
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-3
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 Number)

7201 Hamilton Boulevard
Allentown, Pennsylvania 18195-1501
Telephone: (610) 481-4911
(Address, including zip code, and telephone number, including
area code, of registrant's principal executive offices)

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AIR PRODUCTS AND CHEMICALS, INC.
7201 HAMILTON BOULEVARD
ALLENTOWN, PENNSYLVANIA 18195-1501
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Approximate date of commencement of proposed sale to public: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 (the "Securities Act"), other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer
(Do not check if a smaller reporting company)

Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered/ Proposed maximum offering price per unit/ Proposed maximum aggregate offering price/ Amount of registration fee
Debt Securities	
Common Stock	
Preferred Stock	
Warrants	
Depository Shares	(1) (2) (3)

- (1) An indeterminate aggregate initial offering price or number of the securities of each identified class is being registered as may from time to time be issued at indeterminate prices. Separate consideration may or may not be received for securities that are issuable on exercise, conversion or exchange of other securities.
- (2) In accordance with Rules 456(b) and 457(r), the registrant is deferring payment of all registration fees.
- (3) Any securities registered hereunder may be sold separately or as units with other securities registered hereunder.

Prospectus

AIR PRODUCTS AND CHEMICALS, INC.

DEBT SECURITIES
PREFERRED STOCK
DEPOSITARY SHARES
COMMON STOCK
WARRANTS

We may offer these securities in one or more offerings. We will provide the specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is November 22, 2011

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WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room, 450 Fifth Street, N.W., Washington, D.C. 20549. You may call the SEC at 1-800-SEC-0330 for further information on the SEC's Public Reference Room. You may also access our SEC filings at the SEC's web site at <http://www.sec.gov>.

The SEC allows us to "incorporate by reference" into this prospectus the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until this offering is completed:

- Annual Report on Form 10-K for the year ended September 30, 2011; and
- the description of our common stock in our Form 8-A that was filed on March 20, 1998.

You may request a copy of these filings at no cost, by writing to or telephoning us at:

Corporate Secretary's Office
Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, Pennsylvania 18195-1501
Telephone: (610) 481-4911

You should rely only on the information incorporated by reference or provided in this prospectus or the accompanying prospectus supplement. We have not authorized anyone to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus, any prospectus supplement or any document which we incorporate by reference is accurate as of any date other than the date on its cover.

THE COMPANY

Air Products is a Delaware corporation originally founded in 1940. We serve energy, electronics, chemicals, steel, and manufacturing customers globally with a unique portfolio of products, services and solutions that include atmospheric gases, process and specialty gases, performance materials, equipment and services. We are the world's largest supplier of hydrogen and helium and have built leading positions in growth markets such as semiconductor materials, refinery hydrogen, natural gas liquefaction, and advanced coatings and adhesives. As used in this prospectus unless the context indicates otherwise, the terms "we," "our," "us," "Company," or "registrant" include subsidiaries and predecessors of the registrant and its subsidiaries.

RATIOS OF EARNINGS TO FIXED CHARGES

	YEAR ENDED SEPTEMBER 30,				
	2007	2008	2009	2010	2011
Ratio of earnings to fixed charges	<u>7.1</u>	<u>7.5</u>	<u>5.6</u>	<u>9.5</u>	<u>10.9</u>

The ratio of earnings to fixed charges is determined by dividing earnings, which includes income from continuing operations before taxes, undistributed earnings of less-than-fifty-percent-owned affiliates, and fixed charges, by fixed charges. Fixed charges consist of interest on all indebtedness plus that portion of operating lease rentals representative of the interest factor (deemed to be 21% of operating lease rentals).

USE OF PROCEEDS

Unless otherwise specified in the applicable prospectus supplement, the net proceeds we receive from the sale of the securities offered by this prospectus and the accompanying prospectus supplement will be used for general corporate purposes. General corporate purposes may include the repayment of debt, investments in or extensions of credit to our subsidiaries, redemption of common stock or preferred stock and the financing of possible acquisitions or business expansion. The net proceeds may be invested temporarily or applied to repay short-term debt until they are used for their stated purpose.

DESCRIPTION OF SECURITIES

Debt Securities

The following description of the terms of the debt securities sets forth general terms that may apply to the debt securities. The particular terms of any debt securities will be described in the prospectus supplement relating to those debt securities.

The debt securities will be our senior debt securities. The debt securities will be issued under an indenture dated as of January 10, 1995, between us and The Bank of New York Mellon Trust Company, N.A. as successor to U.S. Bank National Association (formerly, Wachovia Bank, National Association and initially First Fidelity Bank, National Association), as trustee (the "Indenture").

The following is a summary of the most important provisions of the Indenture. A copy of the Indenture is an exhibit to the registration statement of which this prospectus is a part. Section references below are to the section in the Indenture. The referenced sections of the Indenture are incorporated by reference.

General

The Indenture does not limit the amount of debt securities that we may issue. The Indenture provides that debt securities may be issued up to the principal amount authorized by us from time to time. The debt securities will be unsecured and will have the same rank as all of our other unsecured and unsubordinated debt.

The debt securities may be issued in one or more separate series. The prospectus supplement relating to the particular series of debt securities being offered will specify the particular amounts, prices and terms of those debt securities. These terms may include:

- the title of the debt securities;
 - any limit upon the aggregate principal amount issued;
 - the maturity date or dates, or the method of determining the maturity dates;
 - the interest rate or rates, or the method of determining those rates;
 - the interest payment dates and the regular record dates;
 - the places where payments may be made;
 - any mandatory or optional redemption provisions;
 - any sinking fund or analogous provisions;
 - the portion of principal amount of the debt security payable upon acceleration of maturity if other than the full principal amount;
 - any deletions of, or changes or additions to, the events of default or covenants;
 - the form of the debt securities;
 - if other than U.S. dollars, the currency or currencies, including composite currencies, in which payments on the debt securities will be payable and whether we or a holder may elect payment to be made in a different currency;
 - the method of determining the amount of any payments on the debt securities which are linked to an index;
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- whether the debt securities will be issued in the form of one or more global securities in temporary or definitive form;
- any terms relating to the delivery of the debt securities if they are to be issued upon the exercise of warrants;
- whether and on what terms we will pay additional amounts to holders of the debt securities that are not U.S. persons in respect of any tax, assessment or governmental charge withheld or deducted and, if so, whether and on what terms we will have the option to redeem the debt securities rather than pay the additional amounts;
- any conversion or exchange provisions;
- any terms for the attachment to the debt securities of warrants, options or other rights to purchase or sell our securities;
- any special United States Federal income tax or other considerations with respect to the debt securities; and any other specific terms of the debt securities.

(Section 2.3)

Unless otherwise specified in the prospectus supplement, debt securities denominated in U.S. dollars will be issued in denominations of \$1,000 or an integral multiple of \$1,000. (Section 2.8)

We may issue some of the debt securities as original issue discount debt securities. Original issue discount securities bear no interest or bear interest at below-market rates and will be sold at a discount below their stated principal amount.

