

LeClair Brian  
 Form 4  
 January 12, 2009

**FORM 4**

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

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

**STATEMENT OF CHANGES IN 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)

1. Name and Address of Reporting Person \*  
 LeClair Brian

2. Issuer Name and Ticker or Trading Symbol  
 MICROFLUIDICS INTERNATIONAL CORP [MFLU.OB]

5. Relationship of Reporting Person(s) to Issuer  
 (Check all applicable)

(Last) (First) (Middle)  
 30 OSSIPPEE ROAD  
 (Street)

3. Date of Earliest Transaction (Month/Day/Year)  
 01/08/2009

\_\_\_\_ Director \_\_\_\_ 10% Owner  
 Officer (give title below) \_\_\_\_ Other (specify below)  
 EVP, CFO & Treasurer

NEWTON, MA 02464  
 (City) (State) (Zip)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)  
 Form filed by One Reporting Person  
 \_\_\_\_ Form filed by More than One Reporting Person

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
				(A) or (D)	Code V Amount (D) Price		

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

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.**

SEC 1474 (9-02)

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

1. Title of Derivative	2. Conversion	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if	4. Transaction	5. Number of Derivative	6. Date Exercisable and Expiration Date	7. Title and Amount of Underlying Securities	8.
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Security (Instr. 3)	or Exercise Price of Derivative Security	any (Month/Day/Year)	Code (Instr. 8)	Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)	(Month/Day/Year)	(Instr. 3 and 4)				
			Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock Option (Right to Buy)	\$ 0.57	01/08/2009	A		30,000		<u>(1)</u>	01/08/2019	Common Stock	30,000

## Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
LeClair Brian 30 OSSIPPEE ROAD NEWTON, MA 02464			EVP, CFO & Treasurer	

## Signatures

/s/ Brian E. LeClair  
01/12/2009  
Date

\*\*Signature of Reporting Person

## Explanation of Responses:

- \* If the form is filed by more than one reporting person, see Instruction 4(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) Option to purchase 30,000 shares of common stock granted 1/8/09; 25% exercisable on each of the first four anniversaries of the date of grant.

### Remarks:

This Form 4 is signed per power of attorney by Microfluidics International Corporation

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.