INTERMOLECULAR INC Form SC 13D/A May 27, 2016

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

SCHEDULE 13D (Rule 13d-101)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO § 240.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO § 240.13d-2(a)

(Amendment No. 2)1

Intermolecular, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value (Title of Class of Securities)

45882D 10 9 (CUSIP Number)

Steve Wolosky, Esq. Olshan Frome Wolosky LLP 1325 Avenue of the Americas New York, New York 10019 (212) 451-2300 (Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

May 25, 2016 (Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box x.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7 for other parties to whom copies are to be sent.

¹ The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act

but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP NO. 45882D 10 9

1	NAME OF REPORTING PERSON						
2	Raging Capital Management, LLC(a) oCHECK THE APPROPRIATE BOX IF A MEMBER OF A(b) oGROUP(b) o						
3	SEC USE ONLY						
4	SOURCE OF FUNDS						
5	AF CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS " IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e)						
6	CITIZENSHIP OR PLACE OF ORGANIZATION						
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH	DELAWARE	7	SOLE VOTING POWER				
		8	- 0 - SHARED VOTING POWER				
REPORTING PERSON WITH		9	11,349,627 SOLE DISPOSITIVE POWER				
		10	- 0 - SHARED DISPOSITIVE POWE	R			
11	11,349,627 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON						
12	11,349,627 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) o EXCLUDES CERTAIN SHARES						
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)						
14	22.9% TYPE OF REPORTING PERSON						
	IA						

CUSIP NO. 45882D 10 9

1	NAME OF REPORTING PERSON						
2 3	William C. Martin(a) oCHECK THE APPROPRIATE BOX IF A MEMBER OF A(b) oGROUP(b) oSEC USE ONLY(b) o						
4	SOURCE OF FUNDS						
5	AF CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS " IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e)						
6	CITIZENSHIP OR PLACE OF ORGANIZATION						
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	USA	7	SOLE VOTING POWER				
		8	- 0 - SHARED VOTING POWER				
		9	11,349,627 SOLE DISPOSITIVE POWER				
		10	- 0 - SHARED DISPOSITIVE POWE	R			
11	11,349,627 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON						
12	11,349,627 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) o EXCLUDES CERTAIN SHARES						
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)						
14	22.9% TYPE OF REPORTING PERSON						
	HC						

CUSIP NO. 45882D 10 9

1	NAME OF REPORTING PERSON						
2 3	Kenneth H. Traub(a) oCHECK THE APPROPRIATE BOX IF A MEMBER OF A(b) oGROUP(b) oSEC USE ONLY						
4	SOURCE OF FUNDS						
	SOURCE OF FUNDS						
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS " IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e)						
6	CITIZENSHIP OR PLACE OF ORGANIZATION						
	USA						
NUMBER OF SHARES		7	SOLE VOTING POWER				
BENEFICIALLY	-		- 0 -				
OWNED BY		8	SHARED VOTING POWER				
EACH REPORTING			- 0 -				
PERSON WITH		9	SOLE DISPOSITIVE POWER				
			- 0 -				
		10	SHARED DISPOSITIVE POWE	R			
			- 0 -				
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON						
12	- 0 - CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) o EXCLUDES CERTAIN SHARES						
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)						
	0%						
14	TYPE OF REPO	TYPE OF REPORTING PERSON					
	IN						

CUSIP NO. 45882D 10 9

The following constitutes Amendment No. 2 to the Schedule 13D filed by the undersigned ("Amendment No. 2"). This Amendment No. 2 amends the Schedule 13D as specifically set forth herein.

Item 2.

Identity and Background.

Item 2 is hereby amended and restated to read as follows:

(a) This statement is filed by Raging Capital Management, LLC, a Delaware limited liability company ("Raging Capital"), William C. Martin and Kenneth H. Traub. Each of the foregoing is referred to as a "Reporting Person" and collectively as the "Reporting Persons."

Raging Capital is the Investment Manager of Raging Capital Master Fund, Ltd., a Cayman Islands exempted company ("Raging Master"), in whose name the Shares are held. William C. Martin is the Chairman, Chief Investment Officer and Managing Member of Raging Capital. Raging Master has delegated to Raging Capital the sole authority to vote and dispose of the securities held by Raging Master pursuant to an Investment Management Agreement, dated November 9, 2012 (the "IMA"). The IMA may be terminated by any party thereto effective at the close of business on the last day of any fiscal quarter by giving the other party not less than sixty-one days' written notice. As a result, each of Raging Capital and William C. Martin may be deemed to beneficially own the Shares held by Raging Master.