Certain Covenants of the Company

Limitation on Liens — Subject to the exceptions set forth below under “Exempted Indebtedness,” we covenant that we will not create or assume, nor will we permit any Restricted Subsidiary (as hereinafter defined) to create or assume, any,

- mortgage
- security interest,
- pledge, or
- lien

(together, we refer to these transactions as “liens”) of or upon any Principal Property (as defined below), or any underlying real estate of such property, or shares of capital stock or indebtedness of any Restricted Subsidiary, whether owned at the date of the Indenture or thereafter acquired, without equally and ratably securing the outstanding debt securities. This restriction will not apply to certain permitted liens, including the following:

- (i) liens on any Principal Property which are created or assumed contemporaneously with, or within 120 days after (or in the case of any such Principal Property which is being financed on the basis of long-term contracts or similar financing arrangements for which a firm commitment is made by one or more banks, insurance companies or other lenders or investors (not including us or any Restricted Subsidiary), then within 360 days after), the completion of the acquisition, construction or improvement of such Principal Property to secure or provide for the payment of any part of the purchase price of such property or the cost of such construction or improvement, or liens on any Principal Property existing at the time of acquisition thereof;
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- (ii) liens on property or shares of capital stock or indebtedness of a corporation existing at the time such corporation is merged into or consolidated with us or a Restricted Subsidiary or at the time of a sale, lease or other disposition of the properties of a corporation substantially as an entirety to us or a Restricted Subsidiary;
- (iii) liens on property or shares of capital stock or indebtedness of a corporation existing at the time such corporation becomes a Restricted Subsidiary;
- (iv) liens to secure indebtedness of a Restricted Subsidiary to us or to another Restricted Subsidiary, but only so long as such indebtedness is held by us or a Restricted Subsidiary;
- (v) liens in favor of the United States of America or any State thereof, or any department, agency or political subdivision of the United States of America or any State thereof, to secure certain payments pursuant to any contract or statute, including liens to secure indebtedness of the pollution control or industrial revenue bond type, or to secure indebtedness incurred for the purpose of financing all or any part of the purchase price or cost of constructing or improving property subject to such liens;
- (vi) liens in favor of any customer arising in respect of certain payments made by or on behalf of such customer for goods produced for or services rendered to such customer in the ordinary course of business not exceeding the amount of such payments;
- (vii) liens to extend, renew or replace in whole or in part any lien referred to in the foregoing clauses (1) to (6), or in this clause (7), or any lien created prior to and existing on the date of the Indenture, provided that the principal amount of indebtedness secured thereby shall not exceed the principal amount of indebtedness so secured at the time of such extension, renewal or replacement, and that such extension, renewal or replacement shall be limited to all or a part of the property subject to the lien so extended, renewed or replaced (plus improvements on such property); and
- (viii) certain statutory liens, liens for taxes and certain other liens.

(Section 3.6)

Limitations on Sale and Lease-Back Transactions — Subject to the exceptions set forth below under “Exempted Indebtedness,” sale and lease-back transactions by us or any Restricted Subsidiary of any Principal Property which has been owned and operated by us or a Restricted Subsidiary for more than 120 days are prohibited unless

- (i) the property involved is property which could be the subject of a lien without equally and ratably securing the debt securities;
- (ii) an amount equal to the Attributable Debt (as hereinafter defined) of any such sale and lease-back transaction is applied to the acquisition of another Principal Property of equal or greater fair market value or to retirement of indebtedness for borrowed money (including the securities) which by its terms matures on or is renewable at the option of the obligor to a date more than twelve months after the creation of such indebtedness; or
- (iii) the lease involved is for a term (including renewals) of not more than three years.

(Section 3.7)

Exempted Indebtedness — Either we or a Restricted Subsidiary may create or assume liens and enter into sale and lease-back transactions, notwithstanding the limitations outlined above, provided that at the time thereof and after giving effect thereto the aggregate amount of indebtedness secured by all such liens and Attributable Debt of all such sale and lease-back transactions outstanding shall not exceed 5% of Consolidated Net Tangible Assets (as hereinafter defined). (Section 3.8)

Limitations on Mergers, Consolidations and Sales of Assets — If, upon our consolidation or merger with or into any other corporation, or upon any sale, conveyance or lease of substantially all our properties, any Principal Property would become subject to any lien, we, prior to such event, will secure the debt securities equally and ratably with any of our other obligations then entitled thereto by a direct lien on all such Principal Property prior to all other liens other than any theretofore existing thereon. (Section 3.9)

Certain Definitions

The term “Restricted Subsidiary” means any Subsidiary

- (a) substantially all the property of which is located, or substantially all the business of which is carried on, within the United States and
- (b) which owns or leases a Principal Property.

The term “Principal Property” means any manufacturing plant, research facility or warehouse owned or leased by us or any of our subsidiaries which is located within the United States and has a net book value exceeding the greater of \$5,000,000 and 1% of the shareholders’ equity of our company and our consolidated subsidiaries, excluding any property which the board of directors by resolution declares is not of material importance to our total business as consolidated with the business of our subsidiaries.

The term “Attributable Debt” means the present value (discounted as provided in the senior indenture) of the obligation of a lessee for required rental payments for the remaining term of any lease.

The term “Consolidated Net Tangible Assets” means at any time the total of all assets appearing on the most recent consolidated balance sheet of us and our consolidated subsidiaries, prepared in accordance with generally accepted accounting principles, at our and their net book values (after deducting related depreciation, depletion, amortization and all other valuation reserves which, in accordance with such principles, are set aside in connection with the business conducted), but excluding goodwill, trademarks, patents, unamortized debt discount and all other like segregated intangible assets, and amounts on the asset side of such balance sheet for our capital stock, all as determined in accordance with such principles, less Consolidated Current Liabilities.

The term “Consolidated Current Liabilities” means the aggregate of the current liabilities of us and our consolidated subsidiaries appearing on the consolidated balance sheet of our company and our consolidated subsidiaries, all as determined in accordance with generally accepted accounting principles. (Section 1.1)

Other than the restrictions on liens and sale and lease-back transactions described above, neither the Indenture nor the debt securities afford you protection in the event of a highly leveraged transaction involving us or any of our subsidiaries, including any takeover, recapitalization or other restructuring that may result in a sudden and significant decline in credit rating.

Events of Default, Waiver and Notice

As to any series of securities, an “event of default” is defined in the Indenture as being any of the following events:

- (i) default for 30 days in the payment of any interest on the securities of such series;
 - (ii) default in the payment of principal or premium due on the securities of any series;
-

- (iii) default in the payment of any sinking fund installment on the securities of such series, when due;
- (iv) our default for 90 days in the performance of any other of the covenants or agreements in the Indenture (other than those set forth exclusively in the terms of any other series of securities);
- (v) certain events of bankruptcy, insolvency and reorganization of our company; or
- (vi) any other events as may be established in any applicable supplement.

