve any such right or franchise if the Company determines that the preservation thereof is no longer desirable in the conduct of the business of the Company and that the loss thereof is not disadvantageous in any material respect to the Holders.

SECTION 9.4 MAINTENANCE OF PROPERTIES.

The Company will maintain and keep its properties and every part thereof in such repair, working order and condition, and make or cause to be made all such needful and proper repairs, renewals and replacements thereto, as in the judgment of the Company are necessary in the interests of the Company; provided, however, that nothing contained in this Section shall prevent the Company from selling, abandoning or otherwise disposing of any of its properties or discontinuing a part of its business from time to time if, in the judgment of the Company, such sale, abandonment, disposition or discontinuance is advisable and does not materially adversely affect the interests or business of the Company.

SECTION 9.5 PAYMENT OF TAXES AND OTHER CLAIMS.

The Company will, and will cause any Significant Subsidiary to, promptly pay and discharge or cause to be paid and discharged all material taxes, assessments and governmental charges or levies lawfully imposed upon it or upon its income or profits or upon any of its property, real or personal, or upon any part thereof, as well as all material claims for labor, materials and supplies which, if unpaid, might by law become a lien or charge upon its property; provided, however, that neither the Company nor any Significant Subsidiary shall be required to pay or discharge or cause to be paid or discharged any such tax, assessment, charge, levy, or claim if the amount, applicability or validity thereof shall currently be contested in good faith by appropriate proceedings and if the Company or such Significant Subsidiary, as the case may be, shall have set aside on its books reserves deemed by it adequate with respect thereto.

SECTION 9.6 REPORTS.

(a) The Company shall deliver to the Trustee within 15 days after it files them with the SEC copies of the annual reports and of the information, documents, and other reports (or copies of such portions of any of the foregoing as the SEC may by rules and regulations prescribe) which the Company is required to file with the SEC pursuant to Section 13 or 15(d) of the Exchange Act; provided, however, the Company shall not be required to deliver to the Trustee any materials for which the Company has sought and received confidential treatment by the SEC. The Company also shall comply with the other provisions of Section 314(a) of the TIA.

(b) If at any time the Company is not subject to Section 13 or 15(d) of the Exchange Act, upon the request of a Holder of a Security, the Company will promptly furnish or cause to

be furnished to such Holder or to a prospective purchaser of such Security designated by such Holder, as the case may be, the information, if any, required to be delivered by it pursuant to Rule 144A(d)(4) under the Securities Act to permit compliance with Rule 144A in connection with the resale of such Security; provided, however, that the Company shall not be required to furnish such information in connection with any request made on or after the date which is two years from the later of the date such security was last acquired from the Company or an "affiliate" of the Company.

SECTION 9.7 COMPLIANCE CERTIFICATE.

The Company shall deliver to the Trustee, within 120 days after the end of each fiscal year of the Company, an Officers' Certificate stating that in the course of the performance by the signers of their duties as Officers of the Company, they would normally have knowledge of any failure by the Company to comply with all conditions, or Default by the Company with respect to any covenants, under this Indenture, and further stating whether or not they have knowledge of any such failure or default and, if so, specifying each such failure or Default and the nature thereof. In the event an Officer of the Company comes to have actual knowledge of a Default, regardless of the date, the Company shall deliver an Officers' Certificate to the Trustee specifying such Default and the nature and status thereof.

SECTION 9.8 RESALE OF CERTAIN SECURITIES.

During the period of two years after the last date of original issuance of any Securities, the Company shall not, and shall not permit any of its "affiliates" (as defined under Rule 144 under the Securities Act) to, resell any Securities, or shares of Common Stock issuable upon conversion of the Securities, which constitute "restricted securities" under Rule 144, that are acquired by any of them within the United States or to "U.S. persons" (as defined in Regulation S) except pursuant to an effective registration statement under the Securities Act or an applicable exemption therefrom. The Trustee shall have no responsibility or liability in respect of the Company's performance of its agreement in the preceding sentence.

ARTICLE 10

REDEMPTION OF SECURITIES

SECTION 10.1 PROVISIONAL REDEMPTION.

Any time prior to February 8, 2003, the Company may, at its option, redeem the Securities in whole or in part on any date from time to time, upon notice as set forth in Section 10.5, at a redemption price equal to $1,000 per $1,000 principal amount of the Securities redeemed plus accrued and unpaid interest, if any (such amount, together with the Make-Whole Payment described below, the "Provisional Redemption Price"), to but excluding the date of redemption (the "Provisional Redemption Date") if (i) the Closing Price of the Common Stock has exceeded 150% of the Conversion Price (as defined in Article 12 and as such may be adjusted from time to time) then in effect for at least 20 Trading Days in any consecutive 30-Trading Day period ending on the Trading Day prior to the date of mailing of the provisional notice of redemption pursuant to Section 10.5 (the "Notice Date"), and (ii) a registration statement covering resales of the Securities and the Common Stock issuable upon conversion thereof is effective and available for use and is expected to remain effective for the 30 days following the Provisional Redemption Date.

Upon any such Provisional Redemption, the Company shall make an additional payment in cash (the "Make-Whole Payment") with respect to the Securities called for redemption to holders on the Notice Date in an amount equal to $137.93 per $1,000 principal amount of the Securities, less the amount of any interest actually paid on such Securities prior to the Notice Date. The Company shall make the Make-Whole Payment on all Securities called for Provisional Redemption, including those Securities converted into Common Stock between the Notice Date and the Provisional Redemption Date.

SECTION 10.2 OPTIONAL REDEMPTION.

Except as set forth under Section 10.1, the Securities are not redeemable prior to February 8, 2003. On or after February 8 , 2003, the Company may, at its option, redeem the Securities in whole at any time or in part from time to time, on any date prior to maturity, upon notice as set forth in Section 10.5, at the redemption price (expressed as percentages of the principal amount) set forth below if redeemed during the 12-month period beginning February 8 of the years indicated and ending February 7 of the following year:

	Redemption Price
2003	102.90%
2004	102.10%
2005	101.40%
2006	100.70%

("the Optional Redemption Price"), plus any interest accrued but not paid prior to the Optional Redemption Date.

SECTION 10.3 NOTICE TO TRUSTEE.

If the Company elects to redeem Securities pursuant to the redemption provisions of Section 10.1 or Section 10.2 hereof, it shall notify the Trustee at least 30 days prior to the Redemption Date of such intended Redemption Date, the principal amount of Securities to be redeemed and the CUSIP numbers of the Securities to be redeemed.

SECTION 10.4 SELECTION OF SECURITIES TO BE REDEEMED.

If fewer than all the Securities are to be redeemed, the Trustee shall select the particular Securities to be redeemed from the Outstanding Securities by a method that complies with the requirements of any exchange on which the Securities are listed, or, if the Securities are not listed on an exchange, on a pro rata basis or by lot or in accordance with any other method the Trustee considers fair and appropriate. Securities and portions thereof that the Trustee selects shall be in amounts equal to the minimum authorized denominations for Securities to be redeemed or any integral multiple thereof.

If any Security selected for partial redemption is converted in part before termination of the conversion right with respect to the portion of the Security so selected, the converted portion of such Security shall be deemed to be the portion selected for redemption (provided, however, that the Holder of such Security so converted and deemed redeemed shall not be entitled to any additional interest payment as a result of such deemed redemption than such Holder would have otherwise been entitled to receive upon conversion of such Security). Securities which have been converted during a selection of Securities to be redeemed may be treated by the Trustee as Outstanding for the purpose of such selection.

The Trustee shall promptly notify the Company and the Registrar in writing of the Securities selected for redemption and, in the case of any Securities selected for partial redemption, the principal amount thereof to be redeemed.

For all purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities shall relate, in the case of any Securities redeemed or to be redeemed only in part, to the portion of the principal amount of such Securities which has been or is to be redeemed.

SECTION 10.5 NOTICE OF REDEMPTION.

Notice of redemption shall be given in the manner provided in Section 14.2 hereof to the Holders of Securities to be redeemed. Such notice shall be given not less than 20 nor more than 60 days prior to the Redemption Date.

All notices of redemption shall state:

(1) the Redemption Date;

(2) the Redemption Price and interest accrued and unpaid to the Redemption Date, if any;

(3) if fewer than all the Outstanding Securities are to be redeemed, the aggregate principal amount of Securities to be redeemed and the aggregate principal amount of Securities which will be outstanding after such partial redemption;

(4) that on the Redemption Date the Redemption Price and interest accrued and unpaid to the Redemption Date, if any, will become due and payable upon each such Security to be redeemed, and that interest thereon shall cease to accrue on and after such date;

(5) the Conversion Price, the date on which the right to convert the principal of the Securities to be redeemed will terminate and the places where such Securities may be surrendered for conversion;

(6) the place or places where such Securities are to be surrendered for payment of the Redemption Price and accrued and unpaid interest, if any; and

(7) the CUSIP number of the Securities.

The notice given shall specify the last date on which exchanges or transfers of Securities may be made pursuant to Section 2.7 hereof, and shall specify the serial numbers of Securities and the portions thereof called for redemption.

Notice of redemption of Securities to be redeemed at the election of the Company shall be given by the Company or, at the Company's request, by the Trustee in the name of and at the expense of the Company.

SECTION 10.6 EFFECT OF NOTICE OF REDEMPTION.

Notice of redemption having been given as provided in Section 10.5 hereof, the Securities so to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified and from and after such date (unless the Company shall default in the payment of the Redemption Price and accrued and unpaid interest) such Securities shall cease to bear interest. Upon surrender of any such Security for redemption in accordance with such notice, such Security shall be paid by the Company at the Redemption Price; provided, however, the installments of interest on Securities whose Stated Maturity is prior to or on the Redemption Date shall be payable to the Holders of such Securities, or one or more Predecessor Securities, registered as such on the relevant Record Date according to their terms and the provisions of Section 2.7 hereof.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the principal and premium, if any, shall, until paid, bear interest from the Redemption Date at the Interest Rate.

SECTION 10.7 DEPOSIT OF REDEMPTION PRICE.

Prior to or on any Redemption Date, the Company shall deposit with the Trustee or with a Paying Agent an amount of money sufficient to pay the Redemption Price of all the Securities to be redeemed on that Redemption Date, other than any Securities called for redemption on that date which have been converted prior to the date of such deposit, and accrued and unpaid interest, if any, on such Securities.

If any Security called for redemption is converted, any money deposited with the Trustee or with a Paying Agent or so segregated and held in trust for the redemption of such Security shall (subject to any right of the Holder of such Security or any Predecessor Security to receive interest as provided in the fourth to last paragraph of Section 2.1 hereof) be paid to the Company on Company Request or, if then held by the Company, shall be discharged from such trust.

SECTION 10.8 SECURITIES REDEEMED IN PART.

Any Security which is to be redeemed only in part shall be surrendered at an office or agency of the Company designated for that purpose pursuant to Section 9.2 hereof (with, if the Company or the Trustee so requires, due endorsement by, or a written instrument of transfer in form satisfactory to the Company and the Trustee duly executed by, the Holder thereof or the Holder's attorney duly authorized in writing), and the Company shall execute, and the Trustee shall authenticate and deliver to the Holder of such Security without service charge, a new Security or Securities of any authorized denomination as requested by such Holder in aggregate principal amount equal to and in exchange for the unredeemed portion of the principal of the Security so surrendered.

ARTICLE 11

REPURCHASE AT THE OPTION OF A HOLDER
UPON A CHANGE OF CONTROL

SECTION 11.1 REPURCHASE RIGHT.

In the event that a Change in Control shall occur, each Holder shall have the right (the "Repurchase Right"), at the Holder's option, but subject to the provisions of Section 11.2 hereof, to require the Company to repurchase, and upon the exercise of such right the Company shall repurchase, all of such Holder's Securities not theretofore called for redemption, or any portion of the principal amount thereof that is equal to $1,000 or any integral multiple thereof (provided that no single Security may be repurchased in part unless the portion of the principal amount of such Security to be Outstanding after such repurchase is equal to $1,000 or integral multiples thereof), on the date (the "Repurchase Date") that is 45 days after the date of the Company Notice at a purchase price equal to 100% of the principal amount of the Securities to be repurchased (the "Repurchase Price"), plus interest accrued and unpaid to, but excluding, the Repurchase Date; provided, however, that installments of interest on Securities whose Stated Maturity is prior to or on the Repurchase Date shall be payable to the Holders of such Securities, or one or more Predecessor Securities, registered as such on the relevant Record Date according to their terms and the provisions of Section 2.1 hereof.

Subject to the fulfillment by the Company of the conditions set forth in Section 11.2 hereof, the Company may elect to pay the Repurchase Price by delivering the number of shares of Common Stock equal to (i) the Repurchase Price divided by (ii) 95% of the average of the Closing Prices per share of Common Stock for the five consecutive Trading Days immediately preceding and including the third Trading Day prior to the Repurchase Date.

Whenever in this Indenture (including Sections 2.2, 4.1(a) and 4.7 hereof) or Exhibit A annexed hereto there is a reference, in any context, to the principal of any Security as of any time, such reference shall be deemed to include reference to the Repurchase Price payable in respect to such Security to the extent that such Repurchase Price is, was or would be so payable at such time, and express mention of the Repurchase Price in any provision of this Indenture shall not be construed as excluding the Repurchase Price in those provisions of this Indenture when such express mention is not made; provided, however, that, for the purposes of Article 13 hereof, such reference shall be deemed to include reference to the Repurchase Price only to the extent the Repurchase Price is payable in cash.

SECTION 11.2 CONDITIONS TO THE COMPANY'S ELECTION TO PAY THE REPURCHASE PRICE IN COMMON STOCK.

(a) The shares of Common Stock to be issued upon repurchase of Securities hereunder:

(i) shall not require registration under any federal securities law before such shares may be freely transferable without being subject to any transfer restrictions under

the Securities Act upon repurchase or, if such registration is required, such registration shall be completed and shall become effective prior to the Repurchase Date; and

(ii) shall not require registration with, or approval of, any governmental authority under any state law or any other federal law before shares may be validly issued or delivered upon repurchase or if such registration is required or such approval must be obtained, such registration shall be completed or such approval shall be obtained prior to the Repurchase Date.

(b) The shares of Common Stock to be listed upon repurchase of Securities hereunder are, or shall have been, approved for listing on the Nasdaq National Market or the New York Stock Exchange or listed on another national securities exchange, in any case, prior to the Repurchase Date.

(c) All shares of Common Stock which may be issued upon repurchase of Securities will be issued out of the Company's authorized but unissued Common Stock and will, upon issue, be duly and validly issued and fully paid and nonassessable and free of any preemptive or similar rights.

(d) If any of the conditions set forth in clauses (a) through (d) of this Section 11.2 are not satisfied in accordance with the terms thereof, the Repurchase Price shall be paid by the Company only in cash.

SECTION 11.3 NOTICES; METHOD OF EXERCISING REPURCHASE RIGHT, ETC.

(a) Unless the Company shall have theretofore called for redemption all of the Outstanding Securities, prior to or on the 30th day after the occurrence of a Change in Control, the Company, or, at the written request and expense of the Company prior to or on the 30th day after such occurrence, the Trustee, shall give to all Holders of Securities notice, in the manner provided in Section 14.2 hereof, of the occurrence of the Change of Control and of the Repurchase Right set forth herein arising as a result thereof (the "Company Notice"). The Company shall also deliver a copy of such notice of a Repurchase Right to the Trustee. Each notice of a Repurchase Right shall state:

(1) the Repurchase Date;

(2) the date by which the Repurchase Right must exercised;

(3) the Repurchase Price and accrued and unpaid interest, if any, and whether the Repurchase Price shall be paid by the Company in cash or by delivery of shares of Common Stock;

(4) a description of the procedure which a Holder must follow to exercise a Repurchase Right, and the place or places where such Securities, are to be surrendered for payment of the Repurchase Price and accrued and unpaid interest, if any;

(5) that on the Repurchase Date the Repurchase Price and accrued and unpaid interest, if any, will become due and payable upon each such Security designated by the Holder to be repurchased, and that interest thereon shall cease to accrue on and after said date;

(6) the Conversion Rate then in effect, the date on which the right to convert the principal amount of the Securities to be repurchased will terminate and the place where such Securities may be surrendered for conversion, and

(7) the place or places where such Securities, together with the Option to Elect Repayment Upon a Change of Control certificate included in Exhibit A annexed hereto are to be delivered for payment of the Repurchase Price and accrued and unpaid interest, if any.

No failure of the Company to give the foregoing notices or defect therein shall limit any Holder's right to exercise a Repurchase Right or affect the validity of the proceedings for the repurchase of Securities.

If any of the foregoing provisions or other provisions of this Article 11 are inconsistent with applicable law, such law shall govern.

(b) To exercise a Repurchase Right, a Holder shall deliver to the Trustee prior to or on the 30th day after the date of the Company Notice:

(1) written notice of the Holder's exercise of such right, which notice shall set forth the name of the Holder, the principal amount of the Securities to be repurchased (and, if any Security is to be repurchased in part, the serial number thereof, the portion of the principal amount thereof to be repurchased) and a statement that an election to exercise the Repurchase Right is being made thereby, and, in the event that the Repurchase Price shall be paid in shares of Common Stock, the name or names (with addresses) in which the certificate or certificates for shares of Common Stock shall be issued, and

(2) the Securities with respect to which the Repurchase Right is being exercised.

Such written notice shall be irrevocable, except that the right of the Holder to convert the Securities with respect to which the Repurchase Right is being exercised shall continue until the close of business on the Business Day immediately preceding the Repurchase Date.

(c) In the event a Repurchase Right shall be exercised in accordance with the terms hereof, the Company shall pay or cause to be paid to the Trustee the Repurchase Price in cash or shares of Common Stock, as provided above, for payment to the Holder on the Repurchase Date or, if shares of Common Stock are to be paid, as promptly after the Repurchase Date as practicable, together with accrued and unpaid interest to the Repurchase Date payable in cash with respect to the Securities as to which the Repurchase Right has been exercised; provided,

however, that installments of interest that mature prior to or on the Repurchase Date shall be payable in cash to the Holders of such Securities, or one or more Predecessor Securities, registered as such at the close of business on the relevant Regular Record Date.

(d) If any Security (or portion thereof) surrendered for repurchase shall not be so paid on the Repurchase Date, the principal amount of such Security (or portion thereof, as the case may be) shall, until paid, bear interest to the extent permitted by applicable law from the Repurchase Date at the Interest Rate, and each Security shall remain convertible into Common Stock until the principal of such Security (or portion thereof, as the case may be) shall have been paid or duly provided for.

(e) Any Security which is to be repurchased only in part shall be surrendered to the Trustee (with, if the Company or the Trustee so requires, due endorsement by, or a written instrument of transfer in form satisfactory to the Company and the Trustee duly executed by the Holder thereof or his attorney duly authorized in writing), and the Company shall execute, and the Trustee shall authenticate and make available for delivery to the Holder of such Security without service charge, a new Security or Securities, containing identical terms and conditions, each in an authorized denomination in aggregate principal amount equal to and in exchange for the unrepurchased portion of the principal of the Security so surrendered.

(f) Any issuance of shares of Common Stock in respect of the Repurchase Price shall be deemed to have been effected immediately prior to the close of business on the Repurchase Date and the Person or Persons in whose name or names any certificate or certificates for shares of Common Stock shall be issuable upon such repurchase shall be deemed to have become on the Repurchase Date the holder or holders of record of the shares represented thereby; provided, however, that any surrender for repurchase on a date when the stock transfer books of the Company shall be closed shall constitute the Person or Persons in whose name or names the certificate or certificates for such shares are to be issued as the record holder or holders thereof for all purposes at the opening of business on the next succeeding day on which such stock transfer books are open. No payment or adjustment shall be made for dividends or distributions on any Common Stock issued upon repurchase of any Security declared prior to the Repurchase Date.

(g) No fractions of shares of Common Stock shall be issued upon repurchase of any Security or Securities. If more than one Security shall be repurchased from the same Holder and the Repurchase Price shall be payable in shares of Common Stock, the number of full shares which shall be issued upon such repurchase shall be computed on the basis of the aggregate principal amount of the Securities (or specified portions thereof) to be so repurchased. Instead of any fractional share of Common Stock which would otherwise be issued on the repurchase of any Security or Securities (or specified portions thereof), the Company shall pay a cash adjustment in respect of such fraction (calculated to the nearest one-100th of a share) in an amount equal to the same fraction of the Quoted Price of the Common Stock as of the Trading Day preceding the Repurchase Date.

(h) Any issuance and delivery of certificates for shares of Common Stock on repurchase of Securities shall be made without charge to the Holder of Securities being repurchased for such certificates or for any tax or duty in respect of the issuance or delivery of such certificates or the Securities represented thereby; provided, however, that the Company shall not be required to pay any tax or duty which may be payable in respect of (i) income of the Holder or (ii) any transfer involved in the issuance or delivery of certificates for shares of Common Stock in a name other than that of the Holder of the Securities being repurchased, and no such issuance or delivery shall be made unless the Persons requesting such issuance or delivery has paid to the Company the amount of any such tax or duty or has established, to the satisfaction of the Company, that such tax or duty has been paid.

(i) All Securities delivered for repurchase shall be delivered to the Trustee to be canceled at the direction of the Trustee, which shall dispose of the same as provided in Section 2.15 hereof.

ARTICLE 12

CONVERSION OF SECURITIES

SECTION 12.1 CONVERSION RIGHT AND CONVERSION PRICE.

Subject to and upon compliance with the provisions of this Article, at the option of the Holder thereof, any Security or any portion of the principal amount thereof which is $1,000 or an integral multiple of $1,000 may be converted at the principal amount thereof, or of such portion thereof, into duly authorized, fully paid and nonassessable shares of Common Stock, at the Conversion Price, determined as hereinafter provided, in effect at the time of conversion. Such conversion right shall expire at the close of business on February 8, 2007.

In case a Security or portion thereof is called for redemption, such conversion right in respect of the Security or the portion so called, shall expire at the close of business on the second Business Day preceding the Redemption Date, unless the Company defaults in making the payment due upon redemption. In the case of a Change of Control for which the Holder exercises its Repurchase Right with respect to a Security or portion thereof, such conversion right in respect of the Security or portion thereof shall expire at the close of business on the Business Day immediately preceding the Repurchase Date.

The price at which shares of Common Stock shall be delivered upon conversion (the "Conversion Price") shall be initially equal to $76.71 per share of Common Stock. The Conversion Price shall be adjusted in certain instances as provided in paragraphs (a), (b), (c), (d), (e), (f), (h) and (1) of Section 12.4 hereof.

SECTION 12.2 EXERCISE OF CONVERSION RIGHT.

To exercise the conversion right, the Holder of any Security to be converted shall surrender such Security duly endorsed or assigned to the Company or in blank, at the office of any Conversion Agent, accompanied by a duly signed conversion notice substantially in the form attached to the Security to the Company stating that the Holder elects to convert such Security or, if less than the entire principal amount thereof is to be converted, the portion thereof to be converted.

Securities surrendered for conversion during the period from the close of business on any Regular Record Date to the opening of business on the next succeeding Interest Payment Date (except in the case of any Security whose Maturity is prior to such Interest Payment Date) shall be accompanied by payment in New York Clearing House funds or other funds acceptable to the Company of an amount equal to the interest to be received on such Interest Payment Date on the principal amount of Securities being surrendered for conversion.

Securities shall be deemed to have been converted immediately prior to the close of business on the day of surrender of such Securities for conversion in accordance with the foregoing provisions, and at such time the rights of the Holders of such Securities as Holders shall cease, and the Person or Persons entitled to receive the Common Stock issuable

upon conversion shall be treated for all purposes as the record holder or holders of such Common Stock at such time. As promptly as practicable on or after the conversion date, the Company shall cause to be issued and delivered to such Conversion Agent a certificate or certificates for the number of full shares of Common Stock issuable upon conversion, together with payment in lieu of any fraction of a share as provided in Section 12.3 hereof.

In the case of any Security which is converted in part only, upon such conversion the Company shall execute and the Trustee shall authenticate and deliver to the Holder thereof, at the expense of the Company, a new Security or Securities of authorized denominations in aggregate principal amount equal to the unconverted portion of the principal amount of such Securities.

If shares of Common Stock to be issued upon conversion of a Restricted Security, or Securities to be issued upon conversion of a Restricted Security in part only, are to be registered in a name other than that of the Holder of such Restricted Security, such Holder must deliver to the Conversion Agent a certificate in substantially the form set forth in the form of Security set forth in Exhibit A annexed hereto, dated the date of surrender of such Restricted Security and signed by such Holder, as to compliance with the restrictions on transfer applicable to such Restricted Security. Neither the Trustee nor any Conversion Agent, Registrar or Transfer Agent shall be required to register in a name other than that of the Holder shares of Common Stock or Securities issued upon conversion of any such Restricted Security not so accompanied by a properly completed certificate.

The Company hereby initially appoints the Trustee as the Conversion Agent.

SECTION 12.3 FRACTIONS OF SHARES.

No fractional shares of Common Stock shall be issued upon conversion of any Security or Securities. If more than one Security shall be surrendered for conversion at one time by the same Holder, the number of full shares which shall be issued upon conversion thereof shall be computed on the basis of the aggregate principal amount of the Securities (or specified portions thereof) so surrendered. Instead of any fractional share of Common Stock which would otherwise be issued upon conversion of any Security or Securities (or specified portions thereof), the Company shall pay a cash adjustment in respect of such fraction (calculated to the nearest one-100th of a share) in an amount equal to the same fraction of the Quoted Price of the Common Stock as of the Trading Day preceding the date of conversion.

SECTION 12.4 ADJUSTMENT OF CONVERSION PRICE.

The Conversion Price shall be subject to adjustments, calculated by the Company, from time to time as follows:

(a) In case the Company shall hereafter pay a dividend or make a distribution to all holders of the outstanding Common Stock in shares of Common Stock, the Conversion Price in effect at the opening of business on the date following the date fixed for the determination of stockholders entitled to receive such dividend or other distribution shall be reduced by multiplying such Conversion Price by a fraction:

(i) the numerator of which shall be the number of shares of Common Stock outstanding at the close of business on the Record Date (as defined in Section 12.4(g)) fixed for such determination, and

(ii) the denominator of which shall be the sum of such number of shares and the total number of shares constituting such dividend or other distribution.

