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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of Earliest Event Reported):

August 21, 2008

**Air Products and Chemicals, Inc.**

\_\_\_\_\_  
(Exact name of registrant as specified in its charter)

Delaware

1-4534

23-1274455

\_\_\_\_\_  
(State or other jurisdiction  
of incorporation)

\_\_\_\_\_  
(Commission  
File Number)

\_\_\_\_\_  
(I.R.S. Employer  
Identification No.)

7201 Hamilton Boulevard, Allentown, Pennsylvania

18195-1501

\_\_\_\_\_  
(Address of principal executive offices)

\_\_\_\_\_  
(Zip Code)

Registrant's telephone number, including area code:

610 481-4911

Not Applicable

\_\_\_\_\_  
Former name or former address, if changed since last report

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 7.01 Regulation FD Disclosure.**

On August 21, 2008, the company published the Quarter-to-Date Sales Update, including consolidated sales and product volumes for July 2008 on its website at <http://www.airproducts.com/Invest/financialnews/current.htm>. A copy is attached as Exhibit 99.1 to this Form 8-K. The Quarter-to-Date Sales Update is being furnished; it is not deemed to be filed.

**Item 9.01 Financial Statements and Exhibits.**

(c) Exhibits

99.1 Quarter-to-Date Sales Update dated August 21, 2008.

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Air Products and Chemicals, Inc.

August 21, 2008

By: *Paul E. Huck*

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*Name: Paul E. Huck*

*Title: Senior Vice President and Chief Financial Officer*

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Exhibit Index

| <u>Exhibit No.</u> | <u>Description</u>                                  |
|--------------------|---|
| 99.1               | Quarter-to-Date Sales Update dated August 21, 2008. |

Quarter-to-Date  
Sales Update

August 21, 2008

| (% change versus PY)                         | July 2008 | Commentary  |
|--|-----------|---|
| <b>Consolidated Sales</b>                    | 21%       | Solid underlying growth of 6% driven by Merchant and Electronics & Performance Materials segments, partially offset by lower Equipment & Energy segment sales (2%). Currency +5%, and natural gas pass-thru +12%. |
| <b>Merchant Gases</b>                        | 16%       | Strong pricing across all regions and better volumes in North America and Asia. Currency +9%.   |
| <b>Tonnage Gases</b>                         | 44%       | Volume growth driven by new plant start-ups. Higher natural gas pass-thru +38%. Currency +3%.   |
| <b>Electronics and Performance Materials</b> | 10%       | Strong sales growth driven by volume growth in Electronics net of restructuring activities, and volume and price increases in Performance Materials. Currency +3%.  |

Note: We are providing this information at the request of financial analysts and investors who have indicated that it would assist them in understanding recent business trends at Air Products. This information is based on current estimates and data that we believe in our judgment to be reliable. Please keep in mind that sales are not the only factors that determine future financial performance. Many other factors including raw material, energy, distribution and overhead costs and other price changes also influence results. Effective July 2008, Merchant Gases includes European Healthcare; prior periods have been restated.