(Section 5.1)

No event of default with respect to any particular series of securities necessarily constitutes an event of default with respect to any other series of securities. (Section 5.11)

The trustee must give notice of a default to the holders of the series of debt securities on which the default exists within 90 days unless the default is cured or waived. However, the trustee may withhold this notice if the trustee considers it in the interest of the holders of securities of such series to do so. The trustee may not withhold notice in the event of a payment default with regard to principal, interest or a sinking fund. (Section 5.11)

If an event of default has occurred and is continuing:

- as described in clause (1), (2) or (3) above, either the trustee or the holders of 25% in principal amount of the securities of such series then outstanding may declare the principal (or, in the case of discounted securities, the amount specified in the terms thereof) of all such securities to be due and payable immediately.
- as described in clause (4) or (5) above, either the trustee or the holders of not less than 25% in principal amount of all affected securities, voting as a single class, may declare the principal (or, in the case of discounted securities, the amount specified in the terms thereof) of all securities to be due and payable immediately.

However, upon certain conditions past defaults as described in clause (4) or (5) above may be waived by the holders of a majority in principal amount of the affected securities then outstanding, except for defaults in

- the payment of principal of, or any premium or interest on, such securities or
- with respect to any covenant or provision which may not be amended without the approval of each holder affected.

(Sections 5.1 and 5.10)

The holders of a majority in principal amount of the securities of each series affected, voting as a separate class, may direct the time, method and place of conducting any proceeding for any remedy available to the trustee under the Indenture, subject to certain limitations specified in the Indenture, provided that the holders of securities shall have offered to the trustee reasonable indemnity against costs, expenses and liabilities. (Sections 5.9 and 6.2(d)) We must certify to the trustee on a yearly basis as to the absence of certain defaults. (Section 3.5)

Modification of the Indenture

Together with the trustee, and subject to the consent of the holders of at least 66 2/3% of the outstanding principal amount of the outstanding debt securities of all affected series, we may modify the Indenture or any supplement to the Indenture. Without the consent of each affected holder, we may not:

- (i) extend the final maturity of any security;
 - (ii) reduce the principal amount or rate of interest of any security;
-

- (iii) extend the time of payment of interest of any security;
- (iv) reduce the amount payable upon the redemption of any security;
- (v) reduce the amount of the principal of a discounted security payable upon acceleration of the maturity of the security or in the event of bankruptcy;
- (vi) impair the right to institute suit to enforce payment or repayment; or
- (vii) change the provisions in the indenture that relate to its modification or amendment.

(Section 8.2)

Concerning the Trustee

The Bank of New York Mellon Trust Company, N.A., the trustee under the Indenture, also performs certain cash management services for, and provides certain credit facilities to, us in the normal course of business.

Defeasance of the Indenture and Securities

We may, at any time, satisfy our obligations with respect to any payments of principal, premium or interest of any security or securities of any series by depositing in trust with the trustee:

(a) money (in the currency in which the securities are payable),

(b) in the case of securities denominated in U.S. dollars, U.S. Government Obligations (as defined in the Indenture), or a combination of U.S. Government Obligations and money, or

(c) in the case of securities denominated in a foreign currency, Foreign Government Securities (as defined in the Indenture) or a combination of Foreign Government Securities and money.

If the deposit is sufficient to make all payments of interest, principal and premium when due, our obligations with respect to such securities will be discharged and terminated (except as to certain of our obligations to the trustee), and you will be able to look only to the trust fund for any payment of principal, premium and interest on securities of such series until maturity or redemption. (Article Ten)

Under United States Federal income tax law, any deposit as described just above is viewed as a taxable exchange of the securities deposited in the trust for interests in, or for an instrument representing indebtedness of, the trust. Accordingly, at such time as we may elect to deposit securities in a trust as described above, you would be required to recognize taxable gain or loss as if the securities had been sold for an amount equal to the sum of the amount of money and the fair market value of the securities held in the trust (or, alternatively, the value of the instrument). You then may be required to include in taxable income your share of the income, gain and loss of the trust.

Alternatively, the trust might be considered a separate taxable entity, in which case you might also be taxable on original issue discount as well as interest on the instrument. You should consult your own advisors with respect to the more detailed tax consequences of such deposit and discharge, including possible liabilities with regard to tax laws other than United States Federal income tax law.

Global Securities

We may issue the debt securities of a series in whole or in part in the form of one or more global certificates that will be deposited with a depository we will identify in a prospectus supplement. We will describe the specific terms of the depository arrangement with respect to a series of debt securities in the accompanying prospectus supplement.

Upon the issuance of a global security, the depository will credit, on its book-entry registration and transfer system, the respective principal amounts of that global security to the accounts of participants in the

depository. Ownership of beneficial interests in a global security will be limited to participants or persons that hold interests through participants.

So long as the depository for a global security, or its nominee, is the registered owner of the global security, the depository or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by that global security. Except as provided in the indenture, owners of beneficial interests in securities represented by a global security will not

- (a) be entitled to have such securities registered in their names,
- (b) receive or be entitled to receive physical delivery of certificates representing such securities in definitive form,
- (c) be considered the owners or holders thereof under the Indenture or
- (d) have any rights under the Indenture.

We may, in our sole discretion, at any time determine that any series of securities issued or issuable in the form of a global security shall no longer be represented by such global security and such global security shall be exchanged for securities in definitive form pursuant to the Indenture.

(Section 2.14)

Preferred Stock

The following is a description of general terms and provisions of the preferred stock. The particular terms of any series of preferred stock will be described in the applicable prospectus supplement.

All of the terms of the preferred stock are, or will be, contained in our Restated Certificate of Incorporation and the certificate of amendment relating to each series of the preferred stock, which will be filed with the SEC at or prior to the time of issuance of the series of the preferred stock.

We are authorized to issue up to 25,000,000 shares of preferred stock, par value \$1.00 per share. As of November 22, 2011, no shares of preferred stock were outstanding. Subject to limitations prescribed by law, the board of directors is authorized at any time to issue one or more series of preferred stock.

The board of directors is authorized to determine, for each series of preferred stock, and the prospectus supplement will set forth with respect to the series the following information:

- the designation for any series by number, letter or title that shall distinguish the series from any other series of preferred stock;
- the number of shares in any series;
- whether dividends on that series of preferred stock will be cumulative;
- the dividend rate (or method for determining the rate);
- any liquidation preference per share of that series of preferred stock;
- any conversion provisions applicable to that series of preferred stock;
- any redemption or sinking fund provisions applicable to that series of preferred stock;
- any voting rights of that series of preferred stock; and — the terms of any other preferences or rights applicable to that series of preferred stock.

The preferred stock, when issued, will be fully paid and non-assessable.