Such reduction shall become effective immediately after the opening of business on the day following the Record Date. If any dividend or distribution of the type described in this Section 12.4(a) is declared but not so paid or made, the Conversion Price shall again be adjusted to the Conversion Price which would then be in effect if such dividend or distribution had not been declared.

(b) In case the outstanding shares of Common Stock shall be subdivided into a greater number of shares of Common Stock, the Conversion Price in effect at the opening of business on the day following the day upon which such subdivision becomes effective shall be proportionately reduced, and conversely, in case outstanding shares of Common Stock shall be combined into a smaller number of shares of Common Stock, the Conversion Price in effect at the opening of business on the day following the day upon which such combination becomes effective shall be proportionately increased, such reduction or increase, as the case may be, to become effective immediately after the opening of business on the day following the day upon which such subdivision or combination becomes effective.

(c) In case the Company shall issue rights or warrants (other than any rights or warrants referred to in Section 12.4(d)) to all holders of its outstanding shares of Common Stock entitling them to subscribe for or purchase shares of Common Stock (or securities convertible into Common Stock) at a price per share (or having a conversion price per share) less than the Current Market Price (as defined in Section 12.4(g)) on the Record Date fixed for the determination of stockholders entitled to receive such rights or warrants, the Conversion Price shall be adjusted so that the same shall equal the price determined by multiplying the Conversion Price in effect at the opening of business on the date after such Record Date by a fraction:

(i) the numerator of which shall be the number of shares of Common Stock outstanding at the close of business on the Record Date plus the number of shares which the aggregate offering price of the total number of shares so offered for subscription or purchase (or the aggregate conversion price of the convertible securities so offered) would purchase at such Current Market Price, and

(ii) the denominator of which shall be the number of shares of Common Stock outstanding on the close of business on the Record Date plus the total number of additional shares of Common Stock so offered for subscription or purchase (or into which the convertible securities so offered are convertible).

Such adjustment shall become effective immediately after the opening of business on the day following the Record Date fixed for determination of stockholders entitled to receive such rights or warrants. To the extent that shares of Common Stock (or securities convertible into Common

Stock) are not delivered pursuant to such rights or warrants, upon the expiration or termination of such rights or warrants the Conversion Price shall be readjusted to the Conversion Price which would then be in effect had the adjustments made upon the issuance of such rights or warrants been made on the basis of the delivery of only the number of shares of Common Stock (or securities convertible into Common Stock) actually delivered. In the event that such rights or warrants are not so issued, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such date fixed for the determination of stockholders entitled to receive such rights or warrants had not been fixed. In determining whether any rights or warrants entitle the holders to subscribe for or purchase shares of Common Stock at less than such Current Market Price, and in determining the aggregate offering price of such shares of Common Stock, there shall be taken into account any consideration received for such rights or warrants, the value of such consideration if other than cash, to be determined by the Board of Directors.

(d) In case the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock shares of any class of capital stock of the Company (other than any dividends or distributions to which Section 12.4(a) applies) or evidences of its indebtedness, cash or other assets, including securities, but excluding (1) any rights or warrants referred to in Section 12.4(c), (2) any stock, securities or other property or assets (including cash) distributed in connection with a reclassification, change, merger, consolidation, statutory share exchange, combination, sale or conveyance to which Section 12.11 hereof applies and (3) dividends and distributions paid exclusively in cash (the securities described in foregoing clauses (1), (2) and (3) hereinafter in this Section 12.4(d) called the "securities"), then, in each such case, subject to the second succeeding paragraph of this Section 12.4(d), the Conversion Price shall be reduced so that the same shall be equal to the price determined by multiplying the Conversion Price in effect immediately prior to the close of business on the Record Date (as defined in Section 12.4(g)) with respect to such distribution by a fraction:

(i) the numerator of which shall be the Current Market Price (determined as provided in Section 12.4(g)) on such date less the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and set forth in a Board Resolution) on such date of the portion of the securities so distributed applicable to one share of Common Stock (determined on the basis of the number of shares of the Common Stock outstanding on the Record Date), and

(ii) the denominator of which shall be such Current Market Price.

Such reduction shall become effective immediately prior to the opening of business on the day following the Record Date. However, in the event that the then fair market value (as so determined) of the portion of the securities so distributed applicable to one share of Common Stock is equal to or greater than the Current Market Price on the Record Date, in lieu of the foregoing adjustment, adequate provision shall be made so that each Holder shall have the right to receive upon conversion of a Security (or any portion thereof) the amount of securities such Holder would have received had such Holder converted such Security (or portion thereof)

immediately prior to such Record Date. In the event that such dividend or distribution is not so paid or made, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such dividend or distribution had not been declared.

If the Board of Directors determines the fair market value of any distribution for purposes of this Section 12.4(d) by reference to the actual or when issued trading market for any securities comprising all or part of such distribution, it must in doing so consider the prices in such market over the same period (the "Reference Period") used in computing the Current Market Price pursuant to Section 12.4(g) to the extent possible, unless the Board of Directors in a Board Resolution determines in good faith that determining the fair market value during the Reference Period would not be in the best interest of the Holder.

Rights or warrants distributed by the Company to all holders of Common Stock entitling the holders thereof to subscribe for or purchase shares of the Company's capital stock (either initially or under certain circumstances), which rights or warrants, until the occurrence of a specified event or events ("Trigger Event"):

(iii) are deemed to be transferred with such shares of Common Stock;

(iv) are not exercisable; and

(v) are also issued in respect of future issuances of Common Stock,

shall be deemed not to have been distributed for purposes of this Section 12.4(d) (and no adjustment to the Conversion Price under this Section 12.4(d) will be required) until the occurrence of the earliest Trigger Event. If such right or warrant is subject to subsequent events, upon the occurrence of which such right or warrant shall become exercisable to purchase different securities, evidences of indebtedness or other assets or entitle the holder to purchase a different number or amount of the foregoing or to purchase any of the foregoing at a different purchase price, then the occurrence of each such event shall be deemed to be the date of issuance and record date with respect to a new right or warrant (and a termination or expiration of the existing right or warrant without exercise by the holder thereof). In addition, in the event of any distribution (or deemed distribution) of rights or warrants, or any Trigger Event or other event (of the type described in the preceding sentence) with respect thereto, that resulted in an adjustment to the Conversion Price under this Section 12.4(d):

(1) in the case of any such rights or warrants which shall all have been redeemed or repurchased without exercise by any holders thereof, the Conversion Price shall be readjusted upon such final redemption or repurchase to give effect to such distribution or Trigger Event, as the case may be, as though it were a cash distribution, equal to the per share redemption or repurchase price received by a holder of Common Stock with respect to such rights or warrant (assuming such holder had retained such rights or warrants), made to all holders of Common Stock as of the date of such redemption or repurchase, and

(2) in the case of such rights or warrants all of which shall have expired or been terminated without exercise, the Conversion Price shall be readjusted as if such rights and warrants had never been issued.

For purposes of this Section 12.4(d) and Sections 12.4(a), 12.4(b) and 12.4(c), any dividend or distribution to which this Section 12.4(d) is applicable that also includes shares of Common Stock, a subdivision or combination of Common Stock to which Section 12.4(c) applies, or rights or warrants to subscribe for or purchase shares of Common Stock to which Section 12.4(c) applies (or any combination thereof), shall be deemed instead to be:

(3) a dividend or distribution of the evidences of indebtedness, assets, shares of capital stock, rights or warrants other than such shares of Common Stock, such subdivision or combination or such rights or warrants to which Sections 12.4(a), 12.4(b) and 12.4(c) apply, respectively (and any Conversion Price reduction required by this Section 12.4(d) with respect to such dividend or distribution shall then be made), immediately followed by

(4) a dividend or distribution of such shares of Common Stock, such subdivision or combination or such rights or warrants (and any further Conversion Price reduction required by Sections 12.4(a), 12.4(b) and 12.4(c) with respect to such dividend or distribution shall then be made), except:

(A) the Record Date of such dividend or distribution shall be substituted as (x) "the date fixed for the determination of stockholders entitled to receive such dividend or other distribution", "Record Date fixed for such determinations" and "Record Date" within the meaning of Section 12.4(a), (y) "the day upon which such subdivision becomes effective" and "the day upon which such combination becomes effective" within the meaning of Section 12.4(b), and (z) as "the date fixed for the determination of stockholders entitled to receive such rights or warrants", "the Record Date fixed for the determination of the stockholders entitled to receive such rights or warrants" and such "Record Date" within the meaning of Section 12.4(c), and

(B) any shares of Common Stock included in such dividend or distribution shall not be deemed "outstanding at the close of business on the date fixed for such determination" within the meaning of Section 12.4(a) and any reduction or increase in the number of shares of Common Stock resulting from such subdivision or combination shall be disregarded in connection with such dividend or distribution..

(e) In case the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock cash (excluding any cash that is distributed upon a reclassification, change, merger, consolidation, statutory share exchange, combination, sale or conveyance to which Section 12.11 hereof applies or as part of a distribution referred to in Section 12.4(d) hereof), in an aggregate amount that, combined together with:

(1) the aggregate amount of any other such distributions to all holders of Common Stock made exclusively in cash within the 12 months preceding the date of payment of such distribution, and in respect of which no adjustment pursuant to this Section 12.4(e) has been made, and

(2) the aggregate of any cash plus the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and set forth in a Board Resolution) of consideration payable in respect of any tender offer by the Company or any of its subsidiaries for all or any portion of the Common Stock concluded within the 12 months preceding the date of such distribution, and in respect of which no adjustment pursuant to Section 12.4(f) hereof has been made,

exceeds 10% of the product of the Current Market Price (determined as provided in Section 12.4(g)) on the Record Date with respect to such distribution times the number of shares of Common Stock outstanding on such date, then and in each such case, immediately after the close of business on such date, the Conversion Price shall be reduced so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to the close of business on such Record Date by a fraction:

(i) the numerator of which shall be equal to the Current Market Price on the Record Date less an amount equal to the quotient of (x) the excess of such combined amount over such 10% and (y) the number of shares of Common Stock outstanding on the Record Date, and

(ii) the denominator of which shall be equal to the Current Market Price on such date.

However, in the event that the then fair market value (as so determined) of the portion of the securities so distributed applicable to one share of Common Stock is equal to or greater than the Current Market Price on the Record Date, in lieu of the foregoing adjustment, adequate provision shall be made so that each Holder shall have the right to receive upon conversion of a Security (or any portion thereof) the amount of cash such Holder would have received had such Holder converted such Security (or portion thereof) immediately prior to such Record Date. In the event that such dividend or distribution is not so paid or made, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such dividend or distribution had not been declared.

(f) In case a tender offer made by the Company or any of its subsidiaries for all or any portion of the Common Stock shall expire and such tender offer (as amended upon the expiration thereof) shall require the payment to stockholders (based on the acceptance (up to any maximum specified in the terms of the tender offer) of Purchased Shares (as defined below)) of an aggregate consideration having a fair market value (as determined by the Board of Directors, whose determination shall be conclusive and set forth in a Board Resolution) that combined together with:

(1) the aggregate of the cash plus the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and set forth in a Board Resolution), as of the expiration of such tender offer, of consideration payable in respect of any other tender offers, by the Company or any of its subsidiaries for all or any portion of the Common Stock expiring within the 12 months preceding the expiration of such tender offer and in respect of which no adjustment pursuant to this Section 12.4(f) has been made, and

(2) the aggregate amount of any distributions to all holders of the Company's Common Stock made exclusively in cash within 12 months preceding the expiration of such tender offer and in respect of which no adjustment pursuant to Section 12.4(e) has been made, exceeds 10% of the product of the Current Market Price (determined as provided in Section 12.4(g)) as of the last time (the "Expiration Time") tenders could have been made pursuant to such tender offer (as it may be amended) times the number of shares of Common Stock outstanding (including any tendered shares) on the Expiration Time, then, and in each such case, immediately prior to the opening of business on the day after the date of the Expiration Time, the Conversion Price shall be adjusted so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to close of business on the date of the Expiration Time by a fraction:

(i) the numerator of which shall be the number of shares of Common Stock outstanding (including any tendered shares) at the Expiration Time multiplied by the Current Market Price of the Common Stock on the Trading Day next succeeding the Expiration Time, and

(ii) the denominator shall be the sum of (x) the fair market value (determined as aforesaid) of the aggregate consideration payable to stockholders based on the acceptance (up to any maximum specified in the terms of the tender offer) of all shares validly tendered and not withdrawn as of the Expiration Time (the shares deemed so accepted, up to any such maximum, being referred to as the "Purchased Shares") and (y) the product of the number of shares of Common Stock outstanding (less any Purchased Shares) on the Expiration Time and the Current Market Price of the Common Stock on the Trading Day next succeeding the Expiration Time.

Such reduction (if any) shall become effective immediately prior to the opening of business on the day following the Expiration Time. In the event that the Company is obligated to purchase shares pursuant to any such tender offer, but the Company is permanently prevented by applicable law from effecting any such purchases or all such purchases are rescinded, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such tender offer had not been made. If the application of this Section 12.4(f) to any tender offer would result in an increase in the Conversion Price, no adjustment shall be made for such tender offer under this Section 12.4(f).

(g) For purposes of this Section 12.4, the following terms shall have the meanings indicated:

(1) "Current Market Price" shall mean the average of the daily Closing Prices per share of Common Stock for the ten consecutive Trading Days immediately prior to the date in question; provided, however, that if:

(i) the "ex" date (as hereinafter defined) for any event (other than the issuance or distribution requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 12.4(a), (b), (c), (d), (e) or (f) occurs during such ten consecutive Trading Days, the Closing Price for each Trading Day prior to the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the same fraction by which the Conversion Price is so required to be adjusted as a result of such other event;

(ii) the "ex" date for any event (other than the issuance or distribution requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 12.4(a), (b), (c), (d), (e) or (f) occurs on or after the "ex" date for the issuance or distribution requiring such computation and prior to the day in question, the Closing Price for each Trading Day on and after the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the reciprocal of the fraction by which the Conversion Price is so required to be adjusted as a result of such other event; and

(iii) the "ex" date for the issuance or distribution requiring such computation is prior to the day in question, after taking into account any adjustment required pursuant to clause (i) or (ii) of this proviso, the Closing Price for each Trading Day on or after such "ex" date shall be adjusted by adding thereto the amount of any cash and the fair market value (as determined by the Board of Directors in a manner consistent with any determination of such value for purposes of Section 12.4(d) or (f), whose determination shall be conclusive and set forth in a Board Resolution) of the evidences of indebtedness, shares of capital stock or assets being distributed applicable to one share of Common Stock as of the close of business on the day before such "ex" date.

For purposes of any computation under Section 12.4(f), the Current Market Price of the Common Stock on any date shall be deemed to be the average of the daily Closing Prices per share of Common Stock for such day and the next two succeeding Trading Days; provided, however, that if the "ex" date for any event (other than the tender offer requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 12.4(a), (b), (c), (d), (e) or (f) occurs on or after the Expiration Time for the tender or exchange offer requiring such computation and prior to the day in question, the Closing Price for each Trading Day on and after

the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the reciprocal of the fraction by which the Conversion Price is so required to be adjusted as a result of such other event. For purposes of this paragraph, the term "ex" date, when used:

(A) with respect to any issuance or distribution, means the first date on which the Common Stock trades regular way on the relevant exchange or in the relevant market from which the Closing Price was obtained without the right to receive such issuance or distribution;

(B) with respect to any subdivision or combination of shares of Common Stock, means the first date on which the Common Stock trades regular way on such exchange or in such market after the time at which such subdivision or combination becomes effective, and

(C) with respect to any tender or exchange offer, means the first date on which the Common Stock trades regular way on such exchange or in such market after the Expiration Time of such offer.

Notwithstanding the foregoing, whenever successive adjustments to the Conversion Price are called for pursuant to this Section 12.4, such adjustments shall be made to the Current Market Price as may be necessary or appropriate to effectuate the intent of this Section 12.4 and to avoid unjust or inequitable results as determined in good faith by the Board of Directors.

(1) "fair market value" shall mean the amount which a willing buyer would pay a willing seller in an arm's length transaction.

(2) "Record Date" shall mean, with respect to any dividend, distribution or other transaction or event in which the holders of Common Stock have the right to receive any cash, securities or other property or in which the Common Stock (or other applicable security) is exchanged for or converted into any combination of cash, securities or other property, the date fixed for determination of stockholders entitled to receive such cash, securities or other property (whether such date is fixed by the Board of Directors or by statute, contract or otherwise).

(h) The Company may make such reductions in the Conversion Price, in addition to those required by Sections 12.4(a), (b), (c), (d), (e) or (f), as the Board of Directors considers to be advisable to avoid or diminish any income tax to holders of Common Stock or rights to purchase Common Stock resulting from any dividend or distribution of stock (or rights to acquire stock) or from any event treated as such for income tax purposes.

To the extent permitted by applicable law, the Company from time to time may reduce the Conversion Price by any amount for any period of time if the period is at least 20 days and the reduction is irrevocable during the period and the Board of Directors determines in good faith that such reduction would be in the best interests of the Company, which determination shall be

conclusive and set forth in a Board Resolution. Whenever the Conversion Price is reduced pursuant to the preceding sentence, the Company shall mail to the Trustee and each Holder at the address of such Holder as it appears in the Register a notice of the reduction at least 15 days prior to the date the reduced Conversion Price takes effect, and such notice shall state the reduced Conversion Price and the period during which it will be in effect.

(i) No adjustment in the Conversion Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such price; provided, however, that any adjustments which by reason of this Section 12.4(i) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Article 12 shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be. No adjustment need be made for a change in the par value or no par value of the Common Stock.

(j) In any case in which this Section 12.4 provides that an adjustment shall become effective immediately after a Record Date for an event, the Company may defer until the occurrence of such event (i) issuing to the Holder of any Security converted after such Record Date and before the occurrence of such event the additional shares of Common Stock issuable upon such conversion by reason of the adjustment required by such event over and above the Common Stock issuable upon such conversion before giving effect to such adjustment and (ii) paying to such holder any amount in cash in lieu of any fraction pursuant to Section 12.3 hereof.

(k) For purposes of this Section 12.4, the number of shares of Common Stock at any time outstanding shall not include shares held in the treasury of the Company but shall include shares issuable in respect of scrip certificates issued in lieu of fractions of shares of Common Stock. The Company will not pay any dividend or make any distribution on shares of Common Stock held in the treasury of the Company.

(l) If the distribution date for the rights provided in the Company's rights agreement, if any, occurs prior to the date a Security is converted, the Holder of the Security who converts such Security after the distribution date is not entitled to receive the rights that would otherwise be attached (but for the date of conversion) to the shares of Common Stock received upon such conversion; provided, however, that an adjustment shall be made to the Conversion Price pursuant to clause 12.4(b) as if the rights were being distributed to the common stockholders of the Company immediately prior to such conversion. If such an adjustment is made and the rights are later redeemed, invalidated or terminated, then a corresponding reversing adjustment shall be made to the Conversion Price, on an equitable basis, to take account of such event.

SECTION 12.5 NOTICE OF ADJUSTMENTS OF CONVERSION PRICE.

Whenever the Conversion Price is adjusted as herein provided (other than in the case of an adjustment pursuant to the second paragraph of Section 12.4(h) for which the notice required by such paragraph has been provided), the Company shall promptly file with the Trustee and any Conversion Agent other than the Trustee an Officers' Certificate setting forth the adjusted Conversion Price and showing in reasonable detail the facts upon which such adjustment is based. Promptly after delivery of such Officers' Certificate, the Company shall prepare a notice

stating that the Conversion Price has been adjusted and setting forth the adjusted Conversion Price and the date on which each adjustment becomes effective, and shall mail such notice to each Holder at the address of such Holder as it appears in the Register within 20 days of the effective date of such adjustment. Failure to deliver such notice shall not effect the legality or validity of any such adjustment.

SECTION 12.6 NOTICE PRIOR TO CERTAIN ACTIONS.

In case at any time after the date hereof:

(1) the Company shall declare a dividend (or any other distribution) on its Common Stock payable otherwise than in cash out of its capital surplus or its consolidated retained earnings;

(2) the Company shall authorize the granting to the holders of its Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class (or of securities convertible into shares of capital stock of any class) or of any other rights;

(3) there shall occur any reclassification of the Common Stock of the Company (other than a subdivision or combination of its outstanding Common Stock, a change in par value, a change from par value to no par value or a change from no par value to par value), or any merger, consolidation, statutory share exchange or combination to which the Company is a party and for which approval of any shareholders of the Company is required, or the sale, transfer or conveyance of all or substantially all of the assets of the Company; or

(4) there shall occur the voluntary or involuntary dissolution, liquidation or winding up of the Company;

the Company shall cause to be filed at each office or agency maintained for the purpose of conversion of securities pursuant to Section 9.2 hereof, and shall cause to be provided to the Trustee and all Holders in accordance with Section 14.2 hereof, at least 20 days (or 10 days in any case specified in clause (1) or (2) above) prior to the applicable record or effective date hereinafter specified, a notice stating:

(A) the date on which a record is to be taken for the purpose of such dividend, distribution, rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, rights or warrants are to be determined, or

(B) the date on which such reclassification, merger, consolidation, statutory share exchange, combination, sale, transfer, conveyance, dissolution, liquidation or winding up is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other

property deliverable upon such reclassification, merger, consolidation, statutory share exchange, sale, transfer, dissolution, liquidation or winding up.

Neither the failure to give such notice nor any defect therein shall affect the legality or validity of the proceedings or actions described in clauses (1) through (4) of this Section 12.6.

SECTION 12.7 COMPANY TO RESERVE COMMON STOCK.

The Company shall at all times use its best efforts to reserve and keep available, free from preemptive rights, out of its authorized but unissued Common Stock, for the purpose of effecting the conversion of Securities, the full number of shares of fully paid and nonassessable Common Stock then issuable upon the conversion of all Outstanding Securities.

SECTION 12.8 TAXES ON CONVERSIONS.

Except as provided in the next sentence, the Company will pay any and all taxes (other than taxes on income) and duties that may be payable in respect of the issue or delivery of shares of Common Stock on conversion of Securities pursuant hereto. A Holder delivering a Security for conversion shall be liable for and will be required to pay any tax or duty which may be payable in respect of any transfer involved in the issue and delivery of shares of Common Stock in a name other than that of the Holder of the Security or Securities to be converted, and no such issue or delivery shall be made unless the Person requesting such issue has paid to the Company the amount of any such tax or duty, or has established to the satisfaction of the Company that such tax or duty has been paid.

SECTION 12.9 COVENANT AS TO COMMON STOCK.

The Company covenants that all shares of Common Stock which may be issued upon conversion of Securities will upon issue be fully paid and nonassessable and, except as provided in Section 12.8, the Company will pay all taxes, liens and charges with respect to the issue thereof.

SECTION 12.10 CANCELLATION OF CONVERTED SECURITIES.

All Securities delivered for conversion shall be delivered to the Trustee to be canceled by or at the direction of the Trustee, which shall dispose of the same as provided in Section 2.9.

SECTION 12.11 EFFECT OF RECLASSIFICATION, CONSOLIDATION, MERGER OR SALE.

If any of following events occur, namely:

(i) any reclassification or change of the outstanding shares of Common Stock (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination),

(ii) any merger, consolidation, statutory share exchange or combination of the Company with another corporation as a result of which holders of Common Stock shall be entitled to receive stock, securities or other property or assets (including cash) with respect to or in exchange for such Common Stock or

(iii) any sale or conveyance of the properties and assets of the Company as, or substantially as, an entirety to any other corporation as a result of which holders of Common Stock shall be entitled to receive stock, securities or other property or assets (including cash) with respect to or in exchange for such Common Stock,

the Company or the successor or purchasing corporation, as the case may be, shall execute with the Trustee a supplemental indenture (which shall comply with the TIA as in force at the date of execution of such supplemental indenture if such supplemental indenture is then required to so comply) providing that such Security shall be convertible into the kind and amount of shares of stock and other securities or property or assets (including cash) which such Holder would have been entitled to receive upon such reclassification, change, merger, consolidation, statutory share exchange, combination, sale or conveyance had such Securities been converted into Common Stock immediately prior to such reclassification, change, merger, consolidation, statutory share exchange, combination, sale or conveyance assuming such holder of Common Stock did not exercise its rights of election, if any, as to the kind or amount of securities, cash or other property receivable upon such merger, consolidation, statutory share exchange, sale or conveyance (provided that, if the kind or amount of securities, cash or other property receivable upon such merger, consolidation, statutory share exchange, sale or conveyance is not the same for each share of Common Stock in respect of which such rights of election shall not have been exercised ("Non-Electing Share"), then for the purposes of this Section 12.11 the kind and amount of securities, cash or other property receivable upon such merger, consolidation, statutory share exchange, sale or conveyance for each Non-Electing Share shall be deemed to be the kind and amount so receivable per share by a plurality of the Non-Electing Shares). Such supplemental indenture shall provide for adjustments which shall be as nearly equivalent as may be practicable to the adjustments provided for in this Article 12. If, in the case of any such reclassification, change, merger, consolidation, statutory share exchange, combination, sale or conveyance, the stock or other securities and assets receivable thereupon by a holder of shares of Common Stock includes shares of stock or other securities and assets of a corporation other than the successor or purchasing corporation, as the case may be, in such reclassification, change, merger, consolidation, statutory share exchange, combination, sale or conveyance, then such supplemental indenture shall also be executed by such other corporation and shall contain such additional provisions to protect the interests of the Holders of the Securities as the Board of Directors shall reasonably consider necessary by reason of the foregoing, including to the extent practicable the provisions providing for the Repurchase Rights set forth in Article 13 hereof.

