

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

AIR PRODUCTS AND CHEMICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

23-1274455
(I.R.S. Employer
Identification No.)

7201 Hamilton Boulevard,
Allentown, Pennsylvania 18195-1501
(Address of Principal Executive Offices) (Zip Code)

Air Products and Chemicals, Inc. Long-Term Incentive Plan
(Full Title of the Plan)

Mary T. Afflerbach,
Corporate Secretary and Chief Governance Officer
Air Products and Chemicals, Inc.,
7201 Hamilton Boulevard,
Allentown, PA 18195-1501
(Name and Address of Agent for Service)

610-481-4911
(Telephone Number, Including Area Code, of Agent for Service)

CALCULATION OF REGISTRATION FEE

Titles of securities to be registered	Amount to be registered	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, par value \$1	442,079	\$142.43	\$62,965,311.97	\$6340.61(1)
Options Granted 5/08/15	4,225	\$147.93	\$625,004.25	\$62.94(2)
Options Granted 6/1/15	565	\$147.45	\$83,309.25	\$8.39(2)
Options Granted 10/5/15	2,978	\$132.92	\$395,835.76	\$39.86(2)
Total	449,847		\$64,069,461.23	\$6,451.80

- (1) The registration fee with respect to these shares has been computed in accordance with paragraphs (c) and (h) of Rule 457, based upon the average of the reported high and low sales prices of shares of Common Stock on 13 May 2016 (i.e., \$142.43 per share).
- (2) The registration fee with respect to these shares has been computed in accordance with paragraph (h) of Rule 457 based upon the stated exercise price of the Options.

EXPLANATORY NOTE

Air Products and Chemicals, Inc. (the "Registrant"), has prepared this Registration Statement in accordance with the requirements of Form S-8 under the Securities Act of 1933, as amended, to register 449,847 additional shares of common stock of the Registrant, for distribution pursuant to the Air Products and Chemicals, Inc. Long-Term Incentive Plan (the "Plan")

These are securities of the same class as the securities registered on Form S-8, Registration Statement No. 333-103809 filed with the Securities and Exchange Commission (the "SEC") on 14 March 2003, (the "Initial Registration") relating to the Plan.

Pursuant to General Instruction E to Form S-8, the contents of the Initial Registration are incorporated herein by reference.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant with the SEC are incorporated herein by reference:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended 30 September 2015, filed on 24 November 2015;
- (b) The Registrant's Quarterly Reports on Form 10-Q for the quarter ended 31 December 2015, filed on 29 January 2016 and for the quarter ended 31 March 2016, filed on 28 April 2016; and
- (c) The Registrant's Current Reports on Form 8-K filed on 29 October 2015, 1 December 2015, 28 January 2016, 29 January 2016, 29 March 2016, 28 April 2016 and 6 May 2016.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, prior to the filing of a post-effective date amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference in this registration statement and to be part hereof from the date of filing of such documents.

Item 8. Exhibits

- 23. Consent of Independent Registered Public Accounting Firm
- 24. Power of Attorney

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the date indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Seifi Ghasemi</u> Seifi Ghasemi	Director, Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	20 May 2016
<u>/s/ M. Scott Crocco</u> M. Scott Crocco	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	20 May 2016
<u>/s/ Russell A. Flugel</u> Russell A. Flugel	Vice President and Corporate Cintroller (Principal Accounting Officer)	20 May 2016
<u>*</u> Susan K. Carter	Director	20 May 2016
<u>*</u> Charles I. Cogut	Director	20 May 2016
<u>*</u> Chadwick C. Deaton	Director	20 May 2016
<u>*</u> David H. Y. Ho	Director	20 May 2016
<u>*</u> Margaret G. McGlynn	Director	20 May 2016
<u>*</u> Edward L. Monser	Director	20 May 2016
<u>*</u> Matthew H. Paull	Director	22 May 2015

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No opinion of counsel is being filed because the Common Stock to be distributed in connection with the Plan will consist exclusively of previously issued shares that are presently held by the registrant as treasury shares and will not constitute original issuance shares; further, no opinion is being furnished with respect to ERISA compliance because the Plan covered by the registration statement is not subject to the requirements of ERISA.

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Air Products and Chemicals, Inc.:

We consent to the incorporation by reference of our report dated 24 November 2015, with respect to the consolidated balance sheets of Air Products and Chemicals, Inc. and Subsidiaries as of 30 September 2015 and 2014, and the related consolidated income statements, consolidated comprehensive income statements, consolidated statements of equity, and cash flows for each of the years in the three-year period ended 30 September 2015, the effectiveness of internal control over financial reporting as of 30 September 2015, and the related financial statement schedule, which report appears in the 30 September 2015 Annual Report on Form 10-K of Air Products and Chemicals, Inc.

/s/ KPMG LLP

Philadelphia, Pennsylvania
20 May 2016

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints SEIFI GHASEMI, MARY T. AFFLERBACH, M. SCOTT CROCCO and JOHN D. STANLEY, and each of them acting severally, his/her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him/her and in his/her name, place and stead, in any and all capacities, to sign one or more Registration Statements, and any amendments thereto, which may be required in connection with (i) the registration of Common Stock, Preferred Stock, Depository Shares, Debt Securities, and Warrants, including the registration of Common Stock for issuance under any employee benefit or compensation plan, (ii) the registration of interests under any employee benefit or compensation plan maintained by the Company or (iii) any fundamental change in the information contained in such Registration Statements, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he/she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities and Exchange Act of 1933, this Power of Attorney has been signed below by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Seifi Ghasemi</u> Seifi Ghasemi	Director and Chairman of the Board President and Chief Executive Officer (Principal Executive Officer)	18 May 2016
<u>/s/ Susan K. Carter</u> Susan K. Carter	Director	18 May 2016
<u>/s/ Charles I. Cogut</u> Charles I. Cogut	Director	18 May 2016
<u>/s/ Chadwick C. Deaton</u> Chadwick C. Deaton	Director	18 May 2016

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<hr/> <u>/s/ David H. Y. Ho</u> David H. Y. Ho	Director	18 May 2016
<hr/> <u>/s/ Margaret G. McGlynn</u> Margaret G. McGlynn	Director	18 May 2016
<hr/> <u>/s/ Edward L. Monser</u> Edward L. Monser	Director	18 May 2016
<hr/> <u>/s/ Matthew H. Paull</u> Matthew H. Paull	Director	18 May 2016