Dividends

Holders of preferred stock will be entitled to receive, when, as and if declared by the board of directors, cash dividends at the rates and on the dates as set forth in the prospectus supplement. Generally, no dividends will be declared or paid on any series of preferred stock unless full dividends for all series of preferred stock, including any cumulative dividends still owing, have been or contemporaneously are declared and paid. When those dividends are not paid in full, dividends will be declared pro-rata so that the amount of dividends declared per share on each series of preferred stock will bear to each other series the same ratio that accrued dividends per share for each respective series of preferred stock bear to aggregate accrued dividends for all outstanding shares of preferred stock. In addition, generally, unless all dividends on the preferred stock have been paid, no dividends will be declared or paid on the common stock and we may not redeem or purchase any common stock.

Payment of dividends on any series of preferred stock may be restricted by loan agreements, indentures and other transactions we may enter into.

Liquidation

If we voluntarily or involuntarily liquidate, dissolve or wind up our affairs, the holders of each series of preferred stock will be entitled to receive the liquidation preference per share specified in the prospectus supplement plus any accrued and unpaid dividends. Holders of preferred stock will be entitled to receive these amounts before any distribution is made to the holders of common stock. If the amounts payable with respect to preferred stock are not paid in full, the holders of preferred stock will share ratably in any distribution of assets based upon the aggregate liquidation preference for all outstanding shares for each series. After the holders of shares of preferred stock are paid in full, they will have no right or claim to any of our remaining assets.

Neither the par value nor the liquidation preference is indicative of the price at which the preferred stock will actually trade on or after the date of issuance.

Voting

Generally, the holders of preferred stock will not be entitled to vote except as set forth in the prospectus supplement, the Restated Certificate of Incorporation or certificate of amendment or as otherwise required by law.

No Other Rights

The shares of a series of preferred stock will not have any preemptive rights, preferences, voting powers or relative, participating, optional or other special rights except as set forth in the prospectus supplement, the Restated Certificate of Incorporation or certificate of amendment or as otherwise required by law.

Transfer Agent and Registrar

The transfer agent for each series of preferred stock will be designated in the prospectus supplement.

Depository Shares

We may, at our option, elect to offer fractional shares of preferred stock, rather than full shares of preferred stock. If we do, we will issue to the public receipts for depository shares and each of these depository shares will represent a fraction of a share of a particular series of preferred stock. Each owner of a depository share will be entitled, in proportion to the applicable fractional interest in shares of preferred stock underlying that depository share, to all rights and preferences of the preferred stock underlying that depository share. Those rights include dividend, voting, redemption and liquidation rights.

The shares of preferred stock underlying the depository shares will be deposited with a depository under a deposit agreement between us, the depository and the holders of the depository receipts evidencing the depository shares. The depository will be a bank or trust company selected by us. The depository will also act as the transfer agent, registrar and dividend disbursing agent for the depository shares.

Holders of depositary receipts agree to be bound by the deposit agreement, which requires holders to take certain actions such as filing proof of residence and paying certain charges.

The following is a summary of the most important terms of the depositary shares. The deposit agreement, our Restated Certificate of Incorporation and the certificate of amendment for the applicable series of preferred stock that are, or will be, filed with the SEC will set forth all of the terms relating to the depositary shares.

Dividends

The depositary will distribute all cash dividends or other cash distributions received in respect of the series of preferred stock underlying the depositary shares to the record holders of depositary receipts in proportion to the number of depositary shares owned by those holders on the relevant record date. The record date for the depositary shares will be the same date as the record date for the preferred stock.

In the event of a distribution other than in cash, the depositary will distribute property received by it to the record holders of depositary receipts that are entitled to receive the distribution. However, if the depositary determines that it is not feasible to make the distribution, the depositary may, with our approval, adopt another method for the distribution.

The method may include selling the property and distributing the net proceeds to the holders.

Liquidation Preference

In the event of our voluntary or involuntary liquidation, dissolution or winding up, the holders of each depositary share will be entitled to receive the fraction of the liquidation preference accorded each share of the applicable series of preferred stock, as set forth in the applicable prospectus supplement.

Redemption

If a series of preferred stock underlying the depositary shares is subject to redemption, the depositary shares will be redeemed from the proceeds received by the depositary resulting from the redemption, in whole or in part, of preferred stock held by the depositary. Whenever we redeem any preferred stock held by the depositary, the depositary will redeem, as of the same redemption date, the number of depositary shares representing the preferred stock so redeemed. The depositary will mail the notice of redemption to the record holders of the depositary receipts promptly upon receiving the notice from us and not less than 35 nor more than 60 days prior to the date fixed for redemption of the preferred stock and the depositary shares.

Voting

Upon receipt of notice of any meeting at which the holders of preferred stock are entitled to vote, the depositary will mail the information contained in the notice of meeting to the record holders of the depositary receipts underlying the preferred stock. Each record holder of those depositary receipts on the record date will be entitled to instruct the depositary as to the exercise of the voting rights pertaining to the amount of preferred stock underlying that holder's depositary shares. The record date for the depositary shares will be the same date as the record date for the preferred stock. The depositary will try, as far as practicable, to vote the preferred stock underlying the depositary shares in accordance with the instructions of the holders of the depositary receipts. We will agree to take all action which may be deemed necessary by the depositary in order to enable the depositary to do so. The depositary will not vote the preferred stock to the extent that it does not receive specific instructions from the holders of depositary receipts.

Withdrawal of Preferred Stock

Owners of depositary shares are entitled, upon surrender of depositary receipts at the principal office of the depositary and payment of any unpaid amount due the depositary, to receive the number of whole shares of preferred stock underlying the depositary shares. Partial shares of preferred stock will not be issued. These holders of preferred stock will not be entitled to deposit the shares under the deposit agreement or to receive depositary receipts evidencing depositary shares for the preferred stock.

Amendment and Termination of Deposit Agreement

The form of depositary receipt evidencing the depositary shares and any provision of the deposit agreement may be amended at any time and from time to time by agreement between us and the depositary. However, any amendment which materially and adversely alters the rights of the holders of depositary shares, other than any change in fees, will not be effective unless the amendment has been approved by at least a majority of the depositary shares then outstanding. The deposit agreement may be terminated by us or the depositary only if:

- all outstanding depositary shares have been redeemed or
- there has been a final distribution in respect of the preferred stock in connection with our dissolution and such distribution has been made to all the holders of depositary shares.

Charges of Depositary

We will pay all transfer and other taxes and governmental charges arising solely from the existence of the depositary arrangements. We will also pay charges of the depositary in connection with the initial deposit of the preferred stock and the initial issuance of the depositary shares, any redemption of the preferred stock and all withdrawals of preferred stock by owners of depositary shares. Holders of depositary receipts will pay transfer, income and other taxes and governmental charges and certain other charges as provided in the deposit agreement to be for their accounts. In certain circumstances, the depositary may refuse to transfer depositary shares, may withhold dividends and distributions and sell the depositary shares evidenced by the depositary receipt if the charges are not paid.