The Company shall cause notice of the execution of such supplemental indenture to be mailed to each Holder, at the address of such Holder as it appears on the Register, within 20 days

after execution thereof. Failure to deliver such notice shall not affect the legality or validity of such supplemental indenture.

The above provisions of this Section shall similarly apply to successive reclassifications, mergers, consolidations, statutory share exchanges, combinations, sales and conveyances.

If this Section 12.11 applies to any event or occurrence, Section 12.4 hereof shall not apply.

SECTION 12.12 RESPONSIBILITY OF TRUSTEE FOR CONVERSION PROVISIONS.

The Trustee, subject to the provisions of Section 5.1 hereof, and any Conversion Agent shall not at any time be under any duty or responsibility to any Holder of Securities to determine whether any facts exist which may require any adjustment of the Conversion Price, or with respect to the nature or intent of any such adjustments when made, or with respect to the method employed, or herein or in any supplemental indenture provided to be employed, in making the same. Neither the Trustee, subject to the provisions of Section 5.1 hereof, nor any Conversion Agent shall be accountable with respect to the validity or value (of the kind or amount) of any Common Stock, or of any other securities or property, which may at any time be issued or delivered upon the conversion of any Security; and it or they do not make any representation with respect thereto. Neither the Trustee, subject to the provisions of Section 5.1 hereof, nor any Conversion Agent shall be responsible for any failure of the Company to make any cash payment or to issue, transfer or deliver any shares of stock or share certificates or other securities or property upon the surrender of any Security for the purpose of conversion; and the Trustee, subject to the provisions of Section 5.1 hereof, and any Conversion Agent shall not be responsible or liable for any failure of the Company to comply with any of the covenants of the Company contained in this Article.

ARTICLE 13

SUBORDINATION

SECTION 13.1 SECURITIES SUBORDINATED TO SENIOR DEBT.

The Company covenants and agrees, and each Holder of Securities, by such Holder's acceptance thereof, likewise covenants and agrees, that the Indebtedness represented by the Securities and the payment of the principal of and premium, if any, and interest (including Liquidated Damages, if any) on each and all of the Securities is hereby expressly subordinated and junior, to the extent and in the manner set forth and as set forth in this Section 13.1, in right of payment to the prior payment in full of all Senior Debt.

(a) In the event of any distribution of assets of the Company upon any dissolution, winding up, liquidation or reorganization of the Company, whether in bankruptcy, insolvency, reorganization or receivership proceedings or upon an assignment for the benefit of creditors or any other marshalling of the assets and liabilities of the Company or otherwise, the holders of all Senior Debt shall first be entitled to receive payment of the full amount due thereon in respect of all such Senior Debt and all other amounts due or provision shall be made for such amount in cash, or other payments satisfactory to the holders of Senior Debt, before the Holders of any of the Securities are entitled to receive any payment or distribution of any character, whether in cash, securities or other property, on account of the principal of or premium, if any, or interest (including Liquidated Damages, if any) on the Indebtedness evidenced by the Securities.

(b) In the event of any acceleration of Maturity of the Securities because of an Event of Default, unless the full amount due in respect of all Senior Debt is paid in cash or other form of payment satisfactory to the holders of Senior Debt, no payment shall be made by the Company with respect to the principal of, premium, if any, or interest (including Liquidated Damages, if any) on the Securities or to acquire any of the Securities (including any redemption, conversion or cash repurchase pursuant to the exercise of the Repurchase Right), and the Company shall give prompt written notice of such acceleration to such holders of Senior Debt.

(c) In the event of and during the continuance of any default in payment of the principal of or premium, if any, or interest on, rent or other payment obligation in respect of, any Senior Debt, unless all such payments due in respect of such Senior Debt have been paid in full in cash or other payments satisfactory to the holders of Senior Debt, no payment shall be made by the Company with respect to the principal of, premium, if any, or interest (including Liquidated Damages, if any) on the Securities or to acquire any of the Securities (including any redemption, conversion or cash repurchase pursuant to the exercise of the Repurchase Right). The Company shall give prompt written notice to the Trustee of any default under any Senior Debt or under any agreement pursuant to which Senior Debt may have been issued.

(d) During the continuance of any event of default with respect to any Designated Senior Debt, as such event of default is defined under any such Designated Senior Debt or in any agreement pursuant to which any Designated Senior Debt has been issued (other than a default in payment of the principal of or premium, if any, or interest on, rent or other payment obligation in

respect of any Designated Senior Debt), permitting the holder or holders of such Designated Senior Debt to accelerate the maturity thereof (or in the case of any lease, permitting the landlord either to terminate the lease or to require the Company to make an irrevocable offer to terminate the lease following an event of default thereunder), no payment shall be made by the Company, directly or indirectly, with respect to principal of, premium, if any, or interest (including Liquidated Damages, if any) on the Securities for 179 days following notice in writing (a "Payment Blockage Notice") to the Company, from any holder or holders of such Designated Senior Debt or their representative or representatives or the trustee or trustees under any indenture or under which any instrument evidencing any such Designated Senior Debt may have been issued, that such an event of default has occurred and is continuing, unless such event of default has been cured or waived or such Designated Senior Debt has been paid in full; provided, however, if the maturity of such Designated Senior Debt is accelerated (or in the case of any lease, as a result of such event of default, the landlord under the lease has given the Company notice of its intention to terminate the lease or to require the Company to make an irrevocable offer to terminate the lease), no payment may be made on the Securities until such Designated Senior Debt has been paid in full in cash or other payment satisfactory to the holders of such Designated Senior Debt or such acceleration (or termination, in the case of a lease) has been cured or waived.

For purposes of this Section 13.1(d), such Payment Blockage Notice shall be deemed to include notice of all other events of default under such indenture or instrument which are continuing at the time of the event of default specified in such Payment Blockage Notice. The provisions of this Section 13.1(d) shall apply only to one such Payment Blockage Notice given in any period of 365 days with respect to any issue of Designated Senior Debt, and no such continuing event of default that existed or was continuing on the date of delivery of any Payment Blockage Notice shall be, or shall be made, the basis for a subsequent Payment Blockage Notice.

(e) In the event that, notwithstanding the foregoing provisions of Sections 13.1(a), 13.1(b), 13.1(c) and 13.1(d), any payment on account of principal, premium, if any, or interest (including Liquidated Damages, if any) on the Securities shall be made by or on behalf of the Company and received by the Trustee, by any Holder or by any Paying Agent (or, if the Company is acting as its own Paying Agent, money for any such payment shall be segregated and held in trust):

(i) after the occurrence of an event specified in Section 13.1(a) or 13.1(b), then, unless all Senior Debt is paid in full in cash, or provision shall be made therefor,

(ii)after the happening of an event of default of the type specified in Section 13.1(c) above, then, unless the amount of such Senior Debt then due shall have been paid in full, or provision made therefor or such event of default shall have been cured or waived, or

(iii) after the happening of an event of default of the type specified in Section 13.1(d) above and delivery of a Payment Blockage Notice, then, unless such

event of default shall have been cured or waived or the 179-day period specified in Section 13.1(d) shall have expired,

such payment (subject, in each case, to the provisions of Section 13.7 hereof) shall be held in trust for the benefit of, and shall be immediately paid over to, the holders of Designated Senior Debt (unless an event described in Section 13.1(a), (b) or (c) has occurred, in which case the payment shall be held in trust for the benefit of, and shall be immediately paid over to all holders of Senior Debt) or their representative or representatives or the trustee or trustees under any indenture under which any instruments evidencing any of the Designated Senior Debt or Senior Debt, as the case may be, may have been issued, as their interests may appear.

SECTION 13.2 SUBROGATION.

Subject to the payment in full of all Senior Debt to which the Indebtedness evidenced by the Securities is in the circumstances subordinated as provided in Section 13.1 hereof, the Holders of the Securities shall be subrogated to the rights of the holders of such Senior Debt to receive payments or distributions of cash, property or securities of the Company applicable to such Senior Debt until all amounts owing on the Securities shall be paid in full, and, as between the Company, its creditors other than holders of such Senior Debt, and the Holders of the Securities, no such payment or distribution made to the holders of Senior Debt by virtue of this Article which otherwise would have been made to the holders of the Securities shall be deemed to be a payment by the Company on account of such Senior Debt, provided that the provisions of this Article are and are intended solely for the purpose of defining the relative rights of the Holders of the Securities, on the one hand, and the holders of Senior Debt, on the other hand.

SECTION 13.3 OBLIGATION OF THE COMPANY IS ABSOLUTE AND UNCONDITIONAL.

Nothing contained in this Article or elsewhere in this Indenture or in the Securities is intended to or shall impair, as between the Company, its creditors other than the holders of Senior Debt, and the Holders of the Securities, the obligation of the Company, which is absolute and unconditional, to pay to the Holders of the Securities the principal of and premium, if any, and interest (including Liquidated Damages, if any) on the Securities as and when the same shall become due and payable in accordance with their terms, or is intended to or shall affect the relative rights of the Holders of the Securities and creditors of the Company other than the holders of Senior Debt, nor shall anything contained herein or therein prevent the Trustee or the Holder of any Security from exercising all remedies otherwise permitted by applicable law upon default under this Indenture, subject to the rights, if any, under this Article of the holders of Senior Debt in respect of cash, property or securities of the Company received upon the exercise of any such remedy.

SECTION 13.4 MATURITY OF OR DEFAULT ON SENIOR DEBT.

Upon the maturity of any Senior Debt by lapse of time, acceleration or otherwise, all principal of or premium, if any, or interest on, rent or other payment obligations in respect of all such matured Senior Debt shall first be paid in full, or such payment shall have been duly

provided for, before any payment on account of principal, or premium, if any, or interest (including Liquidated Damages, if any) is made upon the Securities.

SECTION 13.5 PAYMENTS ON SECURITIES PERMITTED.

Except as expressly provided in this Article, nothing contained in this Article shall affect the obligation of the Company to make, or prevent the Company from making, payments of the principal of, or premium, if any, or interest (including Liquidated Damages, if any) on the Securities in accordance with the provisions hereof and thereof, or shall prevent the Trustee or any Paying Agent from applying any moneys deposited with it hereunder to the payment of the principal of, or premium, if any, or interest (including Liquidated Damages, if any) on the Securities.

SECTION 13.6 EFFECTUATION OF SUBORDINATION BY TRUSTEE.

Each Holder of Securities, by such Holder's acceptance thereof, authorizes and directs the Trustee on such Holder's behalf to take such action as may be necessary or appropriate to effectuate the subordination provided in this Article and appoints the Trustee such Holder's attorney-in-fact for any and all such purposes.

Upon any payment or distribution of assets of the Company referred to in this Article, the Trustee and the Holders of the Securities shall be entitled to rely upon any order or decree made by any court of competent jurisdiction in which any such dissolution, winding up, liquidation or reorganization proceeding affecting the affairs of the Company is pending or upon a certificate of the trustee in bankruptcy, receiver, assignee for the benefit of creditors, liquidating trustee or agent or other Person making any payment or distribution, delivered to the Trustee or to the Holders of the Securities, for the purpose of ascertaining the Persons entitled to participate in such payment or distribution, and as to other facts pertinent to the right of such Persons under this Article, and if such evidence is not furnished, the Trustee may defer any payment to such Persons pending judicial determination as to the right of such Persons to receive such payment.

SECTION 13.7 KNOWLEDGE OF TRUSTEE.

Notwithstanding the provision of this Article or any other provisions of this Indenture, the Trustee shall not be charged with knowledge of the existence of any Senior Debt, of any default in payment of principal of, premium, if any, or interest on, rent or other payment obligation in respect of any Senior Debt, or of any facts which would prohibit the making of any payment of moneys to or by the Trustee, or the taking of any other action by the Trustee, unless a Responsible Officer of the Trustee having responsibility for the administration of the trust established by this Indenture shall have received written notice thereof from the Company, any Holder of Securities, any Paying or Conversion Agent of the Company or the holder or representative of any class of Senior Debt, and, prior to the receipt of any such written notice, the Trustee shall be entitled in all respects to assume that no such default or facts exist; provided, however, that unless on the third Business Day prior to the date upon which by the terms hereof any such moneys may become payable for any purpose the Trustee shall have received the notice provided for in this Section 13.7, then, anything herein contained to the contrary

notwithstanding, the Trustee shall have full power and authority to receive such moneys and apply the same to the purpose for which they were received, and shall not be affected by any notice to the contrary which may be received by it on or after such date.

SECTION 13.8 TRUSTEE'S RELATION TO SENIOR DEBT.

The Trustee shall be entitled to all the rights set forth in this Article with respect to any Senior Debt at the time held by it, to the same extent as any other holder of Senior Debt and nothing in this Indenture shall deprive the Trustee of any of its rights as such holder.

Nothing contained in this Article shall apply to claims of or payments to the Trustee under or pursuant to Section 5.8 hereof.

With respect to the holders of Senior Debt, the Trustee undertakes to perform or to observe only such of its covenants and obligations as are specifically set forth in this Article, and no implied covenants or obligations with respect to the holders of Senior Debt shall be read into this Indenture against the Trustee. The Trustee shall not be deemed to owe any fiduciary duty to the holders of Senior Debt and the Trustee shall not be liable to any holder of Senior Debt if it shall pay over or deliver to Holders, the Company or any other Person moneys or assets to which any holder of Senior Debt shall be entitled by virtue of this Article or otherwise.

SECTION 13.9 RIGHTS OF HOLDERS OF SENIOR DEBT NOT IMPAIRED.

No right of any present or future holder of any Senior Debt to enforce the subordination herein shall at any time or in any way be prejudiced or impaired by any act or failure to act on the part of the Company or by any noncompliance by the Company with the terms, provisions and covenants of this Indenture, regardless of any knowledge thereof any such holder may have or be otherwise charged with.

SECTION 13.10 MODIFICATION OF TERMS OF SENIOR DEBT.

Any renewal or extension of the time of payment of any Senior Debt or the exercise by the holders of Senior Debt of any of their rights under any instrument creating or evidencing Senior Debt, including without limitation the waiver of default thereunder, may be made or done all without notice to or assent from the Holders of the Securities or the Trustee.

No compromise, alteration, amendment, modification, extension, renewal or other change of, or waiver, consent or other action in respect of, any liability or obligation under or in respect of, or of any of the terms, covenants or conditions of any indenture or other instrument under which any Senior Debt is outstanding or of such Senior Debt, whether or not such release is in accordance with the provisions or any applicable document, shall in any way alter or affect any of the provisions of this Article or of the Securities relating to the subordination thereof.

SECTION 13.11 CERTAIN CONVERSIONS NOT DEEMED PAYMENT.

For the purposes of this Article 13 only:

(1) the issuance and delivery of junior securities upon conversion of Securities in accordance with Article 12 hereof shall not be deemed to constitute a payment or distribution on account of the principal of, premium, if any, or interest (including Liquidated Damages, if any) on Securities or on account of the purchase or other acquisition of Securities, and

(2) the payment, issuance or delivery of cash (except in satisfaction of fractional shares pursuant to Section 12.3 hereof), property or securities (other than junior securities) upon conversion of a Security shall be deemed to constitute payment on account of the principal of, premium, if any, or interest (including Liquidated Damages, if any) on such Security.

For the purposes of this Section 13.11, the term "junior securities" means:

(a) shares of any common stock of the Company or

(b) other securities of the Company that are subordinated in right of payment to all Senior Debt that may be outstanding at the time of issuance or delivery of such securities to substantially the same extent as, or to a greater extent that, the Securities are so subordinated as provided in this Article.

Nothing contained in this Article 13 or elsewhere in this Indenture or in the Securities is intended to or shall impair, as among the Company, its creditors (other than holders of Senior Debt) and the Holders of Securities, the right, which is absolute and unconditional, of the Holder of any Security to convert such Security in accordance with Article 12 hereof.

ARTICLE 14

OTHER PROVISIONS OF GENERAL APPLICATION

SECTION 14.1 TRUST INDENTURE ACT CONTROLS.

This Indenture is subject to the provisions of the TIA which are required to be part of this Indenture, and shall, to the extent applicable, be governed by such provisions.

SECTION 14.2 NOTICES.

Any notice or communication to the Company or the Trustee is duly given if in writing and delivered in person or mailed by first-class mail to the address set forth below:

(a) if to the Company:

Inhale Therapeutic Systems, Inc.
150 Industrial Road
San Carlos, California
Attention: Stephen L. Hurst, Esq.

with a copy to:

Cooley Godward LLP
3000 Sand Hill Road
Building #3, Suite 230
Menlo Park, California 94025
Attention: Mark P. Tanoury, Esq.

(b) if to the Trustee:

Chase Manhattan Bank and Trust Company, National Association
101 California Street
Suite 2725
San Francisco, California 94111
Attention: Corporate Trust Administration

The Company or the Trustee by notice to the other may designate additional or different addresses for subsequent notices or communications.

Any notice or communication to a Holder shall be mailed by first-class mail to his address shown on the Register kept by the Registrar. Failure to mail a notice or communication to a Holder or any defect in such notice or communication shall not affect its sufficiency with respect to other Holders.

If a notice or communication is mailed or sent in the manner provided above within the time prescribed, it is duly given as of the date it is mailed, whether or not the addressee receives it, except that notice to the Trustee shall only be effective upon receipt thereof by the Trustee.

If the Company mails a notice or communication to Holders, it shall mail a copy to the Trustee at the same time.

SECTION 14.3 COMMUNICATION BY HOLDERS WITH OTHER HOLDERS.

Holders may communicate pursuant to Section 312(b) of the TIA with other Holders with respect to their rights under the Securities or this Indenture. The Company, the Trustee, the Registrar and anyone else shall have the protection of Section 312(c) of the TIA.

SECTION 14.4 ACTS OF HOLDERS OF SECURITIES.

(a) Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by Holders of Securities may be embodied in and evidenced by:

(1) one or more instruments of substantially similar tenor signed by such Holders in person or by agent or proxy duly appointed in writing;

(2) the record of Holders of Securities voting in favor thereof, either in person or by proxies duly appointed in writing, at any meeting of Holders of Securities duly called and held in accordance with the provisions of Article 8; or

(3) a combination of such instruments and any such record.

Except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments or record or both are delivered to the Trustee and, where it is hereby expressly required, to the Company. Such instrument or instruments and record (and the action embodied therein and evidenced thereby) are herein sometimes referred to as the "Act" of the Holders of Securities signing such instrument or instruments and so voting at such meeting. Proof of execution of any such instrument or of a writing appointing any such agent or proxy, or of the holding by any Person of a Security, shall be sufficient for any purpose of this Indenture and (subject to Section 5.1 hereof) conclusive in favor of the Trustee and the Company if made in the manner provided in this Section. The record of any meeting of Holders of Securities shall be proved in the manner provided in Section 8.6 hereof.

(b) The fact and date of the execution by any Person of any such instrument or writing may be provided in any manner which the Trustee reasonably deems sufficient.

(c) The principal amount and serial numbers of Securities held by any Person, and the date of such Person holding the same, shall be proved by the Register.

(d) Any request, demand, authorization, direction, notice, consent, election, waiver or other Act of the Holders of any Security shall bind every future Holder of the same Security and

the Holder of every Security issued upon the registration of transfer thereof or in exchange therefor or in lieu thereof in respect of anything done, omitted or suffered to be done by the Trustee or the Company in reliance thereon, whether or not notation of such action is made upon such Security.

SECTION 14.5 CERTIFICATE AND OPINION AS TO CONDITIONS PRECEDENT.

In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters, and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate or opinion of an officer of the Company may be based, insofar as it relates to legal matters, upon an Opinion of Counsel, unless such officer knows, or in the exercise of reasonable care should know, that the Opinion of Counsel with respect to the matters upon which such certificate or opinion is based is erroneous. Any such Opinion of Counsel may be based, insofar as it relates to factual matters, upon a certificate or representations by, an officer or officers of the Company stating that the information with respect to such factual matters is in the possession of the Company, unless such counsel knows, or in the exercise of reasonable care should know, that the certificate or representations with respect to such matters are erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

Upon any application or request by the Company to the Trustee to take any action under any provision of this Indenture, the Company shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such Counsel all such conditions precedent, if any, have been complied with, except that in the case of any such application or request as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or request, no additional certificate or opinion need be furnished.

SECTION 14.6 STATEMENTS REQUIRED IN CERTIFICATE OR OPINION.

Each certificate or opinion with respect to compliance with a condition or covenant provided for in this Indenture shall include:

(1) a statement that each individual signing such certificate or opinion on behalf of the Company has read such covenant or condition and the definitions herein relating thereto;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

(3) a statement that, in the opinion of each such individual, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and

(4) a statement as to whether, in the opinion of each such individual, such condition or covenant has been complied with.

SECTION 14.7 EFFECT OF HEADINGS AND TABLE OF CONTENTS.

The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

SECTION 14.8 SUCCESSORS AND ASSIGNS.

All covenants and agreements in this Indenture by the Company shall bind its successors and assigns, whether so expressed or not.

SECTION 14.9 SEPARABILITY CLAUSE.

In case any provision in this Indenture or the Securities shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

SECTION 14.10 BENEFITS OF INDENTURE.

Nothing contained in this Indenture or in the Securities, express or implied, shall give to any Person, other than the parties hereto and their successors hereunder, the holders of Senior Debt and the Holders of Securities, any benefit or legal or equitable right, remedy or claim under this Indenture.

SECTION 14.11 GOVERNING LAW.

THIS INDENTURE AND THE SECURITIES SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

SECTION 14.12 COUNTERPARTS.

This instrument may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original but all such counterparts shall together constitute but one and the same instrument.

SECTION 14.13 LEGAL HOLIDAYS.

In any case where any Interest Payment Date, Redemption Date or Stated Maturity of any Security or the last day on which a Holder of a Security has a right to convert such Security shall not be a Business Day at any Place of Payment or Place of Conversion, then (notwithstanding any other provision of this Indenture or of the Securities) payment of interest (including Liquidated Damages, if any) or principal or premium, if any, or conversion of the Securities, need not be made at such Place of Payment or Place of Conversion on such day, but may be made on the next succeeding Business Day at such Place of Payment or Place of Conversion with the same force and effect as if made on the Interest Payment Date or Redemption Date or at the Stated Maturity or on such last day for conversion, provided, that in the case that payment is made on such succeeding Business Day, no interest shall accrue on the amount so payable for the period from and after such Interest Payment Date, Redemption Date or Stated Maturity, as the case may be.

SECTION 14.14 RECOURSE AGAINST OTHERS.

No recourse for the payment of the principal of or premium, if any, or interest (including Liquidated Damages, if any) on any Security, or for any claim based thereon or otherwise in respect thereof, shall be had against any incorporator, shareholder, officer or director, as such, past, present or future, of the Company or of any successor corporation, whether by virtue of any constitution, statute or rule of law or by the enforcement of any assessment or penalty or otherwise, all such liability being, by the acceptance thereof and as part of the consideration for the issue thereof, expressly waived and released.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed all as of the day and year first above written.

INHALE THERAPEUTIC SYSTEMS, INC.

By:

Name:
Title:

CHASE MANHATTAN BANK AND TRUST COMPANY, NATIONAL ASSOCIATION

By:

Name:
Title:

EXHIBIT A

FORM OF SECURITY

[FACE OF SECURITY]

UNLESS THIS CERTIFICATE IS PRESENTED BY AN AUTHORIZED REPRESENTATIVE OF THE DEPOSITORY TRUST COMPANY ("DTC") TO INHALE THERAPEUTIC SYSTEMS, INC. (OR ITS SUCCESSOR) OR ITS AGENT FOR REGISTRATION OF TRANSFER, EXCHANGE, CONVERSION OR PAYMENT, AND ANY CERTIFICATE ISSUED IS REGISTERED IN THE NAME OF CEDE & CO. OR IN SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC (AND ANY PAYMENT HEREON IS MADE TO CEDE & CO. OR TO SUCH OTHER ENTITY AS IS REQUESTED BY AN AUTHORIZED REPRESENTATIVE OF DTC), ANY TRANSFER, PLEDGE OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL SINCE THE REGISTERED OWNER HEREOF, CEDE & CO., HAS AN INTEREST HEREIN.(1)

THE SECURITY EVIDENCED BY THIS CERTIFICATE HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY STATE SECURITIES LAWS, AND MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. BY ACQUISITION HEREOF, THE HOLDER (1) REPRESENTS THAT IT IS A "QUALIFIED INSTITUTIONAL BUYER" AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT; (2) AGREES THAT IT WILL NOT WITHIN TWO YEARS AFTER THE ORIGINAL ISSUANCE OF THIS SECURITY RESELL OR OTHERWISE TRANSFER THE SECURITY EVIDENCED HEREBY OR THE COMMON STOCK ISSUABLE UPON CONVERSION OF SUCH SECURITY EXCEPT (A) TO THE COMPANY OR ANY SUBSIDIARY THEREOF, (B) TO A QUALIFIED INSTITUTIONAL BUYER IN COMPLIANCE WITH RULE 144A UNDER THE SECURITIES ACT, (C) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (D) PURSUANT TO A REGISTRATION STATEMENT WHICH HAS BEEN DECLARED EFFECTIVE UNDER THE SECURITIES ACT AND WHICH CONTINUES TO BE EFFECTIVE AT THE TIME OF SUCH TRANSFER; AND (3) AGREES THAT IT WILL DELIVER TO EACH PERSON TO WHOM THE SECURITY EVIDENCED HEREBY IS TRANSFERRED (OTHER THAN A TRANSFER PURSUANT TO CLAUSE 2(D) ABOVE) A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND. IN CONNECTION WITH ANY TRANSFER OF THE SECURITY EVIDENCED HEREBY WITHIN TWO YEARS AFTER THE ORIGINAL ISSUANCE OF SUCH SECURITY (OTHER THAN A TRANSFER PURSUANT TO CLAUSE (2)(D) ABOVE), THE HOLDER MUST CHECK THE APPROPRIATE BOX SET FORTH ON THE REVERSE HEREOF RELATING TO THE MANNER OF SUCH TRANSFER AND SUBMIT THIS CERTIFICATE TO THE TRUSTEE (OR ANY SUCCESSOR TRUSTEE, AS APPLICABLE). IF THE PROPOSED TRANSFER IS

- -------------------------
(1) This legend should be included only if the Security is issued in global form

PURSUANT TO CLAUSE (2)(C) ABOVE, THE HOLDER MUST, PRIOR TO SUCH TRANSFER, FURNISH TO THE TRUSTEE (OR ANY SUCCESSOR TRUSTEE, AS APPLICABLE), SUCH CERTIFICATIONS, LEGAL OPINIONS OR OTHER INFORMATION AS THE COMPANY MAY REASONABLY REQUIRE TO CONFIRM THAT SUCH TRANSFER IS BEING MADE PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT. THIS LEGEND WILL BE REMOVED UPON THE EARLIER OF THE TRANSFER OF THE SECURITY EVIDENCED HEREBY PURSUANT TO CLAUSE (2)(D) ABOVE OR THE EXPIRATION OF TWO YEARS FROM THE ORIGINAL ISSUANCE OF THE SECURITY EVIDENCED HEREBY. AS USED HEREIN, THE TERMS "UNITED STATES" AND "U.S. PERSON" HAVE THE MEANINGS GIVEN TO THEM BY REGULATION S UNDER THE SECURITIES ACT.

