

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

**SCHEDULE TO**  
(RULE 14d-100)

Tender Offer Statement Pursuant to Section 14(d)(1) or 13(e)(1) of  
the Securities Exchange Act of 1934  
(Amendment No. 16)

**AIRGAS, INC.**  
(Name of Subject Company)

**AIR PRODUCTS DISTRIBUTION, INC.**  
(Offeror)

**AIR PRODUCTS AND CHEMICALS, INC.**  
(Parent of Offeror)  
(Names of Filing Persons)

COMMON STOCK, \$0.01 PAR VALUE  
(Title of Class of Securities)

009363102  
(Cusip Number of Class of Securities)

John D. Stanley, Esq.  
Senior Vice President and General Counsel  
Air Products and Chemicals, Inc.  
7201 Hamilton Boulevard  
Allentown, PA 18195-1501  
(610) 481-4911

(Name, Address and Telephone Number of Person Authorized to Receive Notices  
and Communications on Behalf of Filing Persons)

*Copies to:*  
James C. Woolery, Esq.  
Cravath, Swaine & Moore LLP  
Worldwide Plaza  
825 Eighth Avenue  
New York, New York 10019-7475  
(212) 474-1000

**CALCULATION OF FILING FEE**

**Transaction Valuation\***

\$4,963,777,380.00

**Amount of Filing Fee\*\***

\$353,917.33

\* Estimated for purposes of calculating the amount of filing fee only. Transaction value derived by multiplying 82,729,623 (number of shares of common stock of subject company (which represents the number of shares issued and outstanding as of February 3, 2010, as reported in the subject company's Quarterly Report on Form 10-Q filed on February 8, 2010)) by \$60.00 (the purchase price per share offered by Offeror).

\*\* The filing fee was calculated in accordance with Rule 0-11 under the Securities Exchange Act of 1934 and Fee Rate Advisory #4 for fiscal year 2010, issued December 17, 2009, by multiplying the transaction value by .00007130.

Check box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid:	\$353,917.33	Filing Party:	Air Products Distribution, Inc./ Air Products and Chemicals, Inc.
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Form or Registration No.:	Schedule TO	Date Filed:	February 11, 2010
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Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes below to designate any transactions to which the statement relates:

- third-party tender offer subject to Rule 14d-1.
- issuer tender offer subject to Rule 13e-4.
- going-private transaction subject to Rule 13e-3.
- amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer.

If applicable, check the appropriate box(es) below to designate the appropriate rule provision(s) relied upon:

- Rule 13e-4(i) (Cross-Border Issuer Tender Offer)
  - Rule 14d-1(d) (Cross-Border Third-Party Tender Offer)
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This Amendment No. 16 to the Tender Offer Statement on Schedule TO amends and supplements the Tender Offer Statement on Schedule TO filed with the Securities and Exchange Commission on February 11, 2010 (together with any amendments and supplements thereto, the "Schedule TO") by Air Products and Chemicals, Inc., a Delaware corporation ("Air Products"), and Air Products Distribution, Inc. (the "Purchaser"), a Delaware corporation and a wholly owned subsidiary of Air Products. The Schedule TO relates to the offer by the Purchaser to purchase all outstanding shares of common stock, par value \$0.01 per share (together with the associated preferred stock purchase rights, the "Shares"), of Airgas, Inc., a Delaware corporation ("Airgas"), at \$60.00 per Share, net to the seller in cash, without interest and less any required withholding taxes, upon the terms and subject to the conditions set forth in the Offer to Purchase, dated February 11, 2010 (together with any amendments and supplements thereto, the "Offer to Purchase"), and in the related Letter of Transmittal (which, together with any amendments and supplements thereto, collectively constitute the "Offer").

**Item 12.**

Item 12 of the Schedule TO is hereby amended and supplemented as follows:

(a)(5)(xxx) Slides from presentation of John McGlade at the William Blair & Company 30th Annual Growth Stock Conference, dated June 17, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 17, 2010). Exhibit (a)(5)(xxx) refers to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. For clarification, such safe harbor provisions do not apply to forward looking statements made in connection with the Offer.