Reports to Holders

The depositary will forward to the holders of depositary receipts all reports and communications we deliver to the depositary that we are required to furnish to the holders of the preferred stock. In addition, the depositary will make available for inspection by holders of depositary receipts at the principal office of the depositary, and at other places as it may from time to time deem advisable, any reports and communications we deliver to the depositary as the holder of preferred stock.

Liability and Legal Proceedings

Neither we nor the depositary will be liable if either of us are prevented or delayed by law or any circumstance beyond our control in performing our respective obligations under the deposit agreement. Our obligations and those of the depositary will be limited to performance in good faith of our respective duties under the deposit agreement. Neither we nor the depositary will be obligated to prosecute or defend any legal proceeding in respect of any depositary shares or preferred stock unless satisfactory indemnity is furnished. We and the depositary may rely on written advice of counsel or accountants, on information provided by holders of depositary receipts or other persons believed in good faith to be competent to give such information and on documents believed to be genuine and to have been signed or presented by the proper party or parties.

Resignation and Removal of Depositary

The depositary may resign at any time by delivering a notice to us of its election to do so. We may remove the depositary at any time. Any such resignation or removal will take effect upon the appointment of a successor depositary and its acceptance of such appointment. The successor depositary must be appointed within 60 days after delivery of the notice for resignation or removal. In addition, the successor depositary must be a bank or trust company having its principal office in the United States of America and having a combined capital and surplus of at least \$150,000,000.

United States Federal Income Tax Consequences

Owners of the depositary shares will be treated for United States Federal income tax purposes as if they were owners of the preferred stock underlying the depositary shares. Accordingly, the owners will be entitled to take into account for United States Federal income tax purposes income and deductions to which they would be entitled if they were holders of the preferred stock. In addition:

- no gain or loss will be recognized for United States Federal income tax purposes upon the withdrawal of preferred stock in exchange for depositary shares;
- the tax basis of each share of preferred stock to an exchanging owner of depositary shares will, upon the exchange, be the same as the aggregate tax basis of the depositary shares exchanged; and — the holding period for preferred stock in the hands of an exchanging owner of depositary shares will include the period during which the person owned the depositary shares.

Common Stock

As of the date of this prospectus, we are authorized to issue up to 300,000,000 shares of common stock, \$1.00 par value per share. As of October 31, 2011, 210,464,383 shares of common stock were outstanding.

Dividends

Holders of common stock are entitled to receive dividends, in cash, securities, or property, as may from time to time be declared by our board of directors, subject to the rights of the holders of the preferred stock.

Voting

Each holder of common stock is entitled to one vote per share on all matters requiring a vote of the stockholders.

Rights Upon Liquidation

In the event of our voluntary or involuntary liquidation, dissolution, or winding up, the holders of common stock will be entitled to share equally in our assets available for distribution after payment in full of all debts and after the holders of preferred stock have received their liquidation preferences in full.

Miscellaneous

Shares of common stock are not redeemable and have no subscription, conversion or preemptive rights.

Warrants

We may issue warrants for the purchase of debt securities, preferred stock or common stock. Warrants may be issued independently or together with our debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants and will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. A copy of the warrant agreement will be filed with the SEC in connection with the offering of warrants.

The prospectus supplement relating to a particular issue of warrants will describe the terms of those warrants, including the following:

- the title of the warrants;
 - any offering price for the warrants;
-

- the aggregate number of the warrants;
- the designation and terms of the securities that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities together with which the warrants are issued and the number of warrants issued with each security;
- any date from and after which the warrants and any securities issued with them will be separately transferable;
- the principal amount of or number of shares of stock that may be purchased upon exercise of a warrant and the price at which the debt securities may be purchased upon exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- any minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price and the exercise price are payable;
- if applicable, a discussion of material United States Federal, or other income tax considerations;
- any antidilution provisions of the warrants;
- any redemption or call provisions applicable to the warrants;
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange and exercise of the warrants;
- whether the warrants represented by the warrant certificates or debt securities that may be issued upon exercise of the warrants will be issued in registered or bearer form; and any information with respect to book-entry procedures.

PLAN OF DISTRIBUTION

We may sell the securities in any of four ways:

- (i) directly to purchasers;
- (ii) through underwriters;
- (iii) through agents; or
- (iv) through dealers.

We may solicit offers to purchase securities directly or by the means of designated agents from time to time. Any such agent, who may be deemed to be an underwriter as that term is defined in the Securities Act of 1933, involved in the offer or sale of the securities in respect of which this prospectus is delivered will be named, and any commissions payable by us to such agent will be set forth, in the prospectus supplement. Unless otherwise indicated in the prospectus supplement, any such agent will be acting on a best efforts basis for the period of its appointment. Agents may be customers of, engage in transactions with, or perform services for, us in the ordinary course of business.

LEGAL OPINIONS

The legality of the securities in respect of which this Prospectus is being delivered will be passed on for us by Ann E. Padjen, Esq., Senior Corporate and Finance Counsel for the Company and for any underwriters by Cravath, Swaine & Moore LLP, Worldwide Plaza, 825 Eighth Avenue, New York, New York 10019. We pay a salary to Ms. Padjen in her indicated capacity, she is a participant in various employee benefit plans offered to our employees generally, and she owns shares of our common stock and participates in our long-term incentive program, which entitles executives to stock options and deferred stock units. Cravath, Swaine & Moore LLP from time to time acts as special counsel for the Company.

EXPERTS

The Company's consolidated financial statements and schedules as of 30 September 2011 and 2010, and for each of the years in the three-year period ended 30 September 2011, and management's assessment of the effectiveness of internal control over financial reporting as of 30 September 2011 have been incorporated by reference herein in reliance of the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing.

PART II. INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

Registration Fee	\$	*
Printing Fees		15,000
Accountants' Fees		10,000
Rating Agency Fees		850,000
Fees and Expenses of trustee		10,000
Miscellaneous		15,000
Total	\$	900,000

* In accordance with Rule 456(b), we are deferring payment of the registration fee for the securities offered by this prospectus.

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware Corporation Law gives corporations the power to indemnify officers and directors under certain circumstances.

Article Ninth of our Restated Certificate of Incorporation contains provisions which provide for indemnification of certain persons (including officers and directors). The Restated Certificate of Incorporation is filed as an exhibit to our Annual Report on Form 10-K for the fiscal year ended September 30, 1987.

We maintain insurance that generally insures our officers and directors and the officers and directors of our subsidiaries (as defined in the insurance policy) against liabilities incurred in their professional capacities, and insures us with respect to amounts to which officers and directors become entitled as indemnification payments from us, subject to certain specified exclusions and deductible and maximum amounts. We also maintain an insurance policy that protects, among others, certain of our officers and directors and certain of the officers and directors of our subsidiaries against liabilities incurred for Breach of Fiduciary Duty (as defined in the insurance policy) with respect to their performance of their duties and responsibilities in connection with certain of our pension and retirement plans, or the plans of certain of our subsidiaries, subject to certain specified exclusions and deductible and maximum amounts.