INHALE THERAPEUTIC SYSTEMS, INC.

5% Convertible Subordinated Note due 2007

CUSIP NO. 457 191AD 6

No._____ $_____

INHALE THERAPEUTIC SYSTEMS, INC., a Delaware corporation (the "Company", which term includes any successor corporation under the Indenture hereinafter referred to), for value received, hereby promises to pay to , or its registered assigns, the principal sum of U.S. Dollars ($) on February 8, 2007.

Interest Payment Dates: February 8 and August 8, commencing August 8, 2000

Regular Record Dates: January 24 and July 24

Reference is hereby made to the further provisions of this Security set forth on the reverse hereof, which further provisions shall for all purposes have the same effect as if set forth at this place.

IN WITNESS WHEREOF, the Company has caused this Security to be duly executed manually or by facsimile by its duly authorized officers.

Dated: February 8, 2000

INHALE THERAPEUTIC SYSTEMS, INC.

By:

Name:
Title:

By:

Name:
Title:

Trustee's Certificate of Authentication

This is one of the 5% Convertible Subordinated Notes due 2007 described in the within-named Indenture.

CHASE MANHATTAN BANK AND TRUST COMPANY, NATIONAL ASSOCIATION, as Trustee

By:

Authorized Signatory

Dated: _____, 2000

[REVERSE OF SECURITY]

INHALE THERAPEUTIC SYSTEMS, INC.

5% Convertible Subordinated Note due 2007

Capitalized terms used herein but not defined shall have the meanings assigned to them in the Indenture referred to below unless otherwise indicated.

1. Principal and Interest.

Inhale Therapeutic Systems, Inc., a Delaware corporation (the "Company") promises to pay interest on the principal amount of this Security at the Interest Rate from the date of issuance until repayment at Maturity, redemption or repurchase. The Company will pay interest on this Security semiannually in arrears on February 8 and August 8 of each year (each an "Interest Payment Date"), commencing August 8, 2000.

Interest on the Securities shall be computed (i) for any full semiannual period for which a particular Interest Rate is applicable on the basis of a 360-day year of twelve 30-day months and (ii) for any period for which a particular Interest Rate is applicable shorter than a full semiannual period for which interest is calculated, on the basis of a 30-day month and, for such periods of less than a month, the actual number of days elapsed over a 30-day month.

A Holder of any Security at the close of business on a Regular Record Date shall be entitled to receive interest on such Security on the corresponding Interest Payment Date. A Holder of any Security which is converted after the close of business on a Regular Record Date and prior to the corresponding Interest Payment Date (other than any Security whose Maturity is prior to such Interest Payment Date) shall be entitled to receive interest on the principal amount of such Security, notwithstanding the conversion of such Security prior to such Interest Payment Date. However, any such Holder which surrenders any such Security for conversion during the period between the close of business on such Regular Record Date and ending with the opening of business on the corresponding Interest Payment Date shall be required to pay the Company an amount equal to the interest on the principal amount of such Security so converted, which is payable by the Company to such Holder on such Interest Payment Date, at the time such Holder surrenders such Security for conversion. Notwithstanding the foregoing, any such Holder which surrenders for conversion any Security which has been called for redemption by the Company in a notice of redemption given by the Company pursuant to Section 10.5 of the Indenture shall be entitled to receive (and retain) such interest and need not pay the Company an amount equal to the interest on the principal amount of such Security so converted at the time such Holder surrenders such Security for conversion.

In accordance with the terms of the Resale Registration Rights Agreement, dated February 8, 2000, between the Company and Merrill Lynch & Co., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Deutsche Bank Securities Inc., Lehman Brothers Inc. and U.S. Bancorp Piper Jaffray Inc., during the first 90 days following a Registration Default (as defined in the

Resale Registration Rights Agreement), the Interest Rate borne by the Securities shall be increased by 0.25% on:

(A) May 9, 2000, if the shelf registration statement (the "Shelf Registration Statement") is not filed prior to or on May 8, 2000;

(B) August 7, 2000, if the Shelf Registration Statement is not declared effective by the Securities and Exchange Commission prior to or on August 4, 2000;

(C) the day after the fifth Business Day after the Shelf Registration Statement, previously declared effective, ceases to be effective or fails to be usable, if a post-effective amendment (or report filed pursuant to the Exchange Act) that cures the Shelf Registration Statement is not filed with the Securities and Exchange Commission during such five Business Day period; or

(D) the day following the 45th or 60th day, as the case may be, of any period that the prospectus contained in the Shelf Registration Statement has been suspended, if such suspension has not been terminated.

From and after the 91st day following such Registration Default, the Interest Rate borne by the Securities shall be increased by 0.50%. In no event shall the Interest Rate borne by the Securities be increased by more than 0.50%.

Any amount of additional interest will be payable in cash semiannually, in arrears, on each Interest Payment Date and will cease to accrue on the date the Registration Default is cured. The Holder of this Security is entitled to the benefits of the Resale Registration Rights Agreement.

2. Method of Payment.

Interest on any Security which is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the person in whose name that Security (or one or more Predecessor Securities) is registered at the close of business on the Regular Record Date for such interest.

Principal of, and premium, if any, and interest on, Global Securities will be payable to the Depositary in immediately available funds.

Principal and premium, if any, on Physical Securities will be payable at the office or agency of the Company maintained for such purpose, initially the Corporate Trust Office of the Trustee. Interest on Physical Securities will be payable by (i) U.S. Dollar check drawn on a bank in The City of New York mailed to the address of the Person entitled thereto as such address shall appear in the Register, or (ii) upon application to the Registrar not later than the relevant Record Date by a Holder of an aggregate principal amount in excess of $5,000,000, wire transfer in immediately available funds.

3. Paying Agent and Registrar.

Initially, Chase Manhattan Bank and Trust Company, National Association, the Trustee under the Indenture, will act as Paying Agent and Registrar. The Company may change the Paying Agent or Registrar without notice to any Holder.

4. Indenture.

The Company issued this Security under an Indenture, dated as of February 8, 2000 (the "Indenture"), between the Company and Chase Manhattan Bank and Trust Company, National Association, as trustee (the "Trustee"). The terms of the Security include those stated in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act of 1939, as amended ("TIA"). This Security is subject to all such terms, and Holders are referred to the Indenture and the TIA for a statement of all such terms. To the extent permitted by applicable law, in the event of any inconsistency between the terms of this Security and the terms of the Indenture, the terms of the Indenture shall control.

5. Provisional Redemption.

The Securities may be redeemed at the election of the Company, as a whole or from time to time in part or any date, at any time prior to February 8, 2003 (a "Provisional Redemption"), at a Redemption Price equal to $1,000 per $1,000 principal amount of the Securities plus accrued and unpaid interest, if any, to but excluding the date of redemption (the "Provisional Redemption Date") if (i) the Closing Price of the Common Stock has exceeded 150% of the Conversion Price (as may be adjusted from time to time) then in effect for at least 20 trading Days in any consecutive 30-Trading Day period ending on the Trading Day prior to the date of mailing of the provisional notice of redemption upon not less than 20 nor more than 60 days notice (the "Notice Date'), and (ii) a registration statement covering resales of the Securities and Common Stock issuable upon the conversion thereof is effective and available for use and is expected to remain effective for the 30 days following the Provisional Redemption Date.

Upon any such Provisional Redemption, the Company shall make an additional payment in cash (the "Make-Whole Payment") to holders of the Securities called for redemption, including those Securities converted into Common Stock between the Notice Date and the Provisional Redemption Date, in an amount equal to $137.93 per $1,000 principal amount of the Securities, less the amount of any interest actually paid on the Securities before the Notice Date.

6. Optional Redemption.

Except as provided above, this Security is not redeemable prior to February 8, 2003. This Security may be redeemed in whole or in part, upon not less than 20 nor more than 60 days' notice, at any time on or after February 8, 2003, at the option of the Company, at the Redemption Prices (expressed as percentages of the principal amount) set forth below, plus any interest accrued but unpaid to the Redemption Date.

During the Twelve Months

Commencing	Redemption Prices
February 8, 2003	102.90%
February 8, 2004	102.10%
February 8, 2005	101.40%
February 8, 2006	100.70%

Securities in original denominations larger than $1,000 may be redeemed in part. If any Security selected for partial redemption is converted in part before termination of the conversion right with respect to the portion of the Security so selected, the converted portion of such Security shall be deemed to be the portion selected for redemption (provided, however, that the Holder of such Security so converted and deemed redeemed shall not be entitled to any additional interest payment as a result of such deemed redemption than such Holder would have otherwise been entitled to receive upon conversion of such Security). Securities which have been converted during a selection of Securities to be redeemed may be treated by the Trustee as Outstanding for the purpose of such selection.

On and after the Redemption Date, interest ceases to accrue on Securities or portions of Securities called for redemption, unless the Company defaults in the payment of the Redemption Price.

Notice of redemption will be given by the Company to the Holders as provided in the Indenture.

7. Repurchase Right Upon a Change of Control.

If a Change in Control occurs, the Holder of Securities, at the Holder's option, shall have the right, in accordance with the provisions of the Indenture, to require the Company to repurchase the Securities (or any portion of the principal amount hereof that is at least $1,000 or an integral multiple thereof, provided that the portion of the principal amount of this Security to be Outstanding after such repurchase is at least equal to $1,000) at the Repurchase Price in cash, plus any interest accrued and unpaid to the Repurchase Date.

Subject to the conditions provided in the Indenture, the Company may elect to pay the Repurchase Price by delivering a number of shares of Common Stock equal to (i) the Repurchase Price divided by (ii) 95% of the average of the Closing Prices per share for the five consecutive Trading Days immediately preceding and including the third Trading Day prior to the Repurchase Date.

No fractional shares of Common Stock will be issued upon repurchase of any Securities. Instead of any fractional share of Common Stock which would otherwise be issued upon conversion of such Securities, the Company shall pay a cash adjustment as provided in the Indenture.

A Company Notice will be given by the Company to the Holders as provided in the Indenture. To exercise a repurchase Right, a Holder must deliver to the Trustee a written notice as provided in the Indenture.

8. Conversion Rights.

Subject to and upon compliance with the provisions of the Indenture, the Holder of Securities is entitled, at such Holder's option, at any time before the close of business on February 8, 2007, to convert the Holder's Securities (or any portion of the principal amount hereof which is $1,000 or an integral multiple thereof), at the principal amount thereof or of such portion, into duly authorized, fully paid and nonassessable shares of Common Stock of the Company at the Conversion Price in effect at the time of conversion.

In the case of a Security (or a portion thereof) called for redemption, such conversion right in respect of the Security (or such portion thereof) so called, shall expire at the close of business on the second Business Day preceding the Redemption Date, unless the Company defaults in making the payment due upon redemption. In the case of a Change of Control for which the Holder exercises its Repurchase Right with respect to a Security (or a portion thereof), such conversion right in respect of the Security (or portion thereof) shall expire at the close of business on the Business Day preceding the Repurchase Date.

The Conversion Price shall be initially equal to $76.71 per share of Common Stock. The Conversion Price shall be adjusted under certain circumstances as provided in the Indenture.

To exercise the conversion right, the Holder must surrender the Security (or portion thereof) duly endorsed or assigned to the Company or in blank, at the office of the Conversion Agent, accompanied by a duly signed conversion notice to the Company. Any Security surrendered for conversion during the period from the close of business on any Regular Record Date to the opening of business on the corresponding Interest Payment Date (other than any Security whose Maturity is prior to such Interest Payment Date), shall also be accompanied by payment in New York Clearing House funds or other funds acceptable to the Company of an amount equal to the interest payable on such Interest Payment Date on the principal amount of the Securities being surrendered for conversion.

No fractional shares of Common Stock will be issued upon conversion of any Securities. Instead of any fractional share of Common Stock which would otherwise be issued upon conversion of such Securities, the Company shall pay a cash adjustment as provided in the Indenture.

9. Subordination.

The Indebtedness evidenced by this Security is, to the extent and in the manner provided in the Indenture, subordinated and subject in right of payment to the prior payment in full of all amounts then due on all Senior Debt of the Company, and this Security is issued subject to such provisions of the Indenture with respect thereto. Each Holder of this Security, by accepting the same, (a) agrees to and shall be bound by such provisions, (b) authorizes and directs the Trustee

on such Holder's behalf to take such action as may be necessary or appropriate to effectuate the subordination so provided and (c) appoints the Trustee such Holder's attorney-in-fact for any and all such purposes.

10. Denominations; Transfer; Exchange.

The Securities are issuable in registered form, without coupons, in denominations of $1,000 and integral multiples of $1,000 in excess thereof. A Holder may register the transfer or exchange of Securities in accordance with the Indenture. The Registrar may require a Holder, among other things, to furnish appropriate endorsements and transfer documents and the Company may require a Holder to pay any taxes and fees required by law or permitted by the Indenture.

In the event of a redemption in part, the Company will not be required (a) to register the transfer of, or exchange, Securities for a period of 15 days immediately preceding the date notice is given identifying the serial numbers of the Securities called for such redemption, or (b) to register the transfer of, or exchange, any such Securities, or portion thereof, called for redemption.

In the event of redemption, conversion or repurchase of the Securities in part only, a new Security or Securities for the unredeemed, unconverted or unrepurchased portion thereof will be issued in the name of the Holder hereof.

11. Persons Deemed Owners.

The registered Holder of this Security shall be treated as its owner for all purposes.

12. Unclaimed Money.

The Trustee and the Paying Agent shall pay to the Company any money held by them for the payment of principal, premium, if any, or interest that remains unclaimed for two years after the date upon which such payment shall have become due. After payment to the Company, Holders entitled to the money must look to the Company for payment as general creditors unless an applicable abandoned property law designates another Person, and all liability of the Trustee and such Paying Agent with respect to such money shall cease.

13. Discharge Prior to Redemption or Maturity.

Subject to certain conditions contained in the Indenture, the Company may discharge its obligations under the Securities and the Indenture if (1) (a) all of the Outstanding Securities shall become due and payable at their scheduled Maturity within one year or (b) all of the Outstanding Securities are scheduled for redemption within one year, and (2) the Company shall have deposited with the Trustee money and/or U.S. Government Obligations sufficient to pay the principal of, and premium, if any, and interest on, all of the Outstanding Securities on the date of Maturity or redemption, as the case may be.

14. Amendment; Supplement; Waiver.

The Indenture permits, with certain exceptions as therein provided, the amendment thereof and the modification of the rights and obligations of the Company and the rights of the Holders of the Securities under the Indenture at any time by the Company and the Trustee with the consent of the Holders of a majority in aggregate principal amount of the Outstanding Securities (or such lesser amount as shall have acted at a meeting pursuant to the provisions of the Indenture). The Indenture also contains provisions permitting the Holders of specified percentages in principal amount of the Securities at the time Outstanding, on behalf of the Holders of all the Securities, to waive compliance by the Company with certain provisions of the Indenture and certain past defaults under the Indenture and their consequences. Any such consent or waiver by the Holder of this Security shall be conclusive and binding upon such Holder and upon all future Holders of this Security and of any Security issued upon registration of transfer hereof or in exchange herefor or in lieu hereof, whether or not notation of such consent or waiver is made upon this Security or such other Security.

No reference herein to the Indenture and no provision of this Security or of the Indenture shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay the principal of and premium, if any, and interest (including Liquidated Damages, if any) on this Security at the times, places and rate, and in the coin or currency, herein prescribed or to convert this Security (or pay cash in lieu of conversion) as provided in the Indenture.

15. Defaults and Remedies.

The Indenture provides that an Event of Default with respect to the Securities occurs when any of the following occurs:

(a) the Company defaults in the payment of the principal of or premium, if any, on any of the Securities when it becomes due and payable at Maturity, upon redemption or exercise of a Repurchase Right or otherwise, whether or not such payment is prohibited by the subordination provisions of Article 13 of the Indenture;

(b) the Company defaults in the payment of interest on any of the Securities when it becomes due and payable and such default continues for a period of 30 days, whether or not such payment is prohibited by the subordination provisions of Article 13 of the Indenture;

(c) the Company fails to perform or observe any other term, covenant or agreement contained in the Securities or the Indenture and such default continues for a period of 60 days after written notice of such failure is given as specified in the Indenture;

(d) (i) the Company fails to make any payment by the end of the applicable grace period, if any, after the maturity of any Indebtedness for borrowed money in an amount in excess of $5,000,000 (provided that such failure shall not constitute an Event of Default if (1) the Company determines, in good faith, that a lessor under a lease described in clause (3)(a) of the definition of Indebtedness set forth in the

Indenture breached a covenant under the lease and the Company has given notice of the breach to the lessor and the Trustee and (2) as a result of the breach, the Company withholds payment under the lease) (a "Default Exception"), or (ii) there is an acceleration of any Indebtedness for borrowed money in an amount in excess of $5,000,000 because of a default with respect to such Indebtedness (other than a Default Exception) without such Indebtedness having been discharged or such acceleration having been cured, waived, rescinded or annulled, in the case of either clause (i) or (ii) above, for a period of 30 days after written notice is given to the Company as specified in the Indenture; and

(e) there are certain events of bankruptcy, insolvency or reorganization of the Company.

If an Event of Default shall occur and be continuing, the principal of all the Securities may be declared due and payable in the manner and with the effect provided in the Indenture.

16. Authentication.

This Security shall not be valid until the Trustee (or authenticating agent) executes the certificate of authentication on the other side of this Security.

17. Abbreviations.

Customary abbreviations may be used in the name of a Holder or an assignee, such as: TEN COM (= tenants in common), TEN ENT (= tenants by the entireties), JT TEN (= joint tenants with right of survivorship and not as tenants in common), CUST (= Custodian) and U/G/M/A (= Uniform Gifts to Minors Act).

18. Additional Rights of Holders of Transfer Restricted Securities.

In addition to the rights provided to Holders under the Indenture, Holders of Transfer Restricted Securities shall have all the rights set forth in the Registration Rights Agreement.

19. CUSIP Numbers.

Pursuant to a recommendation promulgated by the Committee on Uniform Security Identification Procedures, the Company has caused CUSIP numbers to be printed on this Security and the Trustee may use CUSIP numbers in notices of redemption as a convenience to Holders. No representation is made as to the accuracy of such numbers either as printed on this Security or as contained in any notice of redemption and reliance may be placed only on the other identification numbers placed thereon.

20. Governing Law.

The Indenture and this Security shall be governed by, and construed in accordance with, the law of the State of New York.

21. Successor Corporation.

In the event a successor corporation assumes all the obligations of the Company under this Security, pursuant to the terms hereof and of the Indenture, the Company will be released from all such obligations.

ASSIGNMENT FORM

To assign this Security, fill in the form below and have your signature guaranteed: (I) or (we) assign and transfer this Security to:

- ---

(Insert assignee's soc. sec. or tax I.D. no.)

- ---

- ---

- ---

- ---

(Print or type assignee's name, address and zip code)

and irrevocably appoint_____
to transfer this Security on the books of the Company. The agent may substitute another to act for him.

Dated:_____ Your Name:

(Print your name exactly as it appears on the face of this Security)

Your Signature:

(Sign exactly as your name appears on the face of this Security)

Signature Guarantee*:

---

* PARTICIPANT IN A RECOGNIZED SIGNATURE GUARANTEE MEDALLION PROGRAM (OR OTHER SIGNATURE GUARANTOR ACCEPTABLE TO THE TRUSTEE).

In connection with any transfer of this Security occurring prior to the date which is the earlier of the end of the period referred to in Rule 144(k) under the Securities Act, the undersigned confirms that without utilizing any general solicitation or general advertising that:

[Check One]

[ ] (a) this Security is being transferred in compliance with the exemption from registration under the Securities Act of 1933, as amended, provided by Rule 144A thereunder.

or

[ ] (b) this Security is being transferred other than in accordance with (a) above and documents are being furnished which comply with the conditions of transfer set forth in this Security and the Indenture.

If none of the foregoing boxes is checked, the Trustee or other Registrar shall not be obligated to register this Security in the name of any Person other than the Holder hereof unless the conditions to any such transfer of registration set forth herein and in Sections 2.7, 2.8 and 2.9 of the Indenture shall have been satisfied.

Dated:_____

NOTICE: The signature to this assignment must correspond with the name as written upon the face of the within-mentioned instrument in every particular, without alteration or any change whatsoever.

Signature Guarantee:

Signature must be guaranteed by a participant in a recognized signature guaranty medallion program or other signature guarantor acceptable to the Trustee.

TO BE COMPLETED BY PURCHASER IF (a) ABOVE IS CHECKED.

The undersigned represents and warrants that it is purchasing this Security for its own account or an account with respect to which it exercises sole investment discretion, in each case for investment and not with a view to distribution, and that it and any such account is a "Qualified Institutional Buyer" within the meaning of Rule 144A under the Securities Act of 1933 and is aware that the sale to it is being made in reliance on Rule 144A and acknowledges that it has received such information regarding the Company as the undersigned has requested pursuant to Rule 144A or has determined not to request such information and that it is aware that the transferor is relying upon the undersigned's foregoing representations in order to claim the exemption from registration provided by Rule 144A.

Dated:_____ ----------

NOTICE: To be executed by an executive officer

CONVERSION NOTICE

TO: INHALE THERAPEUTIC SYSTEMS, INC.
150 Industrial Road
San Carlos, California 94070

The undersigned registered owner of this Security hereby irrevocably exercises the option to convert this Security, or the portion hereof (which is $1,000 principal amount or an integral multiple thereof) below designated, into shares of Common Stock in accordance with the terms of the Indenture referred to in this Security, and directs that the shares issuable and deliverable upon such conversion, together with any check in payment for fractional shares and any Securities representing any unconverted principal amount hereof, be issued and delivered to the registered holder hereof unless a different name has been indicated below. If shares or any portion of this Security not converted are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto. Any amount required to be paid to the undersigned on account of interest (including Liquidated Damages, if any) accompanies this Security.

Dated:_____ Your Name:

(Print your name exactly as it appears on the face of this Security)

Your Signature:

(Sign exactly as your name appears on the face of this Security)

Signature Guarantee*:

Social Security or other Taxpayer Identification Number:

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

* PARTICIPANT IN A RECOGNIZED SIGNATURE GUARANTEE MEDALLION PROGRAM (OR OTHER SIGNATURE GUARANTOR ACCEPTABLE TO THE TRUSTEE).

Fill in for registration of shares (if to be issued) and Securities (if to be delivered) other than to and in the name of the registered holder:

(Name)

(Street Address)

(City, State and Zip Code)

NOTICE OF EXERCISE OF REPURCHASE RIGHT

TO: INHALE THERAPEUTIC SYSTEMS, INC.
150 Industrial Road
San Carlos, California 94070

The undersigned registered owner of this Security hereby irrevocably acknowledges receipt of a notice from Inhale Therapeutic Systems, Inc. (the "Company") as to the occurrence of a Change of Control with respect to the Company and requests and instructs the Company to repay the entire principal amount of this Security, or the portion thereof (which is $1,000 principal amount or an integral multiple thereof) below designated, in accordance with the terms of the Indenture referred to in this Security, together with interest (including Liquidated Damages, if any) accrued and unpaid to, but excluding, such date, to the registered holder hereof, in cash.

Dated:_____ Your Name:

(Print your name exactly as it appears on the face of this Security)

Your Signature:

(Sign exactly as your name appears on the face of this Security)

Signature Guarantee*:

Social Security or other Taxpayer Identification Number:

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

* PARTICIPANT IN A RECOGNIZED SIGNATURE GUARANTEE MEDALLION PROGRAM (OR OTHER SIGNATURE GUARANTOR ACCEPTABLE TO THE TRUSTEE).

SCHEDULE OF EXCHANGES FOR PHYSICAL SECURITIES(2)

The following exchanges of a part of this Global Security for Physical Securities have been made:

Date of Exchange	Amount of decrease in Principal Amount of this Global Security	Amount of increase in Principal Amount of this Global Security	Principal Amount of this Global Security following such decrease (or increase)	Signature of authorized of Trustee officer
-				

- ---

(2) This schedule should be included only if the Security is issued in global form.

Exhibit 10.18

[LETTERHEAD]

INHALE

December 6, 1999

Phillip H. Raiser
Harvey E. Chapman, Jr.
Harbor Belmont Associates
800 S. Claremont Street, Suite 201
San Mateo, CA 94402

Re: 260 Harbor Boulevard

Gentlemen:

In connection with the pending Sublease by and between Webvan Group, Inc. as Sublessor and Inhale Therapeutic Systems, Inc. as Sublessee, for Subleased Premises of approximately 7,985 rentable square feet located at 260 Harbor Boulevard, said Sublease to be for the Term commencing on December 1, 1999 and ending on June 30, 2003, (capitalized terms as defined in the Sublease and/or Master Lease), Sublessee, in order to induce Harbor Belmont Associates, the Master Lessor, to consent to the Sublease and, specifically, to the Tenant Improvement Plan (Exhibit B, dated December 2, 1999, to the Sublease) herewith agrees that all Tenant Improvement work shall be performed by Raiser Construction Co., Inc. or, at the option of Master Lessor, another general contractor acceptable to Master Lessor. It is further understood and agreed that all Tenant Improvements of any kind made to the Subleased Premises during the Term shall require obtaining applicable building permits.

