

BASTIAENS F GUILLAUME
 Form 4
 August 10, 2009

FORM 4

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

OMB APPROVAL

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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 *
BASTIAENS F GUILLAUME

(Last) (First) (Middle)

C/O THE MOSAIC
 COMPANY, 3033 CAMPUS
 DRIVE, SUITE E490

(Street)

PLYMOUTH, MN 55441

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
MOSAIC CO [MOS]

3. Date of Earliest Transaction
 (Month/Day/Year)
08/07/2009

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

Director 10% Owner
 Officer (give title below) Other (specify below)

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)	Price		
Common Stock	08/07/2009		S ⁽³⁾	1,600	D \$ 54	14,529	D
Common Stock	08/07/2009		S ⁽³⁾	82	D \$ 54.02	14,447	D

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

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 (9-02)

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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. Transaction Code (Instr. 8)	5. Number of 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)	8. Price of Derivative Security (Instr. 5)	
						Date Exercisable	Expiration Date	Title	Amount or Number of Shares
						Code	V	(A)	(D)
Restricted Stock Units	\$ 0 ⁽¹⁾					08/02/2010	⁽²⁾	Common Stock	1,624
Restricted Stock Units	\$ 0 ⁽¹⁾					10/09/2011	⁽²⁾	Common Stock	2,327

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
BASTIAENS F GUILLAUME C/O THE MOSAIC COMPANY 3033 CAMPUS DRIVE, SUITE E490 PLYMOUTH, MN 55441	X			

Signatures

/s/ Richard L. Mack, Attorney-in-Fact for Guillaume F. Bastaens
 08/10/2009
**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) One for one
- (2) Not applicable
- (3) Shares sold to cover tax liability incurred as a result of most recent vesting of Restricted Stock Units.

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.