ITEM 16. EXHIBITS.

The following Exhibits are filed as part of this Registration Statement:

Exhibit 1.1	Form of Agency Agreement. (Incorporated by reference to Exhibit 1 to the Company's Registration Statement No. 333-33851.)
Exhibit 1.2	Form of Underwriting Agreement for Debt Securities (Incorporated by reference to Exhibit 1.2 to the Company's Registration Statement No. 333-155725).
Exhibit 3.1	By-Laws As Amended and Restated of the Company effective July 21, 2011. (Incorporated by reference to Exhibit 3 to the Company's Form 8-K Report dated July 21, 2011.)
Exhibit 3.2	Restated Certificate of Incorporation of the Company. (Incorporated by reference to Exhibit 3.2 to the Company's Form 10-K Report for the fiscal year ended September 30, 1987.)
Exhibit 3.3	Amendment to the Restated Certificate of Incorporation of the Company dated January 25, 1996. (Incorporated by reference to Exhibit 3.3 to the Company's Form 10-K Report for the fiscal year ended September 30 1996.)
Exhibit 4.1	Indenture dated as of January 10, 1995, between the Company and The Bank of New York Mellon Trust Company, N.A., as successor to U.S. Bank National Association (formerly Wachovia Bank, National Association and initially First Fidelity Bank, National Association), as Trustee. (Incorporated by reference to Exhibit 4(a) to the Company's Registration Statement No. 33-57357.)

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Exhibit 4.2	Form of Fixed Rate Medium-Term Note. (Incorporated by reference to Exhibit 4(b) to the Company's Registration Statement No. 333-33851.)
Exhibit 4.3	Form of Floating Rate Medium-Term Note. (Incorporated by reference to Exhibit 4(c) to the Company's Registration Statement No. 333-33851.)
Exhibit 4.4	Form of Fixed Rate Currency Indexed Medium-Term Note. (Incorporated by reference to Exhibit 4(d) to the Company's Registration Statement No. 333-33851.)
Exhibit 4.5	Form of S&P 500 Linked Medium-Term Note. (Incorporated by reference to Exhibit 4(e) to the Company's Registration Statement No. 333-33851.)
Exhibit 4.6	Form of senior debt security (contained in Exhibit 4.1).
Exhibit 4.7	Form of Preferred Stock Certificate. (To be filed as an exhibit to a current report of the Company and incorporated by reference in this registration statement)
Exhibit 4.8	Form of Deposit Agreement. (To be filed as an exhibit to a current report of the Company and incorporated by reference in this registration statement)
Exhibit 4.9	Form of Deposit Receipt. (To be filed as an exhibit to a current report of the Company and incorporated by reference in this registration statement)
Exhibit 4.10	Form of Warrant Agreement. (To be filed as an exhibit to a current report of the Company and incorporated by reference in this registration statement)
Exhibit 4.11	Form of Warrant Certificate. (To be filed as an exhibit to a current report of the Company and incorporated by reference in this registration statement)
Exhibit 4.12	Rights Agreement, dated as of 19 March 1998, between the Company and First Chicago Trust Company of New York. (Incorporated by reference to Exhibit 1 to the Company's Form 8-A Registration Statement dated 19 March 1998, as amended by Form 8-A/A dated 16 July 1998.)
Exhibit 5	Opinion of Company counsel as to legality of the securities to be issued.
Exhibit 12	Computation of Ratios of Earnings to Fixed Charges (Incorporated by reference to Exhibit 12 to the Company's Annual Report on Form 10-K for the year ended September 30, 2011.)
Exhibit 23.1	Consent of KPMG LLP.
Exhibit 23.2	Consent of Company counsel (contained in Exhibit 5).
Exhibit 24	Power of Attorney.
Exhibit 25	Form T-1 Statement of Eligibility and Qualification under the Trust Indenture Act of 1939 of The Bank of New York Mellon Trust Company, N.A., as trustee under the senior indenture.

ITEM 17. UNDERTAKINGS.

The undersigned registrant hereby undertakes:

(2) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

(3) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(4) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(6) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

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(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(7) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(8) The undersigned registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under Subsection (a) of section 310 of the Trust Indenture Act (the "Act") in accordance with the rules and regulations prescribed by the Commission under section 305(b)(2) of the Act.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, Pennsylvania 18195-1501

Re: Universal Shelf - 2011

Ladies and Gentlemen:

I am Senior Corporate and Finance Counsel of Air Products and Chemicals, Inc., a Delaware corporation (the "Company"). I am familiar with the Registration Statement on Form S-3 filed by the Company with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act") on November 22, 2011 (the "Registration Statement"). The Registration Statement relates to the issuance and sale from time to time, pursuant to Rule 415 of the General Rules and regulations promulgated under the Securities Act, of the following securities, in one or more foreign currencies, currency unit or units or composite currency or currencies as shall be designated by the Company:

(i) debt securities of the Company, in one or more series (in each case, the "Debt Securities"), which would be issued pursuant to the Indenture dated January 10, 1995, between the Company and The Bank of New York Mellon Trust Company, N.A. as trustee, which Indenture is filed as an exhibit to the Registration Statement (the "Indenture");

(ii) shares of preferred stock of the Company, \$1.00 par value per share, (the "Preferred Stock");

(iii) shares of the Company's Preferred Stock represented by depositary shares (the "Depositary Shares"), evidenced by depositary receipts (the "Receipts"), which may be issued pursuant to one or more deposit agreements (each a "Deposit Agreement") proposed to be entered into between the Company and a depositary to be named therein; and

(iv) shares of common stock of the company, \$1.00 par value per share (the "Common Stock");

(v) warrants to purchase Debt Securities, Preferred Stock or Common Stock (collectively, the "Warrants") under one or more warrant agreements (each a "Warrant Agreement") proposed to be entered into between the Company and warrant agent(s) to be named therein (each a "Warrant Agent"); and

(vi) such indeterminate amount of Debt Securities and number of shares of Preferred Stock or Common Stock as may be issued upon conversion, exchange or exercise of any Warrants, including such shares of Preferred Stock or Common Stock as may be issued pursuant to anti-dilution and adjustments, in amounts, at prices and on terms to be determined at the time of offering (the "Indeterminate Securities").

The Debt Securities, the Preferred Stock, the Depositary Shares, the Common Stock, the Warrants and the Indeterminate Securities are collectively referred to herein as the “Offered Securities.” In connection with the proposed offering and sale by the Company of the Offered Securities, the following documents have been prepared:

1. the Registration Statement;
2. the Indenture, filed as an exhibit to the Registration Statement;
3. the Restated Certificate of Incorporation of the Company, as amended, and certified by the Secretary of the State of Delaware as being currently in effect (the “Certificate of Incorporation”);
4. the by-laws of the Company, as currently in effect (the “By-Laws”); and
5. certain resolutions adopted to date by the Board of Directors of the Company (the “Board of Directors”) relating to the Offered Securities.