SUBLESSEE:	MASTER LESSOR:
By: /s/ Sharon Reiss-Miller	By:
Name Printed: SHARON REISS-MILLER	Name Printed:
Its: V.P. OPERATIONS MGMT	Its:
Date: 12/7/99	Date:

[LETTERHEAD]

December 6, 1999

Ms. Sharon Reiss Miller
INHALE THERAPEUTIC SYSTEMS, INC.
150 Industial Road
San Carlos, CA 94070

RE: 260 HARBOR BOULEVARD
BELMONT, CA

Dear Sharon:

Enclosed is your copy of the fully executed Sublease Agreement by and between Webvan Group, Inc. (Sublessor) and Inhale Therapeutic Systems, Inc. (Sublessee) for the property located at 260 Harbor Boulevard, Belmont.

We are excited to have Inhale Therapeutic Systems, Inc. as a tenant at Harbor Park.

Sincerely,

CB RICHARD ELLIS, INC.

/s/ Bob McSweeney

Robert L. McSweeney
First Vice President

Enclosure

cc: Greg Domanico

SUBLEASE

BY AND BETWEEN

WEBVAN GROUP, INC. AS SUBLESSOR

AND

INHALE THERAPEUTIC SYSTEMS, INC. AS SUBLESSEE

260 HARBOR BOULEVARD
BELMONT, CA

DATED: NOVEMBER 3, 1999

TABLE OF CONTENTS

THIS SUBLEASE ("SUBLEASE") dated as of November 3, 1999, is made between WEBVAN GROUP, INC., a California corporation ("SUBLESSOR"), and INHALE THERAPEUTIC SYSTEMS, INC., a Delaware corporation ("SUBLESSEE").

RECITALS

A. Sublessor is the lessee under "Standard Form Industrial Net Lease" dated as of March 20, 1998 (hereinafter, the "MASTER LEASE"), pursuant to which Harbor Belmont Associates, a California General Partnership ("MASTER LESSOR") leased to Intelligent Systems for Retail, Inc., (prior name of Webvan Group, Inc.), a California Corporation, the real property located in the City of Belmont, County of San Mateo, State of California, described as 260 Harbor Boulevard (the "MASTER PREMISES").

B. The Master Lease has been amended by the following amendments: Amendment to Lease dated June 4, 1998; Amendment No. 2 to Lease dated December 4, 1998; and Amendment No. 3 to Lease dated December 31, 1998.

C. The Master Lease, together with any amendments, are collectively referred to as the "MASTER LEASE."

D. A copy of the Master Lease and all amendments thereto, with certain confidential information having been omitted, is attached and incorporated in this Sublease as Exhibit A.

SECTION 1. SUBLEASE.

Sublessor subleases to Sublessee on the terms and conditions in this Sublease the following portion of the Master Premises ("SUBLEASED PREMISES"): Approximately 7,985 rentable square feet of office / R&D space in a building consisting of approximately 29,425 rentable square feet, which is part of a Project consisting of 212,000 square feet, of which Sublessee's Percentage Share is 3.77%.

In addition, Sublessee shall have the right to use all of the parking spaces allocated to Sublessor pursuant to the original Master Lease, pursuant to the provisions of Section 8 of the Addendum thereto

The parties hereto acknowledge that Amendments No. 2 and No. 3 to the Master Lease added additional premises ("ADDITIONAL PREMISES") to the original Master Premises. These Additional Premises are not included in the Subleased Premises, nor are the terms and conditions of Amendments No. 2 or No. 3 incorporated into this Sublease.

SECTION 2. WARRANTY BY SUBLESSOR

Sublessor warrants to Sublessee that the Master Lease is in full force and effect; has not been amended or modified except as expressly set forth in this Sublease; that neither the Master Lessor nor the Sublessor is now, and as of the commencement of the Term (defined in this Sublease) of this Sublease will not be, in default or breach of any of the provisions of the Master Lease; and that Sublessor has no knowledge of any claim by Master Lessor that Sublessor is in default or breach of any of the provisions of the Master Lease. Sublessor agrees to keep the Master Lease in effect during the entire Term of this Sublease Agreement (subject, however, to any earlier termination of the Master Lease which is not the fault of the Sublessor), and to comply with and perform all of Sublessor's obligations under the Master Lease that Sublessee is not obligated to perform as part of Sublessee's obligations under this Sublease Agreement.

SECTION 3. TERM.

The term of this Sublease (the "TERM") will commence on the later of December 1, 1999 ("COMMENCEMENT DATE"), or when Master Lessor consents to this Sublease, whichever occurs later, and end on June 30, 2003 ("TERMINATION DATE"), unless terminated sooner in accordance with the provisions of this Sublease. If the Term commences on a date other than the Commencement Date, Sublessor and Sublessee will execute a memorandum setting forth the actual date of commencement of the Term. Possession of the Subleased Premises ("POSSESSION") will be delivered to Sublessee on the commencement of the Term. If for any reason Sublessor does not deliver Possession to Sublessee on the Commencement of the Term, Sublessor will not be subject to any liability for this failure, the Termination Date will not be extended by the delay, and the validity of this Sublease will not be impaired. Rent will be abated until delivery of Possession. However, if Sublessor has not delivered Possession to Sublessee within thirty (30) days after the Commencement Date, at any time after that and before delivery of Possession, Sublessee may give written notice to Sublessor of Sublessee's intention to cancel this Sublease. The notice will set forth an effective date for the cancellation, which will be at least ten (10) days after delivery of notice to Sublessor. If Sublessor delivers Possession to Sublessee on or before this effective date, this Sublease will remain in full force. If Sublessor fails to deliver Possession to Sublessee on or before this effective date, this Sublease will be canceled. Upon cancellation, all consideration previously paid by Sublessee to Sublessor on account of this Sublease will be returned to Sublessee, this Sublease will have no further force, and Sublessor will have no further liability to Sublessee because of this delay or cancellation. If Sublessor permits Sublessee to take Possession prior to the commencement of the Term, the early Possession will not advance the Termination Date and will be subject to the provisions of this Sublease, including, without limitation, the payment of rent.

SECTION 4. RENT.

(a) BASE RENT. Sublessee will pay to Sublessor as Base Rent, without deduction, setoff, notice, or demand, at 1241 E. Hillsdale Boulevard, Suite 210, Foster City, CA 94404, or at any other place Sublessor designates by notice to Sublessee, the sum of $19,164.00 for Months 1-12 of the Sublease, and thereafter such Base Rent as adjusted pursuant to subsection (b) below, in advance of the first day of each month of the Term. Sublessee will pay to Sublessor on execution of this Sublease the sum of $19,164 as Base Rent for December 1-31, 1999. If the Term begins or ends on a day other than the first or last day of a month, the Base Rent for the partial months will be prorated on a per diem basis.

(b) BASE RENT ADJUSTMENTS: Beginning on the first anniversary of the Sublease Commencement Date and on each successive anniversary thereafter during the Sublease Term ("ADJUSTMENT DATE"), Base Rent shall be increased by one-hundred percent (100%) of the percentage of increase, if any, shown by the Consumer Price Index for All Urban Consumers, San Francisco Bay Area, All Items (base years 1982-1984 = 100) ("INDEX"), published by the United States Department of Labor, Bureau of Labor Statistics, for the month immediately preceding the Adjustment Date as compared with the Index for the same month in the immediately preceding calendar year; provided, however, that Base Rent shall be increased by not less than three percent (3%) per year nor more than six percent (6%) per year. Sublessor shall calculate the amount of this increase in Base Rent after the United States Department of Labor publishes the statistics on which the amount of the increase will be based. Sublessor shall give written notice of the amount of the increase, multiplied by the number of installments of rent due under this Lease since the Adjustment Date. Sublessee shall pay this amount, together with the monthly rent next becoming due under this Sublease, and shall thereafter pay the monthly rent due under this Sublease at this increased rate, which shall constitute Base Rent. Sublessor's failure to make the required

calculations promptly shall not be considered a waiver of Sublessor's rights to adjust the monthly rent due, nor shall it affect Sublessee's obligations to pay the increased Base Rent. If the Index is changed so that the base year differs from that in effect on the Sublease Commencement Date, the Index shall be converted in accordance with the conversion factor published by the United States Department of Labor, Bureau of Labor Statistics. If the Index is discontinued or revised during the Sublease Term, the government index or computation with which it is replaced shall be used to obtain substantially the same result as if the Index had not been discontinued or revised.

(c) OPERATING COSTS. The parties acknowledge that the Master Lease requires Sublessor to pay to Master Lessor a portion of the expenses of operating the project of which the Subleased Premises are a part (collectively, "OPERATING COSTS"), including, but not limited to, taxes, utilities, or insurance. During the Term of this Sublease, Sublessee will pay to Sublessor as additional rent one hundred percent (100%) of the amounts payable by Sublessor for Operating Costs incurred during the Term for the Subleased Premises. This additional rent will be payable as and when Operating Costs are payable by Sublessor to Master Lessor. If the Master Lease provides for payment by Sublessor of Operating Costs on the basis of an estimate, then as and when adjustments between estimated and actual Operating Costs for the Subleased Premises are made under the Master Lease, the obligations of Sublessor and Sublessee will be adjusted in the same manner. If this adjustment occurs after the expiration or earlier termination of the Term, the obligations of Sublessor and Sublessee under this Subsection will survive this expiration or termination. Sublessor will, on request by Sublessee, furnish Sublessee with copies of all statements submitted by Master Lessor of the actual or estimated Operating Costs during the Term.

SECTION 5. SECURITY DEPOSIT.

Sublessee will deposit with Sublessor on execution of this Sublease the sum of Twenty Thousand ($20,000.00) Dollars as security for Sublessee's faithful performance of Sublessee's obligations under this Sublease ("SECURITY DEPOSIT"). If Sublessee fails to pay rent or other charges when due under this Sublease, or fails to perform any obligations under this Sublease, Sublessor may use any portion of the Security Deposit for the payment of any rent or other amount then due and unpaid, for the payment of any other sum for which Sublessor may become obligated because of Sublessee's default or breach, or for any loss sustained by Sublessor as a result of Sublessee's default or breach. If Sublessor uses any portion of the Security Deposit, Sublessee will, within ten (10) days after written demand by Sublessor, restore the Security Deposit to the full amount originally deposited. Sublessee's failure to do so will constitute a default under this Sublease. Sublessor will not be required to keep the Security Deposit separate from its general accounts, and will have no obligation or liability for payment of interest on the Security Deposit. If Sublessor assigns its interest in this Sublease, Sublessor will deliver to its assignee as much of the Security Deposit as Sublessor then holds. Within ten (10) days after the Term has expired or Sublessee has vacated the Subleased Premises or any final adjustment pursuant to Subsection 4(b) of this Sublease has been made, whichever occurs last, and provided that Sublessee is not then in default under this Sublease, the Security Deposit, or as much as remains that has not been applied by Sublessor, will be returned to Sublessee or to the last assignee, if any, of Sublessee's interest under this Sublease.

SECTION 6. USE OF PREMISES.

The Subleased Premises will be used and occupied only for office, administration, marketing, and all related legal uses, all subject to Master Lessor's approval; and for no other use or purpose.

SECTION 7. ASSIGNMENT AND SUBLETTING.

Sublessee will not assign this Sublease or further sublet all or any part of the Subleased Premises without the prior written consent of Sublessor (and the consent of Master Lessor, if this is required under the terms of the Master Lease).

The foregoing notwithstanding, Sublessee shall be entitled to assign or sublease the Subleased Premises without the consent of Sublessor to any Affiliated Company of Sublessee, meaning any corporation which controls, is controlled by, or is under common control with Sublessee, or to any corporation resulting from a merger or consolidation with Sublessee, or to any person or entity which acquires all, or substantially all, of the assets of Sublessee as a going concern, provided that any such assignee assumes, in full, the obligations of Sublessee under this Sublease Agreement, and provided further that Sublessee shall not be released from its obligations under or liabilities arising out of this Sublease Agreement.

The above provision notwithstanding, Sublessee shall be required to secure Master Lessor's consent to any subsequent assignment or subletting to the full extent as required under the Master Lease, whose terms and provisions are expressly incorporated herein.

SECTION 8. OTHER PROVISIONS OF SUBLEASE.

(a) All applicable terms and conditions of the Master Lease are incorporated into and made a part of this Sublease as if Sublessor were the Lessor, Sublessee the lessee, and the Subleased Premises the Master Premises, except for the following: Section 2; Section 3 (but only to the extent that the Base Rent payable under the Master Lease differs from the Rent set forth herein); Section 32; Section 38; Section 39; Addendum Sections 1-3, Section 5, Addendum Sections 9-10; Section 11(a); Amendment No. 2 to Lease (in its entirety); Amendment No. 1 to Lease (except to the extent that such amendment extended the term of the Master Lease); and Amendment No. 3 to Lease (in its entirety).

(b) Sublessee assumes and agrees to perform the Lessee's obligations under the Master Lease during the Term to the extent that these obligations are applicable to the Subleased Premises. However, the obligation to pay rent and operating costs to Master Lessor under the Master Lease will be considered performed by Sublessee to the extent and in the amount rent and operating costs are paid to Sublessor in accordance with Section 4 of this Sublease.

(c) Sublessee will not commit or suffer any act or omission that will violate any of the provisions of the Master Lease. Sublessor will exercise due diligence in attempting to cause Master Lessor to perform its obligations under the Master Lease for the benefit of Sublessee.

(d) If the Master Lease terminates, at the option of Master Lessor, this Sublease will terminate and the parties will be relieved of any further liability or obligation under this Sublease. However, if the Master Lease terminates as a result of a default or breach by Sublessor or Sublessee under this Sublease or the Master Lease, the defaulting party will be liable to the nondefaulting party for the damage suffered as a result of the termination. Regardless, if the Master Lease gives Sublessor any right to terminate the Master Lease in the event of the partial or total damage, destruction, or condemnation of the Master Premises or the building or project of which the Master Premises are a part, the exercise of this right by Sublessor will not constitute a default or breach.

(e) If Sublessor fails to cure any default by Sublessor in the performance of its obligations, covenants and agreements under this Sublease Agreement, including without limitation Sublessor's obligation to perform its obligations under the Master Lease, either within ten (10) days in the case

of a payment default under this Sublease Agreement or the Master Lease, or within thirty (30) days after written notice of such default from Sublessee in the case of other defaults, Sublessee shall have the right, but not the obligation, to cure any such default and to thereafter be reimbursed by Sublessor for the reasonable costs incurred in effecting such cure and by reason of such default by Sublessor.

(f) Sublessor shall not amend or otherwise modify the Master Lease in a manner that would adversely affect the Subleased Premises, Sublessee's use or occupancy thereof (or its use of the Common Areas), or Sublessor's or Sublessee's rights or obligations under this Sublease Agreement without the prior written consent of Sublessee, which shall not be unreasonably withheld.

(g) Sublessor shall provide to Sublessee, promptly upon receipt thereof, copies of any notices from the Master Lessor that are relevant to Sublessee's use or occupancy of the Subleased Premises, the conduct of Sublessee's business thereon, or Sublessee's rights and obligations under this Sublease Agreement, including without limitation copies of any notices stating that Sublessor is in default of its obligations under the Master Lease.

SECTION 9. HAZARDOUS MATERIALS

(a) USE OF HAZARDOUS MATERIAL. Sublessor has no knowledge of the presence of any Hazardous Material, as hereinafter defined, in, on or about the Subleased Premises. Sublessee shall not cause or permit any Hazardous Material, to be generated, brought onto, used, stored, or disposed of in or about the Subleased Premises or the Project by Sublessee or its agents, employees, contractors, subtenants or invitees ("Sublessee's Hazardous Materials"). Sublessee shall:

(i) Use, store, and dispose of all such Sublessee's Hazardous Material in strict compliance with all applicable statutes, ordinances, and regulations in effect during the Sublease Term that relate to public health and safety and protection of the environment ("ENVIRONMENTAL LAWS"), including but not limited to those Environmental Laws identified herein; and

(ii) Comply at all times during the Sublease Term with all Environmental Laws applicable to Sublessee's Hazardous Materials.

(b) INDEMNIFICATION.

(i) Sublessee shall, at Sublessee's sole expense and with counsel reasonably acceptable to Sublessor, indemnify, defend, and hold harmless Sublessor and Sublessor's shareholders, directors, officers, employees, partners, affiliates, and agents with respect to all losses arising out of or resulting from the release of any Hazardous Material in or about the Subleased Premises or the Building, or the violation of any Environmental Law, by Sublessee or Sublessee's agents, contractors, or invitees.

(ii) Sublessor shall, at Sublessor's sole expense and with counsel reasonably acceptable to Sublessee, indemnify, defend and hold harmless Sublessee and Sublessee's shareholders, directors, officers, employees, partners, affiliates and agents with respect to all losses arising out of or resulting from any Hazardous Materials brought onto the Subleased Premises by or at the direction of Sublessor.

(c) DEFINITION OF "HAZARDOUS MATERIAL." As used in this Sublease, the term "HAZARDOUS MATERIAL" shall mean any hazardous or toxic substance, material, or waste that is or becomes regulated by

the United States, the State of California, or any local government authority having jurisdiction over the Building. Hazardous Material includes:

(i) Any "hazardous substance," as that term is defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 United States Code sections 9601-9675);

(ii) "Hazardous waste," as that term is defined in the Resource Conservation and Recovery Act of 1976 (RCRA) (42 United States Code sections 6901-6992k);

(iii) Any pollutant, contaminant, or hazardous, dangerous, or toxic chemical, material, or substance, within the meaning of any other applicable federal, state, or local law, regulation, ordinance, or requirement (including consent decrees and administrative orders imposing liability or standards of conduct concerning any hazardous, dangerous, or toxic waste, substance, or material, now or hereafter in effect);

(iv) Petroleum products;

(v) Radioactive material, including any source, special nuclear, or byproduct material as defined in 42 United States Code sections 2011-2297g-4;

(vi) Asbestos in any form or condition; and

(viii) Polychlorinated biphenyls (PCBs) and substances or compounds containing PCBs.

SECTION 10. ATTORNEY FEES.

If either party commences an action against the other in connection with this Sublease, the prevailing party will be entitled to recover costs of suit and reasonable attorney fees.

SECTION 11. BROKERS.

Sublessor and Sublessee each warrant that they have not dealt with any real estate broker in connection with this transaction except for CB Richard Ellis, representing Sublessor and BT Commercial, representing Sublessee. Sublessor and Sublessee each agree to indemnify, defend, and hold the other harmless against any damages incurred as a result of the breach of the warranty contained in this Sublease.

SECTION 12. NOTICES.

All notices and demands that may be required or permitted by either party to the other will be in writing. All notices and demands by the Sublessor to Sublessee will be sent by United States Mail, postage prepaid, addressed to the Sublessee at the Subleased Premises, and to the address in this Sublease below, or to any other place that Sublessee may from time to time designate in a notice to the Sublessor. All notices and demands by the Sublessee to Sublessor will be sent by United States Mail, postage prepaid, addressed to the Sublessor at the address in this Sublease, and to any other person or place that the Sublessor may from time to time designate in a notice to the Sublessee.

To Sublessor:
Webvan Group, Inc., 1241 E. Hillsdale Blvd., Suite 210, Foster City, CA 94404
ATTENTION: Kim Marlan

To Sublessee:
Inhale Therapeutic Systems, Inc., _____.
ATTENTION: _____

SECTION 13. SUCCESSORS AND ASSIGNS.

This Sublease will be binding on and inure to the benefit of the parties to it, their heirs, executors, administrators, successors in interest, and assigns.

SECTION 14. ATTORNMENT.

If the Master Lease terminates, Sublessee will, if requested, attorn to Master Lessor and recognize Master Lessor as Sublessor under this Sublease. However, Sublessee's obligation to attorn to Master Lessor will be conditioned on Sublessee's receipt of a nondisturbance agreement.

SECTION 15. ENTRY.

Sublessor reserves the right to enter the Subleased Premises on reasonable notice to Sublessee to inspect the Subleased Premises or the performance by Sublessee of the terms and conditions of this Sublease. In an emergency, no notice will be required for entry.

SECTION 16. LATE CHARGE AND INTEREST.

The late payment of any Rent will cause Sublessor to incur additional costs, including the cost to maintain in full force the Master Lease, administration and collection costs, and processing and accounting expenses. If Sublessor has not received any installment of Rent within five (5) days after that amount is due, Sublessee will pay five percent (5%) of the delinquent amount, which is agreed to represent a reasonable estimate of the cost incurred by Sublessor. In addition, all delinquent amounts will bear interest from the date the amount was due until paid in full at a rate per annum ("Applicable Interest Rate") equal to the greater of (a) five percent (5%) per annum plus the then federal discount rate on advances to member banks in effect at the Federal Reserve Bank of San Francisco on the 25th day of the month preceding the date of this Sublease or (b) ten percent (10%). However, in no event will the Applicable Interest Rate exceed the maximum interest rate permitted by law that may be charged under these circumstances. Sublessor and Sublessee recognize that the damage Sublessor will suffer in the event of Sublessee's failure to pay this amount is difficult to ascertain and that the late charge and interest are the best estimate of the damage that Sublessor will suffer. If a late charge becomes payable for any three (3) installments of Rent within any twelve (12) month period, the Rent will automatically become payable quarterly in advance.

SECTION 17. MASTER LESSOR'S PERFORMANCE AND CONSENT

(a) Sublessee recognizes that Sublessor is not in a position to provide any of the utilities or services required or appropriate for the Building or the Subleased Premises or to perform any of the obligations required of Master Lessor by the terms of the Master Lease. To the extent that the provision of any services or the performance of any maintenance or any other act respecting the Subleased Premises or the Building is the responsibility of the Master Lessor, (collectively, "MASTER LESSOR OBLIGATIONS"), upon Sublessee's request, Sublessor shall make reasonable efforts to cause Master Lessor to perform such Master Lessor Obligations; provided, however, that in no event shall Sublessor be liable to Sublessee for any liability, loss or damage whatsoever in

the event that Master Lessor should fail to perform the same, nor shall Sublessee be entitled to withhold that payment of Rent or terminate this Sublease. It is expressly understood that the services and repairs which are incorporated herein by reference, including but not limited to the maintenance of exterior walls, structural portions of the roof, foundations, walls and floors, driveways, parking areas, and landscaping will in fact be furnished by Master Lessor and not by Sublessor, except to the extent otherwise provided in the Master Lease. In addition, Sublessor shall not be liable for any maintenance, restoration (following casualty or destruction) or repairs in or to the Building or Premises, other than its obligation hereunder to use reasonable efforts to cause Master Lessor to perform its obligations under the Master Lease. With respect to any maintenance or repair to be performed by Master Lessor respecting the Subleased Premises, the parties expressly agree that Sublessee shall have the right to contact Master Lessor directly to cause it to so perform. Except as otherwise provided herein, Sublessor shall have no other obligations to Sublessee with respect to the performance of Master Lessor Obligations.

(b) Sublessor and Sublessee recognize that certain actions Sublessee may wish to undertake pursuant to this Sublease Agreement will require, in addition to or in lieu of the consent of Sublessor, the consent of the Master Lessor. Whenever the consent of the Master Lessor is required under the Master Lease, and whenever the Master Lessor fails to perform its obligations under the Master Lease, Sublessor agrees to use its commercially reasonable, good faith efforts to obtain, at Sublessee's sole cost and expense, that consent or performance on behalf of Sublessee; and Sublessee shall cooperate with such efforts.

(c) Subject to Master Lessor's approval, as described below, Sublessor and Sublessee agree that Sublessee shall have the right to install tenant improvements in the Subleased Premises in accordance with and subject to the Tenant Improvement Plan attached hereto as Exhibit B (the "INITIAL TENANT IMPROVEMENTS") and incorporated herein by this reference. Anything in this Sublease Agreement to the contrary notwithstanding, it is agreed and understood by Sublessor and Sublessee (i) that Sublessor shall not impose any obligation on Sublessee to remove, at the expiration or earlier termination of the Sublease, the Initial Tenant Improvements, except to the extent that Master Lessor imposes such an obligation upon Sublessor, and (ii) that Sublessee's obligation to remove such tenant improvements shall be only that, if any, imposed by the Master Lessor in accordance with the Master Lease.

SECTION 18. ENTIRE AGREEMENT.

This Sublease sets forth all the agreements between Sublessor and Sublessee concerning the Subleased Premises, and there are no other agreements either oral or written other than as set forth in this Sublease.

SECTION 19. TIME OF ESSENCE.

Time is of the essence in this Sublease.

SECTION 20. CONSENT BY MASTER LESSOR.

THIS SUBLEASE WILL HAVE NO EFFECT UNLESS CONSENTED TO BY MASTER LESSOR WITHIN 10 DAYS AFTER EXECUTION IF CONSENT IS REQUIRED UNDER THE TERMS OF THE MASTER LEASE.

SECTION 21. GOVERNING LAW.

This Sublease will be governed by and construed in accordance with California law.

SECTION 22. PURCHASE OF EQUIPMENT AND FURNITURE

Sublessee shall, separate and apart from the payment of Rent, purchase certain furniture belonging to Sublessor presently located on the Subleased Premises, all of which are listed on attached Exhibit A, for a purchase price of $30,000.00. Payments in the amount of $10,000 each shall be due on December 1, 1999, January 1, 2000 and February 1, 2000. The parties expressly understand and agree that these payments represent compensation for the purchase of Sublessor's personal property, and do not constitute rent.

