### ADAGE CAPITAL PARTNERS GP LLC Form SC 13G/A February 16, 2010

SECURITIES & EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G/A\* (Rule 13d-2)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES 13d-1(b), (c) AND (d) AND AMENDMENTS THERETO FILED PURSUANT TO 13d-2(b)

(Amendment No. 1)

W.R. Grace & Co. (Name of Issuer)

Common Stock, \$0.01 par value per share (Title of Class of Securities)

38388F108 (CUSIP Number)

December 31, 2009 (Date of event which requires filing of this statement)

Check the appropriate box to designate the rule pursuant to which this Schedule 13G is filed:

- [ ] Rule 13d-1(b)
- [X] Rule 13d-1(c)
- [ ] Rule 13d-1(d)

(Page 1 of 13 Pages)

\*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 the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for purposes 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).

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PERSONS (ENTITIES ONLY)

	Adage Capital Partners, L.P.							
(2)	CHECK T	HE APPROPRIATE	BOX IF A M	MEMBER OF A GROUP	** (a) [ ] (b) [X]			
(3)	SEC USE ONLY							
(4)	CITIZENSHIP OR PLACE OF ORGANIZATION  Delaware							
	(5)	SOLE VOTING PO	OWER	-0-				
SHARES								
BENEFICIALL OWNED BY	Y (6)	SHARED VOTING	POWER	3,661,356				
EACH	(7)	SOLE DISPOSIT:	IVE POWER	-0-				
REPORTING								
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(10)		OX IF THE AGGRI		 VT	[ ]			
(11)	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)			5.07%				
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(12)		REPORTING PERS						
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CUSIP No. 3	8388F108		13G/A	I	Page 3 of 11 Pages			
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(2)	CHECK T	HE APPROPRIATE	BOX IF A N	4EMBER OF A GROUP	** (a) [ ] (b) [X]			
(3)	SEC USE	ONLY						
(4)	 CITIZEN	SHIP OR PLACE (	 OF ORGANIZ <i>I</i>	 ATION				

Delaware NUMBER OF (5) SOLE VOTING POWER -0-SHARES \_\_\_\_\_\_ BENEFICIALLY (6) SHARED VOTING POWER 3,661,356 OWNED BY (7) SOLE DISPOSITIVE POWER REPORTING PERSON WITH (8) SHARED DISPOSITIVE POWER (9) AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,661,356 (10) CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES \*\* [ ] (11) PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.07% \_\_\_\_\_\_ (12) TYPE OF REPORTING PERSON \*\* 00 \*\* SEE INSTRUCTIONS BEFORE FILLING OUT! CUSIP No. 38388F108 13G/A Page 4 of 11 Pages NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY) Adage Capital Advisors, L.L.C. (2) CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP \*\* (a) [ ] (b) [X] .\_\_\_\_\_ (3) SEC USE ONLY (4) CITIZENSHIP OR PLACE OF ORGANIZATION Delaware NUMBER OF (5) SOLE VOTING POWER -0-SHARES

3,661,356

BENEFICIALLY (6) SHARED VOTING POWER

OWNED BY -----

EACH	(7) SOLE DISPOSITIVE POWER	
REPORTING	-0-	
PERSON WITH	(8) SHARED DISPOSITIVE POWER 3,661,356	
(9)	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,661,356	
(10)	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES **	[ ]
(11)	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.07%	
(12)	TYPE OF REPORTING PERSON ** OO	
	** SEE INSTRUCTIONS BEFORE FILLING OUT!	
CUSIP No. 38	8388F108 13G/A P	age 5 of 11 Pages
(1)	NAMES OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)	Robert Atchinson
(2)	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP	** (a) [ ] (b) [X]
(3)	SEC USE ONLY	
(4)	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF	(5) SOLE VOTING POWER -0-	
	Y (6) SHARED VOTING POWER 3,661,356	
EACH	(7) SOLE DISPOSITIVE POWER -0-	
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			(	,				Phil	llip G	ross
(2)	CHE	CK TH	HE APPROP	RIATE BOX	IF A MEM	BER OF A G	GROUP **			
									[ ] [X]	
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	IN ROW (9) EXCLUDES CERTAIN SHARES **								[ ]	
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Item 1(a). Name of Issuer:

The name of the issuer is W.R. Grace & Co. (the "Company").

Item 1(b). Address of Issuer's Principal Executive Offices:

The Company's principal executive offices are located at 7500 Grace Drive, Columbia, MD 21044.

Item 2(a). Name of Person Filing:

This statement is filed by:

- (i) Adage Capital Partners, L.P., a Delaware limited partnership ("ACP") with respect to the shares of Common Stock directly owned
- (ii) Adage Capital Partners GP, L.L.C., a limited liability company organized under the laws of the State of Delaware ("ACPGP"), as general partner of ACP with respect to the shares of Common Stock directly owned by ACP;
- (iii) Adage Capital Advisors, L.L.C., a limited liability company organized under the laws of the State of Delaware ("ACA"), as managing member of ACPGP, general partner of ACP, with respect to the shares of Common Stock directly owned by ACP;
- (iv) Robert Atchinson ("Mr. Atchinson"), as managing member of ACA, managing member of ACPGP, general partner of ACP with respect to the shares of Common Stock directly owned by ACP; and
  - (v) Phillip Gross ("Mr. Gross"), as managing member of ACA, managing member of ACPGP, general partner of ACP with respect to the shares of Common Stock directly owned by ACP.

