

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K

Current Report Pursuant to Section 13 or 15(d) of the  
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): MAY 22, 2001

INHALE THERAPEUTIC SYSTEMS, INC.  
(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction of incorporation)

000-23556  
(Commission File No.)

94-3134940  
(IRS Employer Identification No.)

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

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

-----

ITEM 5. OTHER EVENTS

On May 22, 2001, Inhale Therapeutic Systems, Inc. ("Inhale") announced an offer to acquire privately-held Shearwater Corporation, a research-based drug delivery company incorporated in Alabama. Shearwater is a leader in advanced PEGylation technology for enhancing delivery performance of most major drug classes, including macromolecules such as peptides and proteins, small molecules, and other drugs.

Inhale's press release, dated May 22, 2001, titled "Inhale Announces Agreement to Acquire Shearwater Corporation" is attached hereto as Exhibit 99.1.

ITEM 7. FINANCIAL STATEMENTS AND EXHIBITS

(c) EXHIBITS

Exhibit Number	Description
99.1	Press Release titled "Inhale Announces Agreement to Acquire Shearwater Corporation" dated May 22, 2001.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

INHALE THERAPEUTIC SYSTEMS, INC.

Dated: May 22, 2001

By: /s/ Brigid A. Makes

-----  
Brigid A. Makes

Chief Financial Officer and Vice President  
(Principal Financial and Accounting  
Officer)

CONTACTS:  
Joyce Strand, Inhale  
650 631-3138

INHALE ANNOUNCES AGREEMENT TO ACQUIRE SHEARWATER CORPORATION

SAN CARLOS, CALIF., MAY 22, 2001 --

Inhale Therapeutic Systems, Inc. (Nasdaq:INHL) today announced that it has reached agreement to acquire privately held Shearwater Corporation. Shearwater is a leader in advanced PEGylation technology for enhancing delivery performance of most major drug classes, including macromolecules such as peptides and proteins, small molecules, and other drugs.

The addition of this advanced PEGylation technology extends Inhale's portfolio of technologies and significantly expands Inhale's early and late stage human clinical pipeline. The acquisition adds 11 drugs to Inhale's pipeline, three of which have completed clinical trials and are in the pre-approval stage. Further, two of Shearwater's products are used in marketed products. Shearwater has collaborations with Hoffman-LaRoche, Pharmacia, Schering-Plough, and several other biopharmaceutical companies. Following this acquisition, Inhale will have 18 programs in its clinical pipeline, two approved products, and three technology platforms - inhaleable delivery of macromolecules, supercritical fluids processing for powder particle production and advanced PEGylation - that target major drug delivery market opportunities.

In consideration for the acquisition, Inhale will pay \$72.5 million of cash and four million shares of newly issued Inhale stock to Shearwater stock and option holders for a total acquisition value of approximately \$191 million. This transaction has been approved by the board of directors of each company and is subject to the satisfaction of customary closing conditions, including the notification and waiting period requirements of the Hart-Scott-Rodino Act. Upon completion of the transaction, Shearwater will operate as a wholly owned subsidiary of Inhale.

Shearwater is a research-based drug delivery company focused on healthcare applications of advanced PEGylation, a technology for the chemical attachment of polyethylene glycol (PEG) polymer chains to a broad range of drug substances such as peptides and proteins including antibody fragments; small molecules; and other drugs. The effect of PEGylation is to increase drug circulation time in the bloodstream, improve drug solubility and stability, and reduce immunogenicity. The potential advantages of PEGylation are to decrease dosing frequency, improve drug efficacy and safety, improve stability, and simplify drug formulation.

Shearwater is a pioneer and technology leader in advanced PEGylation, a family of PEGylation technologies and manufacturing methods designed to enable higher drug-use efficiency, customize attachment of molecules to achieve desired delivery results, and manufacture with higher purity. Shearwater's advanced PEGylation is now being applied primarily to injectable drug products, but is under exploration for use with other delivery routes, as well as in vivo diagnostic and medical device applications.

The Shearwater pipeline includes three products that have completed Phase III trials and are awaiting regulatory approval. Two of these have been disclosed and include:

- PEG-interferon alpha-2a (PEGASYS(R)) with Hoffman-La Roche Ltd. for hepatitis-C, PEG-hGHra with Pharmacia Corporation for acromegaly, a disease that produces increased quantities of growth hormone leading to abnormal growth of hands, feet and other areas of the body.
- Shearwater also supplies PEG to Schering-Plough Corporation for use in its marketed product PEG-interferon alpha-2b, PEG-INTRON(TM) and has collaborations with an additional nine pharmaceutical companies with products in various stages of research, feasibility, and development including announced collaborations with Regeneron, Maxygen and United Therapeutics.

"The addition of this technology to Inhale's portfolio brings Inhale closer to its strategic goal of becoming the leading provider of drug delivery solutions to the biopharmaceutical industry," said Ajit S. Gill, President and CEO, Inhale. "To achieve this we are focusing on platform technologies that can be applied to large opportunities where we can build leadership positions. Shearwater's advanced PEGylation technology is an ideal match against these criteria. Advanced PEGylation technology addresses a growing market need for improving delivery of protein, peptide, and antibody macromolecules, as well as small molecules. Given our focus on the delivery of macromolecules, the technology also complements our inhaleable macromolecule delivery technology.

"Inhale now has leadership positions in three large-market opportunities: inhaleable macromolecules, supercritical fluids processing through our recent acquisition of Bradford Particle Design plc, and PEGylation. As a result, Inhale will be able to offer the biopharmaceutical industry a greater range of solutions for improving the production and delivery of drugs," Gill continued.

John S. Patton, co-founder and Chief Scientific Officer, Inhale, said, "With the acquisition of these advanced PEGylation technologies, Inhale is strongly positioned to respond to our partners' drug delivery needs comprehensively - from drug particle processing to device delivery to molecule control once delivered. The exceptional particle and device engineering capabilities afforded by our inhaleable and supercritical fluids technologies enable us to optimize both the production and delivery of drugs. With the acquisition of Shearwater, we now have added the molecular engineering capabilities to effect molecule behavior."

Milton Harris, president, CEO and founder of Shearwater, who will continue at Shearwater, said, "We are delighted to have reached agreement with Inhale for the merging of our two companies. Great synergies exist between us, and together there is enormous potential for growth. At Shearwater, we have been looking for technologies that will enable us to administer our products by routes other than injection. The combination of PEGylation and inhalation could provide a major step forward in drug delivery. Furthermore, with the additional resources brought by Inhale, we will be able to take our products further in clinical development prior to licensing, thereby building increased value for the company's shareholders."

Inhale Therapeutic Systems, Inc. develops advanced drug delivery solutions for the biopharmaceutical industry. With the acquisition of Shearwater, Inhale is pioneering inhaleable delivery of macromolecules, supercritical fluids processing for powder particle production and advanced PEGylation. The Company is currently collaborating with major pharmaceutical and biotechnology companies, including AstraZeneca, Aventis Behring, Biogen, Bristol-Myers Squibb, GlaxoSmithKline, Lilly and Pfizer.

This release contains forward-looking statements that reflect Inhale management's current views as to the company's business strategy, this acquisition, future products, product developments, clinical trials, manufacturing scale-up, and other future events and operations relating to the company and Shearwater. The forward-looking statements also involve uncertainties and risks that are detailed in Inhale's reports and other filings with the Securities and Exchange Commission, including its Form 10-K as amended for the year ending December 31, 2000 and its Form 10-Q for the quarter ended March 31, 2001. Actual results could differ materially from these forward-looking statements.