IN WITNESS WHEREOF, THE PARTIES HAVE EXECUTED THE SUBLEASE:

SUBLESSEE:	SUBLESSOR:
By /s/Stephen L. Hurst	By /s/ David S. Rock
Name Printed: Stephen L. Hurst	Name Printed: David S. Rock
Its: General Counsel	Its: Vice President Real Estate
Date: 23 November 1999	Date: November 24, 1999
By /s/ Sharron Reiss-Muller	By
Name Printed: Sharron Reiss-Muller	Name Printed:
Its: V.P. Operations Mgmt	Its:
Date: 11/23/99	Date:

MASTER LESSOR'S CONSENT TO SUBLEASE

The undersigned ("Master Lessor"), Lessor under the Master Lease, consents to the Sublease without waiver of any restriction in the Master Lease concerning further assignment or subletting. Master Lessor certifies that, as of the date of Master Lessor's execution, Sublessor is not in default or breach of any of the provisions of the Master Lease, and that the Master Lease has not been amended or modified except as expressly set forth in the Sublease.

Master Lessor hereby consents to the installation of the Initial Tenant Improvements at the Subleased Premises in accordance with and subject to the Tenant Improvement Plan attached hereto as Exhibit B and incorporated herein by this reference. Neither Sublessor nor Sublessee shall have any obligation to remove, at the expiration or earlier termination of the Sublease, any such Initial Tenant Improvements.

MASTER LESSOR:

By /s/ Phillip Raiser
Name Printed: Phillip Raiser
Its General Partner
Date: 12/1/99

EXHIBIT A
PERSONAL PROPERTY INVENTORY

DESCRIPTION	QUANTITY
Corner Desk - 36 x 36 x 25	6
Corner Desk - 36 x 36 x 26	3
Double Ped Return - 25 x 60	6
Conference Reference Table - 36 x 36	1
Conference Table - 42 x 66	1
Solo Side Arm Chairs	24
Opening Bookcases - 12 x 42 x 36	8
Round Table - 42"	2
Driset/Desk Mounted Bookcase - 14 x 36 x 34	2
Steelcase Locking Overhead Bookshelf - 60 x 14	1
Steelcase Panel Leg	1
Free Standing Return Open Shell - 24 x 48 x 29	1
Return w/b-b-f 20' w/o Ped	2
Free Standing Return Worksurface - 30 x 25	6
Free Standing Return Worksurface - 36 x 25	1
Free Standing Return Worksurface - 25 x 42	3
Free Standing Return Worksurface - 48 x 25	4
Free Standing Return Worksurface - 6/6/12 60 x 25	2
Free Standing Return Worksurface - 60 x 25	4
Free Standing Return Worksurface - 36 x 25	7
Panel End Leg - 25"	2
Overhead w/lock	3
Wall Channel	6
Overhead 60" w/lock	1
60" Tack Board	3
Workstations	10
Work stations, conference/training area, reception	

PROPERTY NOT INCLUDED:
Approximately 82 Aeron Chairs

STANDARD FORM INDUSTRIAL NET LEASE

BASIC LEASE INFORMATION

DATE: March 20, 1998

LESSOR: Harbor Belmont Associates, a California General Partnership

LESSEE: Intelligent Systems for Retail, Inc., a California Corporation

	LEASE REFERENCE
PREMISES: 260 Harbor Boulevard, Belmont, CA	PARAGRAPH 1
RENTABLE AREA OF PREMISES: Seven Thousand Nine Hundred Eighty-Five sq. ft. (7,985 sq. ft.)	PARAGRAPH 1
TERM COMMENCEMENT: May 15, 1998	PARAGRAPH 2
TERM EXPIRATION: May 31, 2003	PARAGRAPH 2
TENANT IMPROVEMENT ALLOWANCE: $15,000; see addendum	PARAGRAPH 2
BASE RENT: $1.55	PARAGRAPH 3
LESSEE'S PERCENTAGE SHARE: 3.77%	PARAGRAPH 3
USE: Research and development, administration, office and marketing, and all other uses as approved by the City of Belmont	PARAGRAPH 4
SECURITY DEPOSIT: Twenty Seven Thousand Nine Hundred Forty Seven and 00/100 Dollars ($27,947.00)	PARAGRAPH 32
LESSEE'S ADDRESS FOR NOTICES:	
1241 Hillsdale Blvd., Suite 203 - ------------------------------ Foster City, CA 94404 - ------------------------------	
- ------------------------------	PARAGRAPH 34
LESSOR'S ADDRESS FOR NOTICES:	
800 SOUTH CLAREMONT AVENUE SAN MATEO, CA 94402	PARAGRAPH 34
EXHIBIT(S) AND ADDENDUM:	PARAGRAPH 41

EXHIBIT A - DIAGRAM OF PREMISES
Addendum to Lease

THE PROVISIONS OF THE LEASE IDENTIFIED ABOVE ARE THOSE PROVISIONS WHERE REFERENCES TO PARTICULAR BASIC LEASE INFORMATION APPEAR. EACH SUCH REFERENCE SHALL INCORPORATE THE APPLICABLE BASIC LEASE INFORMATION. IN THE EVENT OF ANY CONFLICT BETWEEN ANY BASIC LEASE INFORMATION AND THE LEASE, THE LATTER SHALL CONTROL.

LESSEE: Intelligent Systems for Retail, Inc., a California Corporation	LESSOR: Harbor Belmont Associates, a California General Partnership
By /s/ Louis H. Borders --- Louis H. Borders	By /s/ Phillip Raiser ---
Its President ---	Its General Partner ---

STANDARD FORM INDUSTRIAL NET LEASE

TABLE OF CONTENTS

STANDARD FORM INDUSTRIAL NET LEASE

THIS LEASE, dated March 20, 1998 for purposes of reference only, is made and entered into by and between Harbor Belmont Associates, a California General Partnership ("Lessor") and Intelligent Systems for Retail, Inc., a California Corporation ("Lessee").

1. THE PREMISES: Lessor hereby leases to Lessee and Lessee hereby leases from Lessor the premises (the "premises"), designated on the floor plan attached hereto as Exhibit A, comprising 7985 rentable square feet located in unit 260 in Building A of Harbor Park, located at 300 Harbor Boulevard in Belmont, California for the term and subject to the covenants and conditions hereinafter set forth, to each and all of which Lessor and Lessee hereby mutually agree.

2. TERM; INITIAL TENANT IMPROVEMENTS: (a) The term of this Lease shall commence and, unless sooner terminated as hereinafter provided, shall end on the dates respectively specified in the Basic Lease information. If Lessor, for any reason whatsoever, cannot deliver possession of the premises to Lessee at the commencement of said term as above specified, this Lease shall not be void or voidable, nor shall Lessor be liable to Lessee for any loss or damage resulting therefrom, but in that event rental shall be waived for the period between the commencement of said term and the time when Lessor can deliver possession. No delay of possession shall operate to extend the term hereof commensurately.

(b) Prior to the commencement of the term, Lessee shall complete the Tenant improvements to be constructed or installed in the premises pursuant to ADDENDUM attached hereto (the "Tenant Improvements"). SEE ADDENDUM [ILLEGIBLE].

(c) Lessor shall pay the cost of the Tenant improvements up to the sum specified in the Basic Lease information as the Tenant Improvement Allowance and all other Tenant Improvement Costs shall be paid by Lessee, as provided in the Addendum [ILLEGIBLE].

(d) In the event Lessor permits Lessee to occupy the premises prior to the commencement date of the term, such occupancy shall be subject to all provisions of this Lease. See Addendum paragraph 3

3. RENTAL: (a) Base Rent. Lessee shall pay to Lessor throughout the term of the Lease as rental for the premises the sum specified in the Basic Lease information as the Base Rent, subject to the following adjustment:

See Addendum paragraph 1

(b) LESSEE'S PERCENTAGE SHARE OF OPERATING EXPENSES AND PROPERTY TAXES. Lessee shall pay to Lessor throughout the term hereof as additional rental Lessee's Percentage Share of Operating Expenses and Property Taxes.

(1) The term "Operating Expenses" shall mean (1) all costs of management, operation and maintenance of the Project including, without limitation, wages, salaries, fringe benefits and payroll burden of employees, maintenance, guard, security and other services, Project office rent or rental value, water and waste disposal for the Project, janitorial services, gas, electricity and other utilities for the Building and Project common areas, materials and supplies, maintenance and repairs, landscaping, insurance, depreciation on personal property, and (2) the cost of any capital improvements made to the Project by Lessor that are anticipated to reduce other Operating Expenses or made to the Project by Lessor that are required under any governmental law or regulation, such cost or allocable portion thereof to be amortized over such reasonable period as Lessor shall determine together with interest on the unamortized balance at the reference rate from time to time announced by the Bank of America, San Francisco main office, plus 2% per annum or such higher rate as may have been paid by Lessor on funds borrowed for the purpose of constructing such capital improvements; provided, however, that Operating Expenses shall not include Property Taxes, depreciation on the buildings in the Project, costs of tenants' improvements in excess of tenant standard, real estate brokers' commissions, interest and capital items other than those referred to in clause (2) above and any expense to the extent Lessor receives direct reimbursement by tenants, insurers or other third parties. Actual Operating Expenses for calendar year shall be adjusted to equal Lessor's reasonable estimate of Operating Expenses had 100% of the rentable area of the Project been occupied.

(2) The term "Property Taxes" shall mean all real property taxes and personal property taxes, licenses, charges and assessments which are levied, assessed or imposed by any governmental or quasi-governmental authority, improvement or assessment district with respect to the Project or any other fixtures, improvements, equipment or other property of Lessor, real or personal, located in the Project and used in connection with the operation thereof, whether or not now customary or within the contemplation of the parties hereto, including, without limitation, any taxes, charges or assessments for public improvements, services or benefits, irrespective of when commenced or completed, transit fees, housing funds, education funds, street, highway or traffic fees, as well as any tax which shall be levied or assessed in addition to or in lieu of such taxes, any charge upon Lessor's business of leasing of

the Project (unless included in paragraph 6) and any costs or expenses of contesting any such taxes, licenses, charges or assessments, but excluding any federal or state income or gift tax or any franchise, capital stock, estate or inheritance taxes. In the event that it shall not be lawful for Lessee to reimburse Lessor for Lessee's percentage share of any Property Tax, as defined herein, the rent payable to Lessor under this Lease shall be revised to yield to Lessor the same net rent from the premises after imposition of any such tax upon Lessor as would have been received by Lessor hereunder prior to the imposition of any such tax.

(3) The term "Lessee's Percentage Share" shall mean the percentage figure specified in the Basic Lease information. Lessor and Lessee acknowledge that Lessee's percentage share has been obtained by dividing the net rentable area of the premises, specified in the Basic Lease information, by the total net rentable area in the Project, which Lessor and Lessee agree is 212,000 square feet, and multiplying such quotient by 100. In the event Lessor's Percentage Share is changed during a calendar year by reason of a change in the net rentable area of the premises, Lessee's Percentage Share shall thereafter mean the result obtained by dividing the new net rentable area of the premises by 212,000 square feet and multiplying such quotient by 100, and for the purposes of section 3, Lessee's Percentage Share shall be determined on the basis of the number of days during such calendar year at each such Percentage Share.

(4) Prior to the commencement of the term hereof, and in December of each subsequent calendar year, or as soon thereafter as practicable, Lessor shall give Lessee written notice of its estimate of Lessee's Percentage Share of Operating Expenses and Property Taxes. On or before the first day of each month during the ensuing calendar year, Lessee shall pay to Lessor 1/12 of such estimated amounts, provided that if such notice is not given in December, Lessee shall continue to pay on the basis of the then applicable rental until the month after such notice is given. If at any time or times it

appears to Lessor that the amounts payable under this paragraph (b) for the current calendar year will vary from its estimate by more than 5%. Lessor may, by notice to Lessee, revise its estimate for such year, and subsequent payments by Lessee for such year shall be based upon such revised estimate.

(5) Within 90 days after the close of each calendar year or as soon after such 90-day period as practicable, Lessor shall deliver to Lessee a statement of actual Property Taxes and Operating Expenses for such calendar year. If, on the basis of such statement, Lessee owes an amount that is less than the estimated payments for such calendar year previously made by Lessee, Lessor shall credit such excess against the next payment of rental due from Lessee hereunder, or, if at the end of the term hereof, if no payments are due from Lessee, Lessor shall pay the excess to Lessee within 30 days after the statement is delivered. If on the basis of such statement Lessee owes an amount that is more than the estimated payments for such calendar year previously made by Lessee, Lessee shall pay the deficiency to Lessor within 30 days after delivery of the statement. The obligation of Lessor and Lessee to make the reconciling payments referred to in this paragraph (s) shall survive the termination of this Lease. The payments to be made pursuant to this paragraph (b) for partial years at the beginning or end of the term hereof shall be prorated on the basis which the number of days from the commencement of such calendar year to and including such termination date bears to 365.

(c) Rental shall be paid to Lessor on or before the first day of the term hereof and on or before the first day of each and every successive calendar month thereafter during the term hereof. In the event the term of this Lease commences on a day other than the first day of a calendar month or ends on a day other than the last day of a calendar month, then the monthly rental for the first and last fractional months of the term hereof shall be appropriately prorated.

(d) Lessee hereby acknowledges that late payment by Lessee to Lessor of rent and other sums due hereunder after the expiration of any applicable grace period will cause Lessor to incur costs not contemplated by this Lease, the exact amount of which will be extremely difficult to ascertain. Such costs include, but are not limited to, processing and accounting charges, and late charges which may be imposed on Lessor by the terms of any mortgage or trust deed covering the premises. Accordingly, if any installment of rent or any other sums due from Lessee shall not be received by Lessor when due or if a grace period is applicable, prior to the expiration of the grace period, Lessee shall pay to Lessor a late charge equal to 6% of such overdue amount. The parties hereby agree that such late charge represents a fair and reasonable estimate of the costs Lessor will incur by reason of late payment by Lessee. Acceptance of such late charge by Lessor shall in no event constitute a waiver of Lessee's default with respect to such overdue amount, nor prevent Lessor from exercising any of the other rights and remedies available to Lessor hereunder or at law.

(e) Rental and all other payments to be made by Lessee hereunder shall be paid to Lessor without deduction or offset, in lawful money of the United States of America at Lessor's address for notices hereunder or to such other person or at such other place as Lessor may from time to time designate in writing.

(f) All sums of money or charges required to be paid by Lessee hereunder shall be deemed rental for the premises and may be designated in as such any statutory notice to pay rent or quit the premises.

4. USE: The premises shall be used for the purpose set forth in the Basic Lease information and no other and shall be continuously occupied by Lessee. Lessee shall not do or permit to be done in or about the premises, nor bring or keep or permit to be brought or kept therein, anything which is prohibited by or will in any way conflict with any law, statute, ordinance or governmental rule or regulation now in force or which may hereafter be enacted or promulgated, or which is prohibited by the standard form of fire insurance policy, or will in any way increase the existing rate of or affect any fire or other insurance upon the Building or any of its contents, or cause a cancellation of any insurance policy covering the Building or any part thereof or any of its contents. Lessee shall not do or permit anything to be done in or about the premises which will in any way obstruct or interfere with the rights of other tenants of the Building, or injure or annoy them, or use or allow the premises to be used for any improper, immoral, unlawful or objectionable purpose, nor shall Lessee cause, maintain or permit any nuisance in, on or about the premises or commit or suffer to be committed any waste in, on or about the premises.

5. SERVICES AND UTILITIES: Lessee shall pay for all gas, electricity, heat, cooling energy, telephone, janitorial service, water, waste disposal, refuse collection and other utility-type services furnished to Lessee or the premises, together with all related installation or connection charges or deposits. Lessor shall designate which of the above utilities shall be separately metered to the premises, and, as to such utilities, Lessee shall pay the cost of the metering and shall contract directly with and shall directly pay the provider of such services. Lessor reserves the right at any time or from time to time during the term of the Lease to require any of the above utilities to be separately metered to the premises, at Lessee's expense, or any of the above services to be contracted for directly by Lessee. Lessor shall furnish the premises with any of the above services and utilities not

designated by Lessor for direct contracting or metering and the expense thereof shall be included in Operating Expenses, of which Lessee shall pay its Percentage Share pursuant to paragraph 3(b), provided that Lessee shall promptly reimburse Lessor upon demand for the cost of such utilities or services used on the premises in excess of the average level of such services consumed by other tenants of the Building or the Project. Lessor shall not be liable in damages, consequential or otherwise, nor shall there be any rent abatement, arising out of any interruption whatsoever in utility services which is due to fire, accident, strike, governmental authority, acts of God, or other causes beyond the reasonable control of Lessor or any temporary interruption in such service which is necessary to the making of alterations, repairs, or improvements to Building or the Project or any part of it.

6. OTHER TAXES AND CHARGES PAYABLE BY LESSEE: In addition to the monthly rental and other charges to be paid by Lessee hereunder. Lessee shall pay or reimburse Lessor for any and all of the following, whether or not now customary or in the contemplation of the parties hereto: taxes (other than local, state and federal personal or corporate income taxes measured by the net income of Lessor from all sources), assessments (including, without limitation, all assessments for public improvements, services or benefits, irrespective of when commenced or completed), excises, levies, business taxes, license, permit, inspection and other authorization fees, transit development fees, assessments or charges for housing funds, service payments in lieu of taxes and any other fees or charges of any kind, which are levied, assessed, confirmed or imposed by any public authority: (a) upon, measured by or reasonably attributable to the cost or value of Lessee's equipment, furniture, fixtures and other personal property located in the premises or by the cost of any leasehold improvements made in or to the premises by or for Lessee, regardless of whether title to such improvements shall be in Lessee or Lessor; (b) upon or measured by the monthly rental or other charges payable hereunder, including, without limitation, any gross income tax or excise tax levied by the City and County of San Francisco, the State of California, the Federal Government or any other governmental body with respect to the receipt of such rental; (c) upon, with respect to or by reason of the development, possession, leasing, operation, management, maintenance, alteration, repair, use or occupancy by Lessee of the premises or any portion thereof; (d) upon this transaction or any document to which Lessee is a party creating or transferring an interest or an estate in the premises. In the event that it shall not be lawful for Lessee so to reimburse Lessor, the monthly rental payable to Lessor under this Lease shall be revised to net Lessor the same net rental after imposition of any such tax or other charge upon Lessor as would have been payable to Lessor prior to the imposition of any such tax or other charge.

7. ALTERATIONS AND ADDITIONS: Lessee shall not make or suffer to be made any alterations, additions or improvements to or of the premises or any part thereof or attach any fixtures to the premises without first obtaining the written consent of Lessor. Any alterations, additions or improvements to the premises, including, but not limited to, wall covering, paneling and built-in cabinet work, (but excepting movable furniture and trade fixtures, which may be removed at the end of the Lease term provided their removal will not cause material damage to the premises and the Lessee posts reasonable security with Lessor to pay for any repair costs caused by such removal) shall, on the expiration of the term, become a part of the realty and belong to Lessor and shall be surrendered with the premises. Lessee shall submit detailed specifications and floor plans and necessary permits (if applicable) with respect to any requested alterations or improvements to Lessor for review. Lessor may require reasonable changes to such specifications or plans as a condition to giving its consent. In no event shall any alterations or improvements affect the structure of the Building or its facade. Any work consented to by Lessor hereunder shall be done at Lessee's expense and shall be performed either by Lessor a contractor or by contractors approved by Lessor, as Lessor may elect. In addition, as a condition to its consent, Lessor shall be entitled to request adequate assurance that all contractors who will perform such work have in force workmen's compensation and such other employee and public liability insurance as Lessor deems necessary to supplement the insurance coverage provided below. In case of material alterations, additions, improvements, Lessor may require Lessee or its contractors to post adequate completion and performance bonds.

8. LIENS: Lessee shall keep the premises and the Building free from any liens arising out of any work performed, materials furnished or obligations incurred by Lessee. Lessor shall have the right to post and keep posted on the premises any notices that may be provided by law or which Lessor may deem to be proper for the protection of Lessor, the premises and the Building from such liens.

9. MAINTENANCE AND REPAIRS: See Addendum, paragraph 4 Lessee shall, at all times during the term hereof and at Lessee's sole cost and expense, keep the premises and every part thereof in good condition and repair, ordinary wear and tear, damage thereto by fire, earthquake, act of God or the elements excepted, Lessee hereby waiving all rights to make repairs at the expense of Lessor or in lieu thereof to vacate the premises as provided by California Civil Code Section 1942 or any other law, statute or ordinance now or hereafter in effect. Lessee shall at the end of the term hereof surrender to Lessor the premises and all alterations, additions and improvements thereto in the same condition as when received, ordinary wear and tear and damage by fire, earthquake, act of God or the elements excepted. Lessor has no obligation and has made no promise to alter, remodel, improve, repair, decorate or paint the premises or any part thereof, except as specifically herein set forth. No representations respecting the condition of the premises or the Building have been made by Lessor to Lessee, except as specifically herein set forth.

Lessor shall have the right to require Lessee to replace, or reimburse Lessor for replacement of, all plate glass, including windows, in or upon the premises or in the Building which may be damaged or broken by Lessee, its employees, agents, guests or invitees.

(b) Lessor shall maintain the roof, exterior walls and foundation of the Building, driveways, parking areas and landscaping for exterior common areas in the Project, in reasonably good order and condition except for damaged caused by the act of Lessee, its agents, employees, guests, or invitees, which damage shall be repaired at Lessee's expense by Lessor or Lessee, as Lessor may elect.

10. DESTRUCTION OR DAMAGE: (a) In the event the premises or the portion of the Building necessary for Lessee's occupancy are damaged by fire, earthquake, act of God, the elements or other casualty, Lessor shall forthwith repair the same, subject to the provisions of this section hereinafter set forth, if such repairs can, in Lessor's opinion, be made within 90 days and if insurance proceeds are available to pay the cost thereof. This Lease shall remain in full force and effect except that, if such damage is not the result of the negligence or willful misconduct of Lessee or Lessee's employees or invitees, an abatement of rental shall be allowed Lessee for such part of the premises as shall be rendered unusable by Lessee in the conduct of its business during the time such part is so unusable. See Addendum, paragraph 6

(b) If such repairs cannot, in Lessor's opinion, be made within 90 days, or if sufficient insurance proceeds are unavailable, Lessor may elect, upon notice to Lessee within 30 days after the date of such fire or other casualty, to repair or restore such damage, in which event this Lease shall continue in full force and effect, but the rent shall be partially abated as hereinabove in this section provided. If Lessor does not so elect to make such repairs, this Lease shall terminate as of the date of such fire or other casualty.

(c) A total destruction of the Building shall automatically terminate this Lease. Lessee waives California Civil Code Sections 1932(2) and 1933(4) providing for termination of hiring upon destruction of the thing hired.

(d) If the premises are to be repaired under this section, Lessor shall repair at its cost any injury or damage to the Building itself and all leasehold improvements in the premises other than tenant improvements made by or for Lessee. Lessee shall pay the cost of repairing any tenant improvements made by or for Lessee and the cost of repairs or replacing Lessee's fixtures and personal property in the premises.

11. INSURANCE: Lessee shall obtain and maintain during the term of this Lease comprehensive general liability insurance with a combined single limit for personal injury and property damage in an amount not less than $1,000,000, and employer's liability and worker's compensation insurance as required by law. If Lessee's insurance contains a split limit of liability the liability limit shall be not less than $1,000,000 for bodily injury and $300,000 for property damage. Such insurance policy shall also specifically cover Lessee's indemnity obligations set forth in paragraph 13. Lessee's comprehensive general liability insurance policy shall (1) provide that (i) it may not be cancelled or altered in such a manner as adversely to affect the coverage afforded thereby without 30 days' prior written notice to Lessor, (ii) Lessor is named as additional insured, (iii) such insurance is primary with respect to Lessor and any entity managing the Building and that any other insurance maintained by Lessor or such management company is excess and noncontributing with such insurance, (2) contain a cross-liability endorsement or a severability of interest clause (3) contain a waiver of subrogation as provided in paragraph 12; (4) provide for blanket contractual coverage, broad form property damage coverage and products completed operations coverage (where applicable); and (6) afford coverage for all claims based on acts, omissions, injury or damage which occurred or arose (or the onset of which occurred or arose) in whole or in part during the policy period. Lessee shall insure the full replacement cost of all personal property and fixtures of tenant and all improvements made by or for tenant to the premises. All insurance to be provided by Lessee shall be provided by a carrier or carriers rated "A-ix" in Best's Insurance Guide or shall otherwise be satisfactory to Lessor. If, in the opinion of Lessor's insurance advisor, based on a substantial increase in recovered liability claims generally, the specified amounts of coverage are no longer adequate, such coverage

shall be appropriately increased. Prior to the commencement of the term, a duplicate of such policy or a certificate thereof shall be delivered to Lessor for retention by it. If Lessee fails to obtain such insurance or to furnish Lessor any such duplicate policy or certificate as herein required, Lessor may, at its election, without notice to Lessee and without any obligation so to do, procure and maintain such coverage and Lessee shall reimburse Lessor on demand as additional rent for any premium so paid by Lessor. See Addendum, paragraph 10

12. WAIVER OF SUBROGATION: To the extent of insurance proceeds received with respect to the loss, Lessor and Lessee each hereby waive any right of recovery against the other party for any loss or damage maintained by such other party with respect to the Building or the premises or any portion thereof or any contents thereof or any operation therein whether or not such loss is caused by the fault or negligence of such other party. Lessee and Lessor shall each obtain from its insurers under all policies of insurance maintained by it at any time during the term hereof in connection with Building, the premises, the contents or operations therein, a waiver of all rights of subrogation which the insurer of one party might have against the other party.

13. INDEMNIFICATION: Lessee shall hold Lessor harmless from any damage to any property or injury to or death of any person arising from the use of the premises or the Building by Lessee, its agents, employees, contractors and invitees, except such as is caused solely by the gross negligence or willful act of Lessor. The foregoing indemnity obligation of Lessee shall include reasonable attorneys' fees, investigation costs and all other reasonable costs and expenses incurred by Lessor from the first notice that any claim or demand is to be made or may be made. The provisions of this section 13 shall survive the termination of this Lease with respect to any damage, injury or death occurring prior to such termination.

