Poling Gregory E Form 4 May 07, 2012

FORM 4

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

OMB APPROVAL OMB 3235-0287

Check this box if no longer subject to Section 16.

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF

Number: January 31, Expires: 2005

0.5

Estimated average

burden hours per

Form 4 or Form 5 obligations may continue.

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

SECURITIES

response...

See Instruction 1(b).

(Print or Type Responses)

1. Name and Address of Reporting Person * Poling Gregory E

2. Issuer Name and Ticker or Trading Symbol

5. Relationship of Reporting Person(s) to Issuer

W R GRACE & CO [GRA]

(Check all applicable)

(Last)

Stock, par

(First) (Middle) 3. Date of Earliest Transaction

Director 10% Owner

C/O W. R. GRACE & CO., 7500

(Street)

(Month/Day/Year) 05/07/2012

X_ Officer (give title _ Other (specify below)

GRACE DRIVE

President & COO

4. If Amendment, Date Original

6. Individual or Joint/Group Filing(Check Applicable Line)

Filed(Month/Day/Year)

X Form filed by One Reporting Person Form filed by More than One Reporting

Person

COLUMBIA, MD 21044

(City)	(State)	(Zip) Tab	ole I - Non-	Derivative Securiti	ies Acquir	ed, Disposed of,	or Beneficially	y Owned
1.Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transactic Code (Instr. 8)	4. Securities Acquor Disposed of (D) (Instr. 3, 4 and 5) (A) or Amount (D)		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 Indirect Beneficial Ownership (Instr. 4)
Common Stock,par value \$0.01 per share (1)	05/07/2012		M	53,270 A \$	\$ 19.71	53,270	D	
Common Stock, par value \$0.01 per share (1)						18,000	I	By Trust
Common	05/07/2012		S	53,270 D \$	\$	0	D	

(2)

58.3638

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value \$0.01 per share (1)

Common Stock, par value

\$0.01 per share (1)

18,000

Ι

By Trust

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

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

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transactic Code (Instr. 8)	5. Number of or Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Underlying Securities (Instr. 3 and 4)	
				Code V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Employee Stock Options	\$ 19.71	05/07/2012		M		53,270 (2)	09/11/2010	09/11/2013	Common Stock	53,270

Reporting Owners

Relationships Reporting Owner Name / Address

> 10% Owner Officer Other Director

Poling Gregory E

(rights to buy)

C/O W. R. GRACE & CO. 7500 GRACE DRIVE COLUMBIA, MD 21044

President & COO

Signatures

Michael W. Conron, Attorney-in-Fact

05/07/2012

Reporting Owners 2 **Signature of Reporting Person

Date

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) Each share of Common Stock also represents one Preferred Share Purchase Right. Each such Right entitles the holder to purchase Preferred Stock or other securities or property upon the occurrence of certain events and subject to certain conditions.
- (2) Exercise and sale pursuant to Rule 10b5-1 Trading Plan for options granted September 11, 2008 and expiring on September 11, 2013

 Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.

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Signatures 3