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**SIGNATURE**

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: June 17, 2010

**AIR PRODUCTS AND CHEMICALS, INC.**

By: /s/ Paul E. Huck

\_\_\_\_\_  
Name: Paul E. Huck

Title: Senior Vice President and Chief Financial  
Officer

**AIR PRODUCTS DISTRIBUTION, INC.**

By: /s/ John D. Stanley

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Name: John D. Stanley

Title: Secretary

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## EXHIBIT INDEX

### Index No.

- (a)(1)(i) Offer to Purchase dated February 11, 2010.\*
  - (a)(1)(ii) Form of Letter of Transmittal.\*
  - (a)(1)(iii) Form of Notice of Guaranteed Delivery.\*
  - (a)(1)(iv) Form of Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees.\*
  - (a)(1)(v) Form of Letter to Clients for use by Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees.\*
  - (a)(1)(vi) Guidelines for Certification of Taxpayer Identification Number on Substitute Form W-9.\*
  - (a)(1)(vii) Form of summary advertisement dated February 11, 2010.\*
  - (a)(5)(i) Text of press release issued by Air Products, dated February 5, 2010.\*
  - (a)(5)(ii) Text of press release issued by Air Products, dated February 11, 2010.\*
  - (a)(5)(iii) Text of message from John McGlade, dated February 12, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on February 12, 2010).\*
  - (a)(5)(iv) Transcript of John McGlade and Paul Huck's presentation at the Barclays 2nd Annual Industrial Select Conference, dated February 17, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on February 18, 2010).\*
  - (a)(5)(v) Text of press release issued by Air Products, dated February 22, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on February 22, 2010).\*
  - (a)(5)(vi) Presentation of Paul Huck at the Morgan Stanley Global Basic Materials Conference, dated February 25, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on February 25, 2010).\*
  - (a)(5)(vii) Transcript of Paul Huck's presentation at the Morgan Stanley Global Basic Materials Conference, dated February 25, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on March 2, 2010).\*
  - (a)(5)(viii) Text of message from John McGlade, dated March 5, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on March 5, 2010).\*
  - (a)(5)(ix) Text of press release issued by Air Products, dated March 5, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on March 5, 2010).\*
  - (a)(5)(x) Text of press release issued by Air Products, dated April 1, 2010.\*
  - (a)(5)(xi) Text of message from John McGlade, dated April 6, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on April 6, 2010).\*
  - (a)(5)(xii) Text of press release issued by Air Products, dated April 22, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on April 22, 2010).\*
  - (a)(5)(xiii) Transcript of John McGlade and Paul Huck's presentation, dated April 22, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on April 22, 2010).\*
  - (a)(5)(xiv) Materials from John McGlade meeting with employees, dated May 12, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 12, 2010).\*
  - (a)(5)(xv) Text of press release issued by Air Products, dated May 13, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 13, 2010).\*
  - (a)(5)(xvi) Notice of Intent by Air Products and Chemicals, Inc. to Nominate Individuals for Election as Directors and Propose Stockholder Business at the 2010 Annual Meeting of Stockholders of Airgas, Inc., dated May 13, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 13, 2010).\*
  - (a)(5)(xvii) Text of message from John McGlade, dated May 13, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 13, 2010).\*
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- (a)(5)(xviii) Presentation of Paul Huck at the Barclays ROC Stars Conference, dated May 18, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 18, 2010).\*
  - (a)(5)(xix) Presentation of Paul Huck to investors, dated May 17, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 19, 2010).\*
  - (a)(5)(xx) Transcript of Paul Huck's presentation, dated May 18, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on May 19, 2010).\*
  - (a)(5)(xxi) Text of press release issued by Air Products, dated June 1, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 1, 2010).\*
  - (a)(5)(xxii) Amended and restated transcript of Paul Huck's presentation, dated May 18, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 3, 2010).\*
  - (a)(5)(xxiii) Slides from presentation of John McGlade at the Sanford C. Bernstein Strategic Decisions Conference, dated June 3, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 3, 2010).\*
  - (a)(5)(xxiv) Slides from presentation of Paul Huck at the Goldman Sachs Basic Materials Conference, dated June 3, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 3, 2010).\*
  - (a)(5)(xxv) Transcript of John McGlade's presentation at the Sanford C. Bernstein Strategic Decisions Conference, dated June 3, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 4, 2010).\*
  - (a)(5)(xxvi) Transcript of Paul Huck's presentation at the Goldman Sachs Basic Materials Conference, dated June 3, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 4, 2010).\*
  - (a)(5)(xxvii) Slides from presentation of Paul Huck at the J.P. Morgan Diversified Industries Conference, dated June 9, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 9, 2010). Exhibit (a)(5)(xxvii) refers to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. For clarification, such safe harbor provisions do not apply to forward looking statements made in connection with the Offer.\*
  - (a)(5)(xxviii) Transcript of Paul Huck's presentation at the J.P. Morgan Diversified Industries Conference, dated June 9, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 10, 2010).\*
  - (a)(5)(xxix) Text of press release issued by Air Products, dated June 16, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 16, 2010). Exhibit (a)(5)(xxix) refers to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. For clarification, such safe harbor provisions do not apply to forward looking statements made in connection with the Offer.\*
  - (a)(5)(xxx) Preliminary Proxy Statement in respect of Airgas, Inc. filed by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 16, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 16, 2010).\*
  - (a)(5)(xxxi) Slides from presentation of John McGlade at the William Blair & Company 30th Annual Growth Stock Conference, dated June 17, 2010 (incorporated by reference to the Schedule 14A filed with the SEC by Air Products and Chemicals, Inc. and Air Products Distribution, Inc. on June 17, 2010). Exhibit (a)(5)(xxxi) refers to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. For clarification, such safe harbor provisions do not apply to forward looking statements made in connection with the Offer.
  - (b)(1) Commitment letter described in Section 10, "Source and Amount of Funds" of the Offer to Purchase.\*
  - (b)(2) Amended and Restated Commitment Letter dated March 3, 2010 among Air Products and Chemicals, Inc., JPMorgan Chase Bank, N.A. and J.P. Morgan Securities Inc.\*
  - (b)(3) Accession Letter dated March 3, 2010 among Air Products and Chemicals, Inc., The Royal Bank of Scotland plc and RBS Securities Inc.\*
  - (b)(4) Accession Letter dated March 3, 2010 among Air Products and Chemicals, Inc., Deutsche Bank AG Cayman Island Branch and Deutsche Bank Securities Inc.\*
  - (b)(5) Accession Letter dated March 3, 2010 among Air Products and Chemicals, Inc., BNP Paribas and BNP Paribas Securities Corp.\*
  - (b)(6) Accession Letter dated March 3, 2010 among Air Products and Chemicals, Inc., HSBC Securities (USA) Inc. and HSBC Bank USA, N.A.\*
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- (b)(7) Accession Letter dated March 3, 2010 between Air Products and Chemicals, Inc. and The Bank of Tokyo-Mitsubishi UFJ, Ltd.\*
- (b)(8) Credit Agreement dated March 31, 2010 among Air Products and Chemicals, Inc., the lenders parties thereto and JPMorgan Chase Bank, N.A., as administrative agent.\*
- (d) Not applicable.
- (g) Not applicable.
- (h) Not applicable.

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\* Previously filed