14. COMPLIANCE WITH LEGAL REQUIREMENTS: Lessee shall at its sole cost and expense promptly comply with all laws, statutes, ordinances and governmental rules, regulations or requirements now in force or which may hereafter be in force, with the requirements of any board of fire underwriters or other similar body now or hereafter constituted, with any direction or occupancy certificate issued pursuant to any law by any public officer or officers, as well as the provisions of all recorded documents affecting the premises, insofar as any thereof relate to or affect the condition, use or occupancy of the premises.

15. ASSIGNMENT AND SUBLETTING: (a) Lessee shall not, without the prior written consent of Lessor, assign this Lease or any interest herein, sublet the premises or any part thereof, permit the use or occupancy of the premises by any person other than Lessee, or hypothecate this Lease or any interest herein. Any of the foregoing acts without such consent shall be void and shall, at the option of Lessor, constitute a default that shall entitle Lessor to terminate this Lease. This Lease shall not, nor shall any interest herein, be assignable as to the interest of Lessee involuntarily or by operation of law without the prior written consent of Lessor. Any transfer of more than 50% of Lessee's stock, or of a majority of general partnership interests in Lessee shall constitute a prohibited assignment under this Section 15. See Addendum, paragraph 11.

(c) Lessor's consent to a proposed assignment or sublet shall not be unreasonably withheld. Without limiting the other instances in which it may be reasonable for Lessor to withhold its consent to an assignment or subletting. Lessor and Lessee acknowledge that it shall be reasonable for Lessor to withhold its consent in the following instances:

(1) the proposed assignee or sublessee is a governmental agency;

(2) in Lessor's reasonable judgment, the use of the premises by the proposed assignee or sublessee would entail any alterations which would lessen the value of the leasehold improvements in the premises, or would require increased services by Lessor;

(3) in Lessor's reasonable judgment, the financial worth of the proposed assignee or sublessee does not meet the credit standards applied by Lessor for other tenants under leases with comparable terms;

(4) in Lessor's reasonable judgment the character, reputation or business of the proposed assignee or sublessee is not consistent with the quality of the other tenancies in the Building or the Project;

(5) Lessor has received from any prior lessor to the proposed assignee or subtenant a negative report concerning such prior lessor's experience with the proposed assignee or subtenant;

(6) Lessor has experienced previous defaults by or is in litigation with the proposed assignee or subtenant;

(7) in Lessor's reasonable judgment, the premises, or the relevant part thereof, will be used in a manner that will violate any negative covenant as to use contained in any other lease of space in the Building or the Project;

(8) the used of the premises by the proposed assignee or subtenant will violate any applicable law, ordinance or regulation;

(9) the proposed assignment or sublease will create a vacancy elsewhere in the Building or the Project;

(11) the proposed assignment or sublease fails to include all of the terms and provisions required to be included therein pursuant to this paragraph 15;

(12) Lessee is in default of any obligation of Lessee under this lease, or Lessee has defaulted under this Lease on three (3) or more occasions during the twelve (12) months preceding the date that Lessee shall request consent; or

(13) in the case of a subletting of less than the entire premises, if the subletting would result in the division of the premises into more than two subparcels or would require access to be provided through space leased or held for lease to another tenant or improvements to be made outside of the premises.

(d) In the case of an assignment one half of any sums or other economic consideration received by Lessor as compensation for its leasehold interest as a result of such assignment shall be paid to Lessor after first deducting the unamortized cost of leasehold improvements paid for by Lessee, and the cost of any real estate commissions incurred in connection with such assignment. In the case of a subletting one half of any sum or economic consideration received by Lessee as compensation for its leasehold interest as a result of such subletting shall be paid to Lessor after first deducting (1) the rental due hereunder, prorated to reflect only rental allocable to the sublet portion of the premises, and (2) the cost of any real estate commissions incurred in connection with such subletting, amortized over the term of the sublease. Upon Lessor's request Lessee shall assign to Lessor one half of all amounts to be paid to Lessee by any such subtenant or assignee and shall direct such subtenant or assignee to pay the same directly to Lessor.

(e) Lessee agrees that the instrument by which any assignment or subletting consented to by Lessor is accomplished shall expressly provide that the assignee or subtenant will perform and observe all the agreements, covenants, conditions and provisions to be performed and observed by Lessee under this Lease as and when performance and observance is due, that no assignee or subtenant shall have the further right to assign or sublet, and that Lessor shall have the right to enforce such agreements, covenants, conditions and provisions directly against such assignee or subtenant. Consent by Lessor to an assignment or subletting shall not release Lessee from any of Lessee's obligations hereunder and shall not be deemed to be a consent to any subsequent transfer, assignment or subletting. Lessee shall in all cases remain responsible for the performance by any subtenant or assignee as indicated thereon of all such agreements, covenants, conditions and provisions. Any assignment or subletting without an instrument containing the foregoing provision shall be void and shall, at the option of Lessor, constitute a default that entitles Lessor to terminate this Lease.

(f) In the event Lessee shall assign or sublet the premises or request the consent of Lessor to any assignment or subletting then Lessee shall pay Lessor's reasonable attorney's fees incurred in connection therewith.

16. RULES: Lessee shall faithfully observe and comply with the rules and regulations annexed to this Lease and, after notice thereof, all reasonable

modifications thereof and additions thereto from time to time promulgated in writing by Lessor, Lessor shall not be responsible to Lessee for the nonperformance by any other tenant or occupant of the Building of any said rules and regulations.

17. ENTRY BY LESSOR: Lessor may enter the premises at reasonable hours and (except in emergencies) upon 24 hours prior notice to (a) inspect the same, (b) exhibit the same to prospective purchases, lenders or tenants, (c) determine whether Lessee is complying with all its obligations hereunder, (d) supply janitor service and any other service to be provided by Lessor to Lessee hereunder, (e) post notices of nonresponsibility, and (f) make repairs required of Lessor under the terms hereof or repairs to any adjoining space or utility services or make repairs, alterations or improvements to any other portion of the Building; provided, however, that all such work shall be done as promptly as reasonably possible and so as to cause as little interference to Lessee as reasonably possible. Lessee hereby waives any claims for damages for any injury or inconvenience to or interference with Lessee's business, any loss of occupancy or quiet enjoyment of the premises or any other loss occasioned by such entry. Lessor shall at all times have and retain a key with which to unlock all of the doors in, on or about the premises (excluding Lessee's vaults, sales and similar areas designated in writing by Lessee in advance); and Lessor shall have the right to use any and all means which Lessor may deem proper to open said doors in an emergency in order to obtain entry to the premises, and any entry to the premises obtained by Lessor by any of said means, or otherwise, shall not under any circumstances be construed or deemed to be a forcible or unlawful entry into or a detainer of the premises or as eviction, actual or constructive, of Lessee from the premises, or any portion thereof.

18. EVENTS OF DEFAULT: The occurrence of any one or more of the following events ("Events of Default") shall constitute a breach of this Lease by Lessee: (a) if Lessee shall fail to pay any rental when and as the same becomes due and payable; or (b) if Lessee shall fail to pay any other sum when and as the same becomes due and payable and such failure shall continue for more that 10 days; or (c) if Lessee shall fail to perform or observe any other term hereof or of the rules and regulations described in section 16 to be performed or observed by Lessee, such failure shall continue for more than 30 days after notice therefore from Lessor, and Lessee shall not within such period commence with due diligence and dispatch the curing of such default, or, having so commenced, shall thereafter fail or neglect to prosecute or complete with due diligence and dispatch the curing of such default; (d) if Lessee shall make a general assignment for the benefit of creditors, shall become insolvent or shall admit in writing its inability to pay its debts as they become due or shall file a petition in bankruptcy, or shall be adjudicated as bankrupt or insolvent, or shall file a petition in any proceeding seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future statute, law or regulation, or shall file an answer admitting or fail timely to contest the material allegations of a petition filed against it in any such proceeding, or shall seek or consent to or acquiesce in the appointment of any trustee, receiver or liquidator of Lessee or any material part of its properties; or (e) if within 90 days after the commencement of any proceeding against Lessee seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or similar relief under any present or future statute, law or regulation, such proceeding shall not have been dismissed, or if, within 90 days after the appointment without the consent is acquiescence of Lessee, of any trustee, receiver or liquidator of Lessee or of any material part of its properties, such appointment shall not have been vacated; or (f) if this Lease or any estate of Lessee hereunder shall be levied upon under any attachment or execution and such attachment or execution is not vacated within 10 days.

19. TERMINATION UPON DEFAULT: (a) If an Event of Default shall occur, Lessor at any time thereafter may give a written termination notice to Lessee, and on the date specified in such notice Lessee's right to possession shall terminate and this Lease shall terminate, unless on or before such date all arrears of rental and all other sums payable by Lessee under this Lease and all costs and expenses incurred by or on behalf of Lessor hereunder shall have been paid by Lessee and all other breaches of this Lease by Lessee at the time existing shall have been fully remedied to the satisfaction of Lessor. Upon such termination, Lessor may recover from Lessee: (a) the worth at the time of award of the unpaid rental which had been earned at the time of termination; (b) the worth at the time of award of the amount by which the unpaid rental which would have been earned after termination until the time of award exceeds the amount of such rental loss that Lessee proves could have been reasonably avoided; (c) the worth at the time of award of the amount by which the unpaid rental for the balance of the term of this Lease after the time of award exceeds the amount of such rental loss that Lessee proves could be reasonably avoided; and (d) any other amount necessary to compensate Lessor for all the detriment proximately caused by Lessee's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom. The "worth at the time of award" of the amounts referred to in clauses (a) and (b) above is computed by allowing interest at the rate of 10% per annum or, if a higher rate is legally permissible, at the highest rate legally permitted. The "worth at the time of award" of the amount referred to in clause (c) above is computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus 1%.

(b) Lessee hereby waives all right now or hereafter existing to redeem the premises after termination pursuant to this Paragraph 19 or by order or judgment of any court or by any legal process.

20. CONTINUATION AFTER DEFAULT: Even though Lessee has breached this Lease and abandoned the premises, this Lease shall continue in effect for so long as Lessor does not terminate Lessee's right to possession, and Lessor may enforce all its rights and remedies under this Lease, including the right to recover the rental as it becomes due under this Lease. Acts of maintenance or preservation or efforts to relet the premises or the appointment of a receiver upon initiative of Lessor to protect Lessor's interest under this Lease shall not constitute a termination of Lessee's right to possession.

21. OTHER RELIEF: The remedies provided for in this Lease shall be cumulative and are in addition to any other remedies available to Lessor at law or in equity by statute or otherwise.

22. LESSOR'S RIGHT TO CURE DEFAULTS. All agreements and provisions to be performed by Lessee under any of the terms of this Lease shall be at its sole cost and expense and without any abatement of rental. If Lessee shall fail to pay any sum of money, other than rental, required to be paid by it hereunder or shall fail to perform any other act on its part to be performed hereunder and such failure shall continue for 30 days after notice thereof by Lessor, Lessor may, but shall not be obligated so to do, and without waiving or releasing Lessee from any obligations of Lessee, make any such payment or perform any such other act on Lessee's part to be made or performed as in this Lease provided. All sums so paid by Lessor and all necessary incidental costs shall be deemed additional rent hereunder and shall be payable to Lessor on demand, and Lessor shall have (in addition to any other right or remedy of Lessor) the same rights and remedies in the event of the nonpayment thereof by Lessee as in the case of default by Lessee in the payment of rental.

23. ATTORNEYS' FEES: If as a result of any breach or default in the performance of any of the provisions of this Lease, Lessor uses the services of an attorney in order to secure compliance with such provisions or recover damages therefor, or to terminate this Lease or evict Lessee, Lessee shall reimburse Lessor upon demand for any and all attorneys' fees and expenses so incurred by Lessor, provided that if Lessee shall be the prevailing party in any legal action brought by Lessor against Lessee, Lessee shall be entitled to recover for the fees of its attorneys in such amount as the court may adjudge reasonable.

24. EMINENT DOMAIN: If all or any part of the premises shall be taken as a result of the exercise of the power of eminent domain, this Lease shall terminate as to the part so taken as of the date of taking, and, in the case of a partial taking, either Lessor or Lessee shall have the right to terminate this Lease as to the balance of the premises by written notice to the other within 30 days after such date, provided, however, that a condition to the exercise by Lessee of such right to terminate shall be that the portion of the premises taken shall be of such extent and nature as substantially to handicap, impede or impair Lessee's use of the balance of the premises. In the event of any taking, Lessor shall be entitled to any and all compensation, damages, income, rent, awards, or any interest therein whatsoever which may be paid or made in connection therewith, and Lessee shall have no claim against Lessor for the value of any unexpired term of this Lease or otherwise. In the event of a partial taking of the premises which does not result in a termination of this Lease, the monthly rental thereafter to be paid shall be equitably reduced.

25. SUBORDINATION: This Lease shall be subject and subordinated at all times to (1) all ground or underlying leases now existing or which may hereafter be executed affecting the Building, and (2) the lien of all

mortgages and deeds of trust in any amount or amounts whatsoever now or hereafter placed on or against the Building, the Project or on or against Lessor's interest or estate therein or on or against all such ground or underlying leases, all without the necessity of having further instruments executed on the part of Lessee to effectuate such subordination. Lessee agrees to execute and deliver upon demand such further instruments evidencing such subordination of this Lease to said deed, to such ground or underlying leases, and to the lien of any such mortgages or deeds of trust as may reasonably be required by Lessor.

26. NO MERGER: The voluntary or other surrender of this Lease by Lessee, or a mutual cancellation thereof, shall not work a merger, and shall, at the option of Lessor terminate all or any existing subleases or subtenancies, or may, at the option of Lessor, operate as an assignment to it of any or all such subleases or subtenancies.

27. SALE: In the event the original Lessor hereunder, or any successor owner of the Building, shall sell or convey the Building, all liabilities and obligations on the part of the original Lessor, or such successor owner, under this Lease accruing thereafter shall terminate, and thereupon all such liabilities and obligations shall be binding upon the new owner. Lessee agrees to attorn to such new owner.

28. ESTOPPEL CERTIFICATE: At any time and from time to time but on not less than 10 days prior written request by Lessor, Lessee will execute, acknowledge and deliver to Lessor, promptly upon request, a certificate certifying (a) that this Lease is unmodified and in full force and effect (or, if there have been modifications, that this Lease is in full force and effect, as modified, and stating the date and nature of each modification), (b) the date, if any, to which rental and other sums payable hereunder have been paid, (c) that no notice has been received by Lessee of any default which has not been cured, except as to defaults specified in said certificate, and (d) such other matters as may be reasonably requested by Lessor. Any such certificates may be relied upon by a prospective purchaser, mortgagee or beneficiary under any deed of trust on the Building or any part thereof.

29. NO LIGHT, AIR OR VIEW EASEMENT: Any diminution or shutting off of light, air or view by any structure which may be erected on lands adjacent to the Building shall in no way affect this Lease or impose any liability on Lessor.

30. HOLDING OVER: If, without objection by Lessor, Lessee holds possession of the premises after expiration of the term of this Lease, Lessee shall become a tenant from month to month upon the terms herein specified but at a monthly rental equivalent to 200% of the then prevailing monthly rental paid by Lessee at the expiration of the term of this Lease, payable in advance on or before the first day of each month. Each party shall give the other notice at least one month prior to the date of termination of such monthly tenancy of its intention to terminate such tenancy.

31. ABANDONMENT: If Lessee shall abandon or surrender the premises, or be dispossessed by process of law or otherwise, any personal property belonging to Lessee and left on the premises shall be deemed to be abandoned, at the option of Lessor, except such property as may be mortgaged to Lessor.

32. SECURITY DEPOSIT: Lessee has deposited with Lessor the sum specified in the Basic Lease information (the "deposit"). The deposit shall be held by Lessor as security for the faithful performance by Lessee of all of the provisions of this Lease to be performed or observed by Lessee. If Lessee fails to pay rent or other charges due hereunder, or otherwise defaults with respect to any provision of this Lease, Lessor may use, apply or retain all or any portion of the deposit for the payment of any rent or other charge in default or for the payment of any other sum to which Lessor may become obligated by reason of Lessee a default, or to compensate Lessor for any loss or damage which Lessor may suffer thereby. If Lessor so uses or applies all or any portion of the deposit, Lessee shall within 10 days after demand therefor deposit cash with Lessor in an amount sufficient to restore the deposit to the full amount thereof and Lessee's failure to do so shall be a material breach of this Lease. Lessor shall not be required to keep the deposit separate from its general accounts. If Lessee performs all of Lessee's obligations hereunder, the deposit, or so much thereof as has not theretofore been applied by Lessor, shall be returned, without payment of interest or other increment for its use, to Lessee (or, at Lessor's option, to the last assignee, if any, of Lessee's interest

hereunder) at the expiration of the term hereof, and after Lessee has vacated the premises. No trust relationship is created herein between Lessor and Lessee with respect to the deposit.

33. WAIVER: The waiver by Lessor of any agreement, condition or provision herein contained shall not be deemed to be a waiver of any subsequent breach of the same or any other agreement, condition or provision herein contained, nor shall any custom or practice which may grow up between the parties in the administration of the terms hereof be construed to waive or to lessen the right of Lessor to insist upon the performance by Lessee in strict accordance with said terms. The subsequent acceptance of rental hereunder by Lessor shall not be deemed to be a waiver of any preceding breach by Lessee of any agreement, condition or provision of this Lease, other than the failure of Lessee to pay the particular rental so accepted, regardless of Lessor's knowledge of such preceding breach at the time of acceptance of such rental.

34. NOTICES: All notices and demands which may be or are required to be given by either party to the other hereunder shall be in writing and shall be deemed to have been fully given when deposited in the United States mail, certified or registered, postage prepaid, and addressed as follows: to Lessee at the address specified in the Basic Lease Information, or to such other place as Lessee may from time to time designate in a notice to Lessor: to Lessor at the address secified in the Basic Lease information, or to such other place as Lessor may from time to time designate in a notice to Lessee; or, in the case of Lessee, delivered to Lessee at the premises. Lessee hereby appoints as its agent to receive the service of all dispossessory or distraint proceedings and notices thereunder the person in charge of or occupying the premises at the time, and, if no person shall be in charge of or occupying the same, then such service may be made by attaching the same on the main entrance of the premises.

35. COMPLETE AGREEMENT: There are no oral agreements between Lessor and Lessee affecting this Lease, and this Lease supersedes and cancels any and all previous negotiations, arrangements, brochures, agreements and understandings, if any, between Lessor and Lessee or displayed by Lessor to Lessee with respect to the subject matter of this Lease or the Building. There are no representations between Lessor and Lessee other than those contained in this Lease and all reliance with respect to any representations is solely upon such representations.

36. CORPORATE AUTHORITY: If Lessee signs as a corporation, each of the persons executing this Lease on behalf of Lessee does hereby convenant and warrant that Lessee is a duly authorized and existing corporation, that Lessee has and is qualified to do business in California, that the Corporation has full right and authority to enter into this Lease, and that each and both of the persons signing on behalf of the corporation were authorized to do so.

37. MISCELLANEOUS: The words "Lessor" and "Lessee" as used herein shall include the plural as well as the singular. If there be more than one Lessee, the obligations hereunder imposed upon Lessee shall be joint and several. Time is of the essence of this Lease and each and all of its provisions. Submission of this instrument for examination or signature by Lessee does not constitute a reservation of or option for lease, and it is not effective as a lease or otherwise until execution and delivery by both Lessor and Lessee. The agreements, conditions and provisions herein contained shall, subject to the provisions as to assignment, apply to and bind the heirs, executors, administrators, successors and assigns of the parties hereto. If any provision of this Lease shall be determined to be illegal or unenforceable, such determination shall not affect any other provision of this Lease and all such other provisions shall remain in full force and effect. This Lease shall be governed by and construed pursuant to the laws or the State of California.

38. LIMITATIONS OF LESSOR'S LIABILITY: Lessor shall not be responsible for or liable to Lessee ane Lessee hereby waives all claims against Lessor for any injury, loss or damage to any person or property in or about the premises by or from any cause whatsoever (other than Lessor's gross negligence or willful misconduct) including, without limitation, acts or omissions of persons occupying adjoining premises or any part of the Building adjacent to or connected with the premises; theft; burst, stopped or leaking water, gas, sewer or steam pipes; or gas, fire, oil or electricity in, on or about the premises or the Building. The liability of Lessor under this Lease shall be and is hereby limited to Lessor's interest in the Building, and no other assets of Lessor shall be affected by reason of any liability which Lessor may have to Lessee or to any other person by reason of this Lease.

39. BROKERAGE COMMISSIONS: Lessee represents and warrants that it has dealt with no broker, agent or other person in connection with this transaction other than CB COMMERCIAL REAL ESTATE GROUP, INC and Lessee agrees to indemnify and hold Lessor harmless from and against any claims by any other broker, agent or other person claiming a commission or other form of compensation by virtue of having dealt with Lessee with regard to this leasing transaction. The provisions of this paragraph shall survive the termination of this Lease.

40. PARKING: Lessee shall have the non-exclusive right to park in common with other tenants in the Project in the Project parking facilities provided by Lessor for tenants subject to Lessor's right to alter, modify, reduce or change the location of such parking facilities. Lessee agrees not to overburden the parking facilities and agrees to cooperate

with Lessor and other lessees in the use of the parking facilities. Lessor reserves the right to determine whether the parking facilities are becoming crowded and, in such event, to allocate parking spaces among Lessee and other lessees or to otherwise limit the number of parking spaces available for use by Lessee and its employees and invitees. SEE ADDENDUM, PARAGRAPH 8.

41. EXHIBITS AND ADDENDUM: The exhibits and addendums hereto are a part of this Lease and are incorporated herein by this reference.

IN WITNESS WHEREOF, the parties have executed this Lease as of the date first written above.

LESSEE: Intelligent Systems for Retail, Inc., a California corporation	LESSOR: Harbor Belmont Associates, a California General Partnership
By /s/ Louis H. Borders	By /s/ Phillip Raisen
Louis H. Borders	
Its President/CEO	Its General Partner

42. Lessor will furnish each Lessee free of charge with two (2) keys to each door lock in the premises. Lessor shall require payment of a $10.00 ($5.00 of which is refundable upon return of keys) deposit for each key provided to Lessee. No Lessee shall have any keys made. No Lessee shall alter any lock or install a new or additional lock or any bolt on any door of its premises without the prior written consent of Lessor. Lessee shall in each case furnish Lessor with a key for any such lock. Each Lessee, upon the termination of its tenancy, shall deliver to Lessor all keys to doors in the building which shall have been furnished to Lessee.

ADDENDUM TO LEASE
BETWEEN
HARBOR BELMONT ASSOCIATES, AS LESSOR,
AND
INTELLIGENT SYSTEMS FOR RETAIL, INC., AS LESSEE
260 HARBOR BOULEVARD, BELMONT, CALIFORNIA

1. BASE RENT SCHEDULE. Lessee shall pay to Lessor base monthly rental according to the following schedule:

Months 01-12	$	per sq. ft. NNN	$	00 per month
Months 13-24	$	per sq. ft. NNN	$	00 per month
Months 25-36	$	per sq. ft. NNN	$	00 per month
Months 37-48	$	per sq. ft. NNN	$	00 per month
Months 49-60	$	per sq. ft. NNN	$	00 per month

2. CURRENT ESTIMATE OF OPERATING EXPENSES AND PROPERTY TAXES. Lessor and Lessee acknowledge and agree that Lessee's estimated Percentage Share of Operating Expenses and Property Taxes for calendar year 1998 is 20 CENTS per square foot per month, based on Lessor's current estimate of such Operating Expenses and Property Taxes, provided that Lessee and Lessor acknowledge that such amount is an estimate only, and is subject to change in accordance with the terms of paragraph 3 of the Lease.

3. EARLY OCCUPANCY. Lessee shall be entitled to occupy the Premises prior to the Commencement Date upon mutual execution and delivery of the Lease, subject to the provisions of paragraph 2(d) of the Lease; provided, however, that during such period of occupancy prior to the Commencement Date, no Base Rent, or Lessee's Percentage Share of Operating Expenses and Property Taxes shall be due or payable by Lessee. Without limiting the provisions of paragraph 2(d) of the Lease, Lessee acknowledges that it shall be responsible for the cost of gas, electricity, and any other utilities metered separately to its Premises, and for the maintenance of insurance in accordance with the requirements of the Lease during the early occupancy period.

4. CONDITION OF PREMISES. Lessor, at its sole expense, shall deliver the Premises to Lessee clean and free of debris on the Commencement Date (other than any condition caused by Lessee in connection with its early occupancy of the Premises).

(a) Lessor warrants to Lessee that, as of the Commencement Date, all of the fixtures and equipment in the men's and women's restrooms are complete and operable, and in good and working condition, including without

limitation, all exhaust and supply HVAC, lighting, water heaters, partitions, doors and fixtures;

(b) Lessor further warrants to Lessee that all electrical, HVAC, plumbing, fire sprinkler, and lighting equipment and equipment, fixtures and systems, and loading doors, if any, existing in the Premises as of the date of this Lease, shall be in good operating condition as of the Commencement Date, and shall not be subject to deferred maintenance or in need of immediate replacement.

(c) If non-compliance with any of the warranties set forth above exists as of the Commencement Date, then Lessor shall, except as otherwise provided in the Lease, rectify the same at Lessor's expense, promptly after receipt of written notice from Lessee setting forth with specificity the nature and extent of such non-compliance. Notwithstanding the foregoing, if Lessee does not give Lessor written notice of non-compliance with any of the warranties set forth above within sixty (60) days after the Commencement Date, then the above warranties shall be of no force and effect, and correction of any such noncompliance shall be the obligation of Lessee at Lessee's sole cost and expense. Notwithstanding anything to the contrary above, Lessor shall have no obligation for any failure of the above warranties due to the acts of Lessee, its agents, employees or contractors.