This opinion is being delivered in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

In rendering the opinions set forth herein, I or members of the Company’s legal staff have examined and relied on originals or copies, certified or otherwise identified to our satisfaction, of such corporate records of the Company, such other agreements and instruments, certificates of public officials, trustees, shareholders or officers, as appropriate, of the Company and other persons, and such other documents as we deemed necessary or appropriate as a basis for the opinions hereinafter expressed. As to various questions of fact material to such opinions, we have relied upon statements and representations of public officials, of officers and other representatives of the Company and others.

In such examination, we have assumed the legal capacity of all natural persons, the genuineness of all signatures and the due authorization of the persons signing executed documents on behalf of persons other than the Company, and the due existence, status, powers and authorization, execution and delivery of agreements and documents by the respective parties thereto other than the Company. We have also assumed the authenticity of all documents submitted to us as originals and the conformity to original documents of documents submitted to us as certified or facsimile, electronic or photostatic copies, and that all actions and undertakings of all parties to each agreement other than the Company have been and will be legal, valid and binding obligations thereof.

I am admitted to practice in the Commonwealth of Pennsylvania and do not purport to be an expert on or generally familiar with or qualified to render an opinion concerning any law other than the law of such State and the federal law of the United States of America. In addition, I have reviewed and am therefore generally familiar with the general corporate law of the State of Delaware. My opinions set forth below are

limited to the General Corporation Law of the State of Delaware and the United States of America, in each case, that in my experience are normally applicable to transactions of the type contemplated by the Registration Statement and to the extent that judicial or regulatory orders or decrees or consent, approvals, licenses, authorizations, validation filings, recordings or registrations with governmental authorities are relevant, to those required under such laws, other than the securities or blue sky laws of any state (collectively, the "Opined On Law"). I do not express any opinion with respect to the law of any jurisdiction other than Opined on Law or as to the effect of any such non-Opined on Law on the opinions herein stated. The Offered Securities may be issued from time to time on a delayed or continuous basis, and this opinion is limited to the Opined on Law, including the rules and regulations, as in effect on the date hereof, which Opined on Law is subject to change with possible retroactive effect.

Based upon and subject to the foregoing and to the qualifications, limitations, exceptions and assumptions set forth herein, I am of the opinion that:

1. With respect to any series of Debt Securities (the "Offered Debt Securities"), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act and the Indenture and trustee thereunder have been qualified under the Trust Indenture Act of 1939, as amended (the "TIA"); (ii) any Debt Securities that may be issued under the Indenture are executed in accordance with the Indenture by duly authorized officers of the trustee; (iii) an appropriate prospectus supplement or term sheet with respect to the Offered Debt Securities has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder; (iv) if the Offered Debt Securities are to be sold pursuant to a firm commitment underwritten offering, an underwriting agreement with respect to the Offered Debt Securities has been duly authorized, executed and delivered by the Company and the other parties thereto; (v) the Board of Directors, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance and terms of the Offered Debt Securities and related matters; (vi) the terms of the Offered Debt Securities and of their issuance and sale have been duly established in conformity with the Indenture so as not to violate any applicable law, the Certificate of Incorporation or the By-Laws or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company and the applicable trustee; and (vii) the Offered Debt Securities have been duly executed and authenticated in accordance with the provisions of the Indenture and delivered upon payment of the agreed-upon consideration therefore, and duly issued and sold in the applicable form to be filed as an exhibit to the Registration Statement or any amendment thereto and in the manner contemplated in the Registration Statement or any prospectus supplement or term sheet relating thereto, the Offered Debt Securities (including any Debt Securities duly issued upon conversion, exchange or exercise of any other Debt Securities, Preferred Stock or Warrants), when issued and sold in accordance with the Indenture and the applicable underwriting agreement, if any, or any other duly authorized, executed and delivered, valid and binding purchase or agency agreement, will be valid and binding obligations of the Company, enforceable against the Company in

accordance with their respective terms, except to the extent that enforcement thereof may be limited by (a) bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to creditors' rights generally, (b) general principles of equity (regardless of whether enforceability is considered in a proceeding at law or in equity), (c) public policy considerations which may limit the rights of the parties to obtain remedies, (d) the waivers of any usury defense contained in the Indenture that may be unenforceable, (e) requirements that a claim with respect to any Offered Debt Securities denominated other than in United States dollars (or a judgment denominated other than in United States dollars in respect of such claim) be converted into United States dollars at a rate of exchange prevailing on a date determined pursuant to applicable law, and (f) governmental authority to limit, delay or prohibit the making of payments outside the United States or in foreign currencies, currency units or composite currencies.

2. With respect to the shares of any series of Preferred Stock (the "Offered Preferred Stock"), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act; (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Preferred Stock has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder; (iii) if the Offered Preferred Stock is to be sold pursuant to a firm commitment underwritten offering, an underwriting agreement with respect to the Offered Preferred Stock has been duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the Board of Directors, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance and terms of the Offered Preferred Stock and related matters, including the adoption of a Certificate of Designation for the Offered Preferred Stock in accordance with the applicable provisions of Delaware law (the "Certificate of Designation"), in the form to be filed as an exhibit to the Registration Statement, any amendment thereto or any document incorporated by reference therein; (v) the filing of the applicable Certificate of Designation with the Secretary of State of the State of Delaware has duly occurred; (vi) the terms of the Offered Preferred Stock and of their issuance and sale have been duly established in conformity with the Certificate of Incorporation, including the applicable Certificate of Designation, and the By-Laws so as not to violate any applicable law, the Certificate of Incorporation or the By-Laws or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (vii) certificates representing the shares of the Offered Preferred Stock are duly executed, countersigned, registered and delivered upon payment of the agreed-upon consideration therefore and duly issued and sold in the applicable form to be filed as an exhibit to the Registration Statement or any amendment thereto and in the manner contemplated in the Registration Statement or any prospectus supplement or term sheet relating thereto, the shares of the Offered Preferred Stock (including any Preferred Stock duly issued upon conversion, exchange or exercise of any Debt Securities, other Preferred Stock or Warrants), when issued or sold in accordance with the applicable Certificate of Designation and the underwriting agreement or any other duly authorized, executed and delivered, valid and binding purchase or agency agreement, will be duly

authorized, validly issued, fully paid and non-assessable, provided that the consideration therefore is not less than the par value thereof.

