

INFINITY PHARMACEUTICALS, INC.  
 Form 3  
 September 13, 2006

**FORM 3 UNITED STATES SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

OMB APPROVAL

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**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES**

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934,  
 Section 17(a) of the Public Utility Holding Company Act of 1935 or Section  
 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

|   |   |   |  |   |  |
|---|---|---|--|---|--|
| <p>1. Name and Address of Reporting Person *</p> <p>Â Burke Thomas Joseph</p> <p>(Last) (First) (Middle)</p> <p>C/O INFINITY PHARMACEUTICALS, INC., Â 780 MEMORIAL DRIVE</p> <p>(Street)</p> <p>CAMBRIDGE, Â MA Â 02139</p> <p>(City) (State) (Zip)</p> | <p>2. Date of Event Requiring Statement</p> <p>(Month/Day/Year)</p> <p>09/12/2006</p> | <p>3. Issuer Name and Ticker or Trading Symbol</p> <p>INFINITY PHARMACEUTICALS, INC. [INFI]</p> | <p>4. Relationship of Reporting Person(s) to Issuer</p> <p>(Check all applicable)</p> <p><input type="checkbox"/> Director <input type="checkbox"/> 10% Owner</p> <p><input checked="" type="checkbox"/> Officer <input type="checkbox"/> Other</p> <p>(give title below) (specify below)</p> <p>Assistant Treasurer</p> | <p>5. If Amendment, Date Original Filed(Month/Day/Year)</p> | <p>6. Individual or Joint/Group Filing(Check Applicable Line)</p> <p><input checked="" type="checkbox"/> Form filed by One Reporting Person</p> <p><input type="checkbox"/> Form filed by More than One Reporting Person</p> |
|---|---|---|--|---|--|

**Table I - Non-Derivative Securities Beneficially Owned**

| 1. Title of Security<br>(Instr. 4)   | 2. Amount of Securities Beneficially Owned<br>(Instr. 4) | 3. Ownership Form:<br>Direct (D)<br>or Indirect (I)<br>(Instr. 5) | 4. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|--------------------------------------|--|---|--|
| No securities are beneficially owned | 0  | D <sup>(1)</sup>  | Â  |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

SEC 1473 (7-02)

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**Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security<br>(Instr. 4) | 2. Date Exercisable and Expiration Date<br>(Month/Day/Year) | 3. Title and Amount of Securities Underlying Derivative Security | 4. Conversion or Exercise | 5. Ownership Form of | 6. Nature of Indirect Beneficial Ownership<br>(Instr. 5) |
|---|---|--|---------------------------|----------------------|--|
|---|---|--|---------------------------|----------------------|--|

| Date Exercisable | Expiration Date | (Instr. 4) | Amount or Number of Shares | Price of Derivative Security | Derivative Security: Direct (D) or Indirect (I) |
|------------------|-----------------|------------|----------------------------|------------------------------|---|
|                  |                 | Title      |                            |                              |   |

## Reporting Owners

| Reporting Owner Name / Address   | Relationships |           |                       |       |
|--|---------------|-----------|-----------------------|-------|
|  | Director      | 10% Owner | Officer               | Other |
| Burke Thomas Joseph<br>C/O INFINITY PHARMACEUTICALS, INC.<br>780 MEMORIAL DRIVE<br>CAMBRIDGE, MA 02139 | ^             | ^         | ^ Assistant Treasurer | ^     |

## Signatures

/s/ Thomas J. Burke  
 09/13/2006  
 \*\*Signature of Reporting Person                      Date

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, see Instruction 5(b)(v).
  - \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations. See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).
- (1) Not applicable.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, See Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.