Set forth on Schedule A annexed to Amendment No. 1 to the Schedule 13D ("Schedule A") is the name and present principal business, occupation or employment and the name, principal business and address of any corporation or other organization in which such employment is conducted of the executive officers of Raging Capital. To the best of the Reporting Persons' knowledge, except as otherwise set forth herein, none of the persons listed on Schedule A beneficially owns any securities of the Issuer or is a party to any contract, agreement or understanding required to be disclosed herein.

(b) The address of the principal office of each of the Reporting Persons is Ten Princeton Avenue, P.O. Box 228, Rocky Hill, New Jersey 08553.

(c) The principal business of Raging Capital is serving as the Investment Manager of Raging Master. The principal occupation of William C. Martin is serving as the Chairman, Chief Investment Officer and Managing Member of Raging Capital. The principal occupation of Kenneth H. Traub is serving as a Managing Partner at Raging Capital. Mr. Traub is also a director of the Issuer.

(d) No Reporting Person nor any person listed on Schedule A has, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) No Reporting Person nor any person listed on Schedule A has, during the last five years, been party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

CUSIP NO. 45882D 10 9

(f) Raging Capital is organized under the laws of the State of Delaware. Each of William C. Martin and Kenneth H. Traub is a citizen of the United States of America.

Item 4.

Purpose of Transaction.

Item 4 is hereby amended to add the following:

On May 25, 2016, Kenneth H. Traub, a Managing Partner at Raging Capital, was elected to the Board of Directors of the Issuer at its 2016 annual meeting of stockholders.

Item 5. Interest in Securities of the Issuer.

Items 5(a) - (c) are hereby amended and restated to read as follows:

(a) The aggregate percentage of Shares reported owned by each person named herein is based upon 49,484,293 Shares outstanding as of May 2, 2016, which is the total number of Shares outstanding as reported in the Issuer's Form 10-Q filed with the Securities and Exchange Commission on May 5, 2016.

As of the close of business on the date hereof, each of Raging Capital and William C. Martin may be deemed to beneficially own the 11,349,627 Shares, constituting approximately 22.9% of the Shares outstanding, held by Raging Master by virtue of their relationships with Raging Master discussed in further detail in Item 2.

As of the close of business on the date hereof, Kenneth H. Traub did not beneficially own any Shares of the Issuer.

Each of the Reporting Persons, as a member of a "group" with the other Reporting Persons for purposes of Rule 13d-5(b)(1) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), may be deemed to beneficially own the Shares owned by the other Reporting Persons. The filing of this Schedule 13D shall not be deemed an admission that the Reporting Persons are, for purposes of Section 13(d) of the Exchange Act, the beneficial owners of any Shares he or it does not directly own. Each of the Reporting Persons specifically disclaims beneficial ownership of the Shares reported herein that he or it does not directly own. Without limiting the foregoing sentence, Raging Master specifically disclaims beneficial ownership of the securities of the Issuer held by it by virtue of its inability to vote or dispose of such securities as a result of the IMA.

(b) Raging Capital and William C. Martin may be deemed to share the power to vote and dispose of the Shares held by Raging Master.

(c) Except for the transaction disclosed in Item 6 below, the Reporting Persons have not entered into any transactions in the securities of the Issuer during the past 60 days.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.

Item 6 is hereby amended to add the following:

CUSIP NO. 45882D 10 9

On May 25, 2016, the Issuer awarded Kenneth H. Traub an option to purchase 75,000 Shares at an exercise price of \$1.85 per Share in his capacity as a director of the Issuer. The option vests in four equal annual installments beginning on the first anniversary of the date of grant.

On May 26, 2016, the Reporting Persons entered into a Joint Filing Agreement in which the Reporting Persons agreed to the joint filing on behalf of each of them of statements on Schedule 13D with respect to the securities of the Issuer. A copy of this agreement is attached as an exhibit hereto and is incorporated herein by reference.

Item 7. Material to be Filed as Exhibits.

Item 7 is hereby amended to add the following exhibit:

99.1 Joint Filing Agreement by and among Raging Capital Management, LLC, William C. Martin and Kenneth H. Traub, dated May 26, 2016.

CUSIP NO. 45882D 10 9

SIGNATURES

After reasonable inquiry and to the best of his knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: May 26, 2016

Raging Capital Management, LLC

By:

/s/ Frederick C. Wasch Name: Frederick C. Wasch Title: Chief Financial Officer

/s/ Frederick C. Wasch Frederick C. Wasch as attorney-in-fact for William C. Martin

/s/ Kenneth H. Traub Kenneth H. Traub