The foregoing persons are hereinafter sometimes collectively referred to as the "Reporting Persons." Any disclosures herein with respect to persons other than the Reporting Persons are made on information and belief after making inquiry to the appropriate party.

Item 2(b). Address of Principal Business Office or, if None, Residence:

The address of the business office of each of the Reporting Persons is 200 Clarendon Street, 52nd floor, Boston, Massachusetts 02116.

Item 2(c). Citizenship:

ACP is a limited partnership organized under the laws of the State of Delaware. ACPGP and ACA are limited liability companies organized under the laws of the State of Delaware. Messrs. Gross and Atchinson are citizens of the United States.

Item 2(d). Title of Class of Securities:

Common Stock, \$0.01 par value per share (the "Common Stock")

Item 2(e). CUSIP Number:

Item 3. If this statement is filed pursuant to Rules 13d-1(b) or 13d-2(b) or (c), check whether the person filing is a:

- (a) [ ] Broker or dealer registered under Section 15 of the Act,
- (b) [ ] Bank as defined in Section 3(a)(6) of the Act,
- (c) [ ] Insurance Company as defined in Section 3(a)(19) of the Act,
- (d) [] Investment Company registered under Section 8 of the Investment Company Act of 1940,
- (f) [ ] Employee Benefit Plan or Endowment Fund in accordance with 13d-1 (b)(1)(ii)(F),
- (g) [ ] Parent Holding Company or control person in accordance with Rule 13d-1 (b) (1) (ii) (G),
- (h) [] Savings Association as defined in Section 3(b) of the Federal Deposit Insurance Act,
- (i) [ ] Church Plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act of 1940,
- (j) [ ] Group, in accordance with Rule 13d-1(b)(1)(ii)(J).

If this statement is filed pursuant to 13d-1(c), check this box: [x]

#### Item 4. Ownership.

1A. Adage Capital Partners, L.P., Adage Capital Partners GP, L.L.C. and Adage Capital Advisors, L.L.C.

- (a) Amount beneficially owned: 3,661,356
- (b) Percent of class: 5.07% The percentages used herein and in the rest of Item 4 are calculated based upon the 72,236,518 shares of Common Stock issued and outstanding as of October 31, 2009 as reflected in the Form 10-Q filed by the Company on November 6, 2009.
- (c)(i) Sole power to vote or direct the vote: -0-
  - (ii) Shared power to vote or direct the vote: 3,661,356
- (iii) Sole power to dispose or direct the disposition: -0-
- (iv) Shared power to dispose or direct the disposition: 3,661,356.

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Common Stock beneficially owned by it, which power may be exercised by its general partner, ACPGP. ACA, as managing member of ACPGP, directs ACPGP's operations. Neither ACPGP nor ACA directly own any shares of Common Stock. By reason of the provisions of Rule 13d-3 of the Securities Exchange Act of 1934 (the "Act"), ACPGP and ACA may be deemed to beneficially own the shares owned by ACP.

- B. Robert Atchinson and Phillip Gross
  - (a) Amount beneficially owned: 3,661,356
  - (b) Percent of class: 5.07%
  - (c)(i) Sole power to vote or direct the vote: -0-
    - (ii) Shared power to vote or direct the vote: 3,661,356
  - (iii) Sole power to dispose or direct the disposition: -0-
  - (iv) Shared power to dispose or direct the disposition: 3,661,356.

Messrs. Atchinson and Gross, as managing members of ACA, have shared power to vote the Common Stock beneficially owned by ACP. Neither Mr. Atchinson nor Mr. Gross directly own any shares of Common Stock. By reason of the provisions of Rule 13d-3 of the Act, each may be deemed to beneficially own the shares beneficially owned by ACP.

Item 5. Ownership of Five Percent or Less of a Class.

Not applicable.

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

ACPGP, the general partner of ACP, has the power to direct the affairs of ACP, including decisions respecting the disposition of the proceeds from the sale of Common Stock. Messrs. Atchinson and Gross are the Managing Members of ACA, the managing member of ACPGP, and in that capacity direct ACPGP's operations.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company.

Not applicable.

Item 8. Identification and Classification of Members of the Group.

Not applicable.

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Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certification.

Each of the Reporting Persons hereby makes the following certification:

By signing below each Reporting Person certifies that, to the best of its knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

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#### SIGNATURES

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

DATED: February 16, 2010

ADAGE CAPITAL PARTNERS, L.P.

By: Adage Capital Partners GP, L.L.C.,
 its general partner

By: Adage Capital Advisors, L.L.C., its managing member

/s/ Robert Atchinson

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Name: Robert Atchinson Title: Managing Member

ADAGE CAPITAL PARTNERS GP, L.L.C. By: Adage Capital Advisors, L.L.C.,

its managing member

/s/ Robert Atchinson

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Name: Robert Atchinson Title: Managing Member

ADAGE CAPITAL ADVISORS, L.L.C.

/s/ Robert Atchinson

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Name: Robert Atchinson Title: Managing Member

Robert Atchinson

/s/ Robert Atchinson

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Robert Atchinson, individually

Phillip Gross

/s/ Phillip Gross

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Phillip Gross, individually