5. INITIAL TENANT IMPROVEMENTS.

(a) Lessor shall provide Lessee with a $15,000.00 tenant improvement allowance (the "Tenant Improvement Allowance"). All additional costs of tenant improvements shall be paid by Lessee. All tenant improvement work shall be made in accordance with paragraph 7 of the Lease, provided that all such improvement work shall be performed by Lessor's contractor, Raiser Construction Company. Lessee shall enter into a general construction contract with Raiser Construction Company on terms to be mutually agreed by Lessee and Raiser Construction Company. Lessor agrees that Raiser Construction Company shall solicit competitive bids from subcontractors for all major trades, and shall disclose all such bid to Lessee. The Tenant Improvement Allowance shall be paid to Raiser Construction Company upon completion of the tenant improvements in reduction of the sum owed by Lessee to Raiser Construction Company under its construction contract.

(b) Notwithstanding any other provision of the Lease to the contrary, Lessee shall not be required to remove its initial tenant improvements from the Premises at the expiration or termination of the Lease, and such improvements shall become the sole property of Lessor.

6. DESTRUCTION OR DAMAGE. Paragraph 10 of the Lease is modified by the addition of the following provision at the end of subparagraph (b):

> If such repairs cannot, in Lessor's reasonable opinion, be made within 180 days after the date of such fire or other casualty, then Lessor shall notify Lessee, and Lessee shall have the right, by notice given to Lessor within 30 days after receipt of Lessor's notice, to terminate this Lease effective as of the date of such fire or other casualty.

7. SIGNAGE. Lessor shall allow, at Lessee's sole cost and expense, the installation of signage on the Building consistent with Harbor Park's current signage program and subject to the approval of Lessor and the City of Belmont.

8. PARKING.

(a) Lessee shall have a total of nineteen (19) reserved parking stalls free of additional charge throughout the term of this Lease. Thirteen (13) of said spaces shall face Harbor Boulevard, three (3) shall be located at the front entrance of the Premises, and three (3) shall be near the back roll-up doors. Lessor shall, at its sole cost and expense, have such space as marked for Lessee's exclusive use.

(b) In addition to the parking spaces set forth in Subparagraph (a) above, Lessee shall be entitled to the nonexclusive use in common with other tenants of the Property of five (5) unreserved parking spaces in the Harbor Park parking area.

9. ADDITIONAL DEPOSIT. In addition to the Security Deposit described in the Basic Lease Information, Lessee shall, upon execution of this Lease, deliver to Lessor the additional sum of $49,348.00 in cash as additional security for this Lease (the "Additional Deposit"). Provided that Lessee is not in default and has met all of its obligations under the Lease, Lessor shall apply said Additional Deposit to the rental obligations coming due in the beginning of the second, thirteenth, twenty-fifth and thirty-seventh month of the Lease Term.

10. LESSOR'S INSURANCE. Lessor shall maintain throughout the term of this Lease casualty insurance with respect to the Premises in an amount and with coverages at least equivalent to insurance customarily carried by comparable owners of comparable industrial property in the City of Belmont, California, provided that in no event shall Lessor be required to carry earthquake or flood insurance. Lessor's costs in connection with such insurance are included in the Operating Expenses as set forth in paragraph 3(b) of the Lease.

11. ASSIGNMENT AND SUBLETTING.

(a) Notwithstanding the provisions of paragraphs 15(a) through (c) of the Lease, Lessee shall have the right, without the consent of Lessor, to assign the Lease to a franchisee of Lessee, or any entity controlled by or under common control with the Lessee, or to a corporation with which Lessee has merged or consolidated. In such event the provisions of paragraphs 15(a) through (d) of the Lease shall not apply. Any such assignment shall conform to the provisions of paragraphs (d) and (f) of the Lease, and Lessee shall notify Lessor of such assignment prior to the execution thereof, and shall deliver to Lessor a copy of such assignment and any other documents evidencing such assignment. In the event of any assignment contemplated hereby, Lessee shall remain fully liable for all obligations of Lessee under the Lease.

(b) Paragraph 15(b) of the Lease is hereby amended in its entirety to read as follows:

"(b) Before entering into any sublease or assignment of this Lease for all or part of the premises, Lessee shall deliver to Lessor a letter of intent executed by Lessee and the proposed sublessee or assignee, specifying the terms of the intended sublease or assignment. For a period of thirty (30) days after such letter of intent is delivered to Lessor, Lessor shall have the right by written notice to Lessee to recapture the premises or port[illegible] there of, as fol[illegible] (1) in the case of a proposed sublease, either (A) sublet from Lessee any portion of the premises proposed to be sublet for the term for which such portion is proposed to be sublet but at the same rent as Lessee is required to pay to Lessor under this Lease for the same space, computed on a pro-rata square foot basis, or (B) if the proposed subletting is for substantially the remaining period of the term of this Lease, terminate this Lease as it pertains to the portion of the premises so proposed by Lessee to be sublet, or (ii) in the case of a proposed assignment, terminate this Lease. Lessor may, if it elects, enter into a new lease covering the recaptured premises or portion thereof with any intended assignee or subtenant on such terms as Lessor and such person may agree, or enter into a new lease covering the premises or a portion thereof with any other person. In the event that Lessor exercises its rights to recapture set forth herein, Lessee shall not be entitled to any portion of the profit, if any, which Lessor may realize on account of such recapture, termination and

releting; however, Lessee shall be entitled to recover from Lessor the unamortized actual costs of all Initial Tenant Improvements (less the Tenant Improvements Allowance), as well as any additional permanent improvements installed by Lessee during the initial one hundred twenty (120) days of the Lease. Lessor's exercise of its aforesaid option shall not be construed to impose any liability upon Lessor with respect to any real estate brokerage commissions or any other costs or expenses incurred by Lessee in connection with its proposed subletting or assignment."

12. WARRANTY OF AUTHORITY. Each individual executing this Lease on behalf of Lessor and Lessee represents and warrants that he or she is authorized to execute and deliver this Lease on its behalf, and to bind said Lessor and Lessee, as applicable.

HARBOR PARK, BELMONT

[FLOOR PLAN]

260 HARBOR BLVD.

EXHIBIT A

AMENDMENT NO. ONE TO LEASE

INTELLIGENT SYSTEMS FOR RETAIL, INC.

This Amendment, dated June 4, 1998, is by and between Harbor Belmont Associates ("Lessor") and Intelligent Systems for Retail, Inc. ("Lessee"). Lessor and Lessee entered into a lease agreement dated March 20, 1998 (the "Lease") for the Premises known as 260 Harbor Boulevard, Belmont, California. Such Lease is hereby amended as follows:

LEASE COMMENCEMENT DATE: June 15, 1998

LEASE TERMINATION DATE: June 30, 2003

COST OF IMPROVEMENTS:

It is hereby agreed that the total cost of the Initial Tenant Improvements shall be $287,207.00 according to the estimate from Raiser Construction Co., Inc. dated May 29, 1998. Lessee's net cost for the Initial Tenant Improvements is $272,207.00 after the deduction of Lessor's Tenant Improvement Allowance of $15,000.00.

Simultaneously with the execution of this Amendment No. One to Lease, Lessee shall deposit the sum of $99,999.04 with Raiser Construction Co., Inc., which amount shall be credited against the contract for the Initial Tenant Improvements as earned during the course of construction. All other terms and conditions of the Lease shall remain unchanged.

AGREED & ACCEPTED:

LESSOR: Harbor Belmont Associates	LESSEE: Intelligent Systems for Retail, Inc.
/s/ Phillip [illegible]	/s/ David A. [illegible]
AS AGENT FOR THE TRUST, GENERAL PARTNER	Vice President, Retail
Date: 6/4/98	Date: 6/4/84

AMENDMENT NO. TWO TO LEASE
HARBOR BELMONT ASSOCIATES AS LESSOR AND
INTELLIGENT SYSTEMS FOR RETAIL, INC. AS LESSEE

PROPERTY ADDRESS
260 HARBOR BOULEVARD, BELMONT, CALIFORNIA
AMENDMENT DATE (FOR REFERENCE PURPOSES): DECEMBER 4, 1998

This Amendment is incorporated into and made a part of that certain lease dated March 20, 1998 as described above, as amended by Amendment No. 1 to Lease dated June 4, 1998 (collectively, the "Lease"). In the event of any conflict between the terms of the lease and the terms of this Amendment, the terms of this Amendment shall prevail, as to the Additional Premises only. All capitalized terms not otherwise defined herein shall have the meaning set forth in the Lease.

1. ADDITIONAL PREMISES: Lessee hereby leases from Lessor, and Lessor leases to Lessee, as Additional Premises, those premises located at 498 Harbor Boulevard in Belmont, California (the "Additional Premises") designated on the floor plan attached hereto as Exhibit B, comprising 2,475 rentable square feet. The provisions of this Lease Amendment apply only to the Additional Premises. No terms or conditions of this Second Addendum shall be deemed to alter or affect the original terms of the Lease, except as the same apply to the Additional Premises and except as expressly set forth herein.

2. TERM APPLICABLE TO ADDITIONAL PREMISES ONLY: The Term of the lease of the Additional Premises shall commence on December 1, 1998 (the "Additional Premises Commencement Date") and, unless sooner terminated as provided in the Lease, shall end on November 30, 2000 (the "Additional Premises Termination Date").

3. BASE RENTAL SCHEDULE APPLICABLE TO ADDITIONAL PREMISES ONLY: Lessee shall pay as monthly Base Rent for the Additional Premises the following sums:

Months 1-12:	$	per sq. ft NNN -	$	per month
Months 13-24:	$	per sq. ft NNN -	$	per month

4. EARLY OCCUPANCY: Lessee shall be entitled to occupy the Additional Premises prior to the Commencement Date upon mutual execution and delivery of this Lease Amendment, subject to the provisions of paragraph 3 of the Addendum to Lease.

5. CONDITION OF PREMISES; WARRANTIES: Lessor shall deliver the Premise to Lessee clean and free of debris on the Commencement Date, in good and operating condition and repair as more fully set forth in paragraph 4 of the Addendum to Lease. Except as expressly set forth in this paragraph 5, Lessee accepts the Premises "as is," and Lessor has no obligation to repair, alter or improve the Additional Premises.

6. INITIAL TENANT IMPROVEMENTS: Lessee shall construct its Initial Tenant Improvements for the Additional Premises, consisting of HVAC and other non-structural improvements, at Lessee's sole cost and expense, subject to Lessor's prior written approval thereof, which shall not be unreasonably withheld or delayed. Lessor shall provide no tenant improvement allowance for the Additional Premises. Lessee may construct its Initial Tenant Improvements utilizing licensed contractors and subcontractors selected by Lessee and approved by Lessor. Such work shall comply with section 7 of the Lease.

7. PARKING: During the term of this lease of the Additional Premises, Lessee shall have the use of an additional 3 reserved and 10 nonreserved parking spaces at no additional cost.

8. OTHER TERMS AND CONDITIONS: Except as set forth herein, each and every other term and condition of the Lease and the Addendum thereto applies to the Additional Premises, as if set forth fully herein; provided, however, that any warranties, rights or obligations that accrue to either party shall, for purposes of this Amendment and with respect to the Additional Premises only, accrue on the Additional Premises Commencement Date set forth above, and shall terminate with respect to the Additional Premises on the Additional Premises Termination Date (except with respect to any obligations under the Lease that expressly survive the termination of the Lease).

9. LESSEE'S PERCENTAGE SHARE: The Lease is hereby amended, effective during the Term for the Additional Premises only, as follows: Lessee's Percentage Share under the Lease (for both the original and the Additional Premises) shall be 4.93%.

10. SECURITY DEPOSIT: Lessee shall deliver a security deposit of upon execution of this Amendment.

LESSEE:	LESSOR:
INTELLIGENT SYSTEMS FOR RETAIL, INC., a California corporation	HARBOR BELMONT ASSOCIATES, a California General Partnership
By /s/ Louis H. Borders	By /s/ Philip Raiser
Louis H. Borders	Philip Raiser
Its President	Its General Partner

EXHIBIT B

[FLOOR PLAN]

EXHIBIT "C"
EXISTING FLOOR PLAN

[FLOOR PLAN]

AMENDMENT NO. THREE TO LEASE
HARBOR BELMONT ASSOCIATES AS LESSOR AND
INTELLIGENT SYSTEMS FOR RETAIL, INC. AS LESSEE

PROPERTY ADDRESS
260 HARBOR BOULEVARD, BELMONT, CALIFORNIA
Amendment Date (for reference purposes): December 31, 1998

This Amendment is incorporated into and made a part of that certain lease dated March 20, 1998 as described above, as amended by Amendment No. 1 to Lease dated June 4, 1998 and Amendment No. 2 to Lease dated December 4, 1998 (collectively, the "Lease"). In the event of any conflict between the terms of the lease and the terms of the Amendments, the terms of this Amendment shall prevail, as to the Additional Premises only. All capitalized terms not otherwise defined herein shall have the meaning set forth in the Lease.

1. ADDITIONAL PREMISES: Lessee hereby leases from Lessor, and Lessor leases to Lessee, as Additional Premises, those premises located at 288 Harbor Boulevard in Belmont, California (the "Additional Premises") designated on the floor plan attached hereto as Exhibit B, comprising 1,375 rentable square feet. The provisions of this Lease Amendment apply only to the Additional Premises. No terms or conditions of this Amendment No. 3 shall be deemed to alter or affect the original terms of the Lease, except as the same apply to the Additional Premises and except as expressly set forth herein.

2. TERM APPLICABLE TO ADDITIONAL PREMISES ONLY: The Term of the lease of the Additional Premises shall commence on January 15, 1999 (the "Additional Premises Commencement Date") and, unless sooner terminated as provided in the Lease, shall end on January 31, 2002 (the "Additional Premises Termination Date").

3. BASE RENTAL SCHEDULE APPLICABLE TO ADDITIONAL PREMISES ONLY: Lessee shall pay as monthly Base Rent for the Additional Premises the following sums:

January 15 - 31, 1999	_____	Total
February 1999 - January 2000	_____	Per Month
February 2000 - January 2001	_____	Per Month
February 2001 - January 2002	_____	Per Month

4. EARLY OCCUPANCY: Lessee shall be entitled to occupy the Additional Premises prior to the Commencement Date upon mutual execution and delivery of this Lease Amendment, subject to the provisions of paragraph 3 of the Addendum to Lease.

5. CONDITION OF PREMISES; WARRANTIES: Lessor shall deliver the Premises to Lessee clean and free of debris on the Commencement Date, in good and operating condition and repair as more fully set forth in paragraph 4 of the Addendum to Lease. Except as expressly set forth in this

INITIAL

[ILLEGIBLE]

paragraph 5. Lessee accepts the Premises "as is," and Lessor has no obligation to repair, alter or improve the Additional Premises.

6. INITIAL TENANT IMPROVEMENTS: Lessee shall construct its Initial Tenant Improvements for the Additional Premises, at Lessee's sole cost and expense, subject to Lessor's prior WRITTEN approval thereof, which shall not be unreasonably withheld or delayed. Lessor shall provide no tenant improvement allowance for the Additional Premises. Lessee may construct its Initial Tenant Improvements utilizing licensed contractors and subcontractors selected by Lessee and approved by Lessor, in writing. Such work shall comply with section 7 of the Lease. All work involving wall changes, electrical, fire sprinklers and HVAC shall have a building permit.

7. PARKING: During the term of this lease of the Additional Premises, Lessee shall have the use of an additional 2 reserved parking spaces at no additional cost.

8. OTHER TERMS AND CONDITIONS: Except as set forth herein, each and every other term and condition of the Lease and the Addendum thereto applies to the Additional Premises, as if set forth fully herein; provided, however, that any warranties, rights or obligations that accrue to either party shall, for purposes of the Amendment and with respect to the Additional Premises only, accrue on the Additional Premises Commencement Date set forth above, and shall terminate with respect to the Additional Premises on the Additional Premises Termination Date (except with respect to any obligations under the Lease that expressly survive the termination of the Lease).

9. LESSEE'S PERCENTAGE SHARE: The Lease is hereby amended, effective during the Terms for the Additional Premises only, as follows: Lessee's Percentage Share under the Lease (for both the original and the Additional Premises) shall be 5.58%.

10. SECURITY DEPOSIT: Lessee shall deliver a security deposit of $2,118.00 upon execution of this Amendment.

LESSEE	LESSOR:
INTELLIGENT SYSTEMS FOR RETAIL, INC., a California corporation	HARBOR BELMONT ASSOCIATES, a California General Partnership
By /s/ Louis H. Borders	By /s/ Phillip Raiser
Louis H. Borders	Phillip Raiser
Its President	Its General Partner

INITIAL

[ILLEGIBLE]

[FLOORPLAN]

LEASE EXHIBIT A

INITIAL

LHB/PR

HARBOR PARK
BUILDING 'D' - STE. 288
HARBOR BOULEVARD
BELMONT, CA.

1,375 SQ. FT.

EXHIBIT 23.1

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-07969, Form S-8 No. 333-59735, Form S-8 No. 333-65919 and Form S-8 No. 333-74669) pertaining to the Employee Stock Purchase Plan, the 1994 Equity Incentive Stock Option Plan, the Non-Employee Directors Stock Option Plan, the 1994 Equity Incentive Plan and the 1998 Non-Officer Equity Incentive Plan of Inhale Therapeutic Systems, Inc., the Registration Statement, (Form S-3 No. 333-20787) and related Prospectus of Inhale Therapeutic Systems, Inc. for the registration of 1,800,000 shares of its common stock, the Registration Statement (Form S-3 No. 333-68897) and related Prospectus of Inhale Therapeutic Systems, Inc. for the registration of 1,200,000 shares of its common stock and the Registration Statement (Form S-3/A No. 333-94161) and related Prospectus of Inhale Therapeutic Systems, Inc. for the registration of 3,388,268 shares of its common stock and $108,450,000 of 6.75% Convertible Subordinated Debentures due October 13, 2006, of our report dated January 24, 2000, with respect to the financial statements of Inhale Therapeutic Systems, Inc. included in this Annual Report on Form 10-K for the year ended December 31, 1999.

/s/ Ernst & Young

Palo Alto, California
March 9, 2000

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM T-1

Statement of Eligibility and Qualification Under the
Trust Indenture Act of 1939 of a Corporation
Designated to Act as Trustee

CHECK IF AN APPLICATION TO DETERMINE ELIGIBILITY OF A TRUSTEE PURSUANT TO
SECTION 305(B)(2)____

CHASE MANHATTAN BANK AND TRUST COMPANY,
NATIONAL ASSOCIATION
(Exact name of trustee as specified in its charter)

95-4655078
(I.R.S. Employer Identification No.)

101 California Street Suite #2725
San Francisco, California
(Address of principal executive offices)

94111
(Zip Code)

INHALE THERAPEUTIC SYSTEMS, INC.
(Exact name of Obligor as specified in its charter)

Delaware
(State or other jurisdiction of incorporation or organization)

94-3134940
(I.R.S. Employer Identification No.)

150 Industrial Road
San Carlos, California
(Address of principal executive offices)

94070-6256
(Zip Code)

5% Convertible Subordinated Notes due 2007
(Title of Indenture securities)

ITEM 1. GENERAL INFORMATION.

Furnish the following information as to the trustee:

(a) Name and address of each examining or supervising authority to which it is subject.

Comptroller of the Currency, Washington, D.C.
Board of Governors of the Federal Reserve System,
Washington, D.C.

(b) Whether it is authorized to exercise corporate trust powers.

Yes.

ITEM 2. AFFILIATIONS WITH OBLIGOR.

If the Obligor is an affiliate of the trustee, describe each such affiliation.

(a) Title of securities outstanding under each such other indenture. $108,450,000 Convertible Subordinated Debentures due 2006 issued under Indenture dated as of October 13, 1999

ITEM 16. LIST OF EXHIBITS.

List below all exhibits filed as part of this statement of eligibility.

Exhibit 1. Articles of Association of the Trustee as Now in Effect (see Exhibit 1 to Form T-1 filed in connection with Registration Statement No. 333-41329, which is incorporated by reference).

Exhibit 2. Certificate of Authority of the Trustee to Commence Business (see Exhibit 2 to Form T-1 filed in connection with Registration Statement No. 333-41329, which is incorporated by reference).

Exhibit 3. Authorization of the Trustee to Exercise Corporate Trust Powers (contained in Exhibit 2).

Exhibit 4. Existing By-Laws of the Trustee (see Exhibit 4 to Form T-1 filed in connection with Registration Statement No. 333-41329, which is incorporated by reference).

Exhibit 5. Not Applicable

Exhibit 6. The consent of the Trustee required by Section 321 (b) of the Act (see Exhibit 6 to Form T-1 filed in connection with Registration Statement No. 333-41329, which is incorporated by reference).

Exhibit 7. A copy of the latest report of condition of the Trustee, published pursuant to law or the requirements of its supervising or examining authority.

Exhibit 8. Not Applicable

Exhibit 9. Not Applicable

SIGNATURE

Pursuant to the requirements of the Trust Indenture Act of 1939, the Trustee, Chase Manhattan Bank and Trust Company, National Association, has duly caused this statement of eligibility and qualification to be signed on its behalf by the undersigned, thereunto duly authorized, all in the City of San Francisco, and State of California, on the 10 of March, 2000.

CHASE MANHATTAN BANK AND TRUST
COMPANY, NATIONAL ASSOCIATION

By /s/ Cecil D. Bobey

Cecil D. Bobey
Assistant Vice President

EXHIBIT 7. Report of Condition of the Trustee.

CONSOLIDATED REPORT OF CONDITION OF Chase Manhattan Bank and Trust Company, N.A.
(Legal Title)

LOCATED AT 1800 Century Park East, Ste. 400 Los Angeles, CA 94111
(Street) (City) (State) (Zip)

AS OF CLOSE OF BUSINESS ON December 31, 1999

ASSETS DOLLAR AMOUNTS IN THOUSANDS		
1. Cash and balances due from		
a. Noninterest-bearing balances and currency and coin (1,2)		4,258
b. Interest bearing balances (3)		0
2. Securities		
a. Held-to-maturity securities (from Schedule RC-B, column A)		0
b. Available-for-sale securities (from Schedule RC-B, column D)		1,089
3. Federal Funds sold (4) and securities purchased agreements to resell		82,900
4. Loans and lease financing receivables:		
a. Loans and leases, net of unearned income (from Schedule RC-C)	68	
b. LESS: Allowance for loan and lease losses	0	
c. LESS: Allocated transfer risk reserve	0	
d. Loans and leases, net of unearned income, allowance, and reserve (item 4.a minus 4.b and 4.c)		68
5. Trading assets		0
6. Premises and fixed assets (including capitalized leases)		142
7. Other real estate owned (from Schedule RC-M)		0
8. Investments in unconsolidated subsidiaries and associated companies (from Schedule RC-M)		0
9. Customers liability to this bank on acceptances outstanding		0
10. Intangible assets (from Schedule RC-M)		1,026
11. Other assets (from Schedule RC-F)		1,996
12a. TOTAL ASSETS		91,479

(1) INCLUDES CASH ITEMS IN PROCESS OF COLLECTION AND UNPOSTED DEBITS.
(2) THE AMOUNT REPORTED IN THIS ITEM MUST BE GREATER THAN OR EQUAL TO THE SUM OF SCHEDULE RC-M, ITEMS 3.a AND 3.b
(3) INCLUDES TIME CERTIFICATES OF DEPOSIT NOT HELD FOR TRADING.
(4) REPORT "TERM FEDERAL FUNDS SOLD" IN SCHEDULE RC, ITEM 4.a "LOANS AND LEASES, NET OF UNEARNED INCOME" AND IN SCHEDULE RC-C, PART 1.

LIABILITIES

13.	Deposits:		
	a. In domestic offices (sum of totals of columns A and C from Schedule RC-E)		59,457
	(1) Noninterest-bearing	7,509	
	(2) Interest-bearing	51,948	
	b. In foreign offices, Edge and Agreement subsidiaries, and IBF'		
	(1) Noninterest-bearing		
	(2) Interest-bearing		
14.	Federal funds purchased (2) and securities sold under agreements to repurchase		0
15.	a. Demand notes issued to the U.S. Treasury		0
	b. Trading liabilities		0
16.	Other borrowed money (includes mortgage indebtedness and obligations under capitalized leases):		
	a. With a remaining maturity of one year or less		0
	b. With a remaining maturity of more than one year through three years		0
	c. With a remaining maturity of more than three years		0
17.	Not applicable		
18.	Bank's liability on acceptances executed and outstanding		0
19.	Subordinated notes and Debentures (3)		0
20.	Other liabilities (from Schedule RC-G)		5,756
21.	Total liabilities (sum of items 13 through 20)		65,213
22.	Not applicable		

EQUITY CAPITAL

23.	Perpetual preferred stock and related surplus	0
24.	Common stock--	600
25.	Surplus (exclude all surplus related to preferred stock)	12,590
26.	a. Undivided profits and capital reserves	13,076
	b. Net unrealized holding gains (losses) on available-for-sale securities	0
27.	Cumulative foreign currency translation adjustments	
28.	a. Total equity capital (sum of items 23 through 27)	26,266
29.	Total liabilities, equity capital, and losses deferred pursuant to 12 U.S.C. 1823 (j) (sum of items 21 and 28.c)	91,479

5

THIS SCHEDULE CONTAINS SUMMARY FINANCIAL INFORMATION EXTRACTED FROM THE ANNUAL FINANCIAL STATEMENTS OF INHALE THERAPUETIC SYSTEMS, INC. AS FILED ON FORM 10-K FOR THE PERIOD ENDED DECEMBER 31, 1999. AND IS QUALIFIED IN ITS ENTIRETY BY REFERENCE TO SUCH FINANCIAL STATEMENTS.

1,000

YEAR
DEC-31-1999
JAN-01-1999
DEC-31-1999
33,430
104,755
1,756
0
0
7,377
78,861
(15,009)
226,806
25,079
108,450
0
0
181,156
94,527
226,806
0
41,358
0
81,842
0
0
(2,075)
(38,448)
0
0
0
0
0
0
(2.26)
(2.26)