3. With respect to any offering of Depositary Shares (the “Offered Depositary Shares”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act; (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Depositary Shares has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder; (iii) if the Offered Depositary Shares are to be sold pursuant to a firm commitment underwritten offering, the underwriting agreement with respect to the Offered Depositary Shares has been duly authorized, executed and delivered by the Company and other parties thereto; (iv) the Board of Directors, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance and terms of the Offered Depositary Shares and related matters, including the adoption of a Certificate of Designation for the related series of Preferred Stock in accordance with the applicable provisions of Delaware law in the form to be filed as an exhibit to the Registration Statement, any amendment thereto or any document incorporated by reference therein; (v) the filing of such Certificate of Designation with the Secretary of State of the State of Delaware has duly occurred; (vi) the terms of the Offered Depositary Shares and of their issuance and sale have been duly established in conformity with the Certificate of Incorporation, including the applicable Certificate of Designation, and the By-Laws so as not to violate any applicable law, the Certificate of Incorporation or the By-Laws, or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; (vii) the applicable Deposit Agreement has been duly executed and delivered by the parties thereto; (viii) the related series of Preferred Stock has been duly authorized and validly issued in accordance with Delaware law and delivered to the depository for deposit in accordance with the Deposit Agreement; and (ix) the Receipts evidencing the Depositary Shares have been duly issued against deposit of the related series of Preferred Stock with the depository in accordance with the Deposit Agreement, the Depositary Shares will be validly issued and the Receipts will entitle the holders thereof to the rights specified therein and in the Deposit Agreement.

4. With respect to any offering of Common Stock (the “Offered Common Stock”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act; (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Common Stock has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder; (iii) if the Offered Common Stock is to be sold pursuant to a firm commitment underwritten offering, an underwriting agreement with respect to the Offered Common Stock has been duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the Board of Directors, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance and terms of the Offered Common Stock and related matters; (v) the terms of the Offered Common

Stock and of their issuance and sale have been duly established in conformity with the Certificate of Incorporation and the By-Laws so as not to violate any applicable law, the Certificate of Incorporation or the By-Laws or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (vi) certificates representing the shares of Offered Common Stock are duly executed, countersigned, registered and delivered upon payment of the agreed-upon consideration therefor and duly issued and sold in the applicable form to be filed as an exhibit to the Registration Statement or any amendment thereto and in the manner contemplated in the Registration Statement or any prospectus supplement or term sheet relating thereto, the shares of Offered Common Stock (including any Common Stock duly issued upon conversion, exchange or exercise of any Debt Securities, Preferred Stock or Warrants), when issued and sold in accordance with the applicable underwriting agreement with respect to the Offered Common Stock or any other duly authorized, executed and delivered, valid and binding purchase or agency agreement, will be duly authorized, validly issued, fully paid and non-assessable, provided that the consideration therefore is not less than the par value thereof.

5. With respect to any series of Warrants (the “Offered Warrants”), when (i) the Registration Statement, as finally amended (including all necessary post-effective amendments), has become effective under the Securities Act; (ii) an appropriate prospectus supplement or term sheet with respect to the Offered Warrants has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder; (iii) if the Offered Warrants are to be sold pursuant to a firm commitment underwritten offering, an underwriting agreement with respect to the Offered Warrants has been duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the applicable Warrant Agreement has been duly authorized, executed and delivered by the parties thereto and does not violate any applicable law, the Certificate of Incorporation or By-Laws or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; (v) the Board of Directors, including any appropriate committee appointed thereby, and appropriate officers of the Company have taken all necessary corporate action to approve the issuance and terms of the Offered Warrants and related matters; (vi) the terms of the Offered Warrants and of their issuance and sale have been duly established in conformity with the applicable Warrant Agreement so as not to violate any applicable law, the Certificate of Incorporation or By-Laws or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; and (vii) the Offered Warrants have been duly executed, delivered and countersigned in accordance with the provisions of the applicable Warrant Agreement and duly issued and sold in the applicable form to be filed as an exhibit to the Registration Statement or any amendment thereto and in the manner contemplated in the Registration Statement or any prospectus supplement or term sheet relating thereto, the Offered Warrants, when issued and sold in accordance with the applicable Warrant Agreement and the applicable underwriting agreement or any other duly authorized, executed and delivered, valid and binding purchase or agency

agreement, will be valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, except to the extent that enforcement thereof may be limited by (a) bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to creditors' rights generally, (b) general principles of equity (regardless of whether enforceability is considered in a proceeding at law or in equity); and (c) public policy considerations that may limit the rights of parties to obtain remedies.

I hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement. I also consent to the reference to me under the heading "Legal Opinions" in the Registration Statement. In giving this consent, I do not thereby admit that I am in the category of person whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission promulgated thereunder.

The opinions expressed herein are expressed as of the date hereof only and not as of some future date, and are based upon the current state of the law. I disclaim any undertaking to advise you of any subsequent changes of the facts stated or assumed herein or any subsequent change in applicable law.

Sincerely,

/s/ Ann E. Padjen

Ann E. Padjen
Senior Corporate and Finance Counsel

Consent of Independent Registered Public Accounting Firm

The Board of Directors

Air Products and Chemicals, Inc.:

We consent to the use of our report dated 22 November 2011, with respect to the consolidated balance sheets of Air Products and Chemicals, Inc. and subsidiaries as of 30 September 2011 and 2010, and the related consolidated income statements and consolidated statements of equity and cash flows for each of the years in the three-year period ended 30 September 2011, the related financial statement schedule and the effectiveness of internal control over financial reporting as of 30 September 2011, incorporated herein by reference and the reference to our firm under the heading "Experts" in the registration statement.

/s/ KPMG LLP

Philadelphia, Pennsylvania

22 November 2011

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints JOHN E. MCGLADE or PAUL E. HUCK or MARY T. AFFLERBACH, 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 a Registration Statement for the registration of equity and debt securities of Air Products and Chemicals, Inc., and any and all amendments thereto and renewals or refilings thereof in the future, 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.

Signature	Title	Date
<u>/s/ Mario L. Baeza</u> Mario L. Baeza	Director	17 November 2011
<u>/s/ Susan K. Carter</u> Susan K. Carter	Director	17 November 2011
<u>/s/ William L. Davis, III</u> William L. Davis, III	Director	17 November 2011
<u>/s/ Chadwick C. Deaton</u> Chadwick C. Deaton	Director	17 November 2011
<u>/s/ Michael J. Donahue</u> Michael J. Donahue	Director	17 November 2011
<u>/s/ Ursula O. Fairbairn</u> Ursula O. Fairbairn	Director	17 November 2011
<u>/s/ W. Douglas Ford</u> W. Douglas Ford	Director	17 November 2011

Signature**Title****Date**

/s/ Edward E. Hagenlocker

Edward E. Hagenlocker

Director

17 November 2011

/s/ Evert Henkes

Evert Henkes

Director

17 November 2011

/s/ John E. McGlade

John E. McGlade

Director and Chairman

17 November 2011

/s/ Margaret G. McGlynn

Margaret G. McGlynn

Director

17 November 2011

/s/ Lawrence S. Smith

Lawrence S. Smith

Director

17 November 2011

FORM T-1**SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549**STATEMENT OF ELIGIBILITY**
UNDER THE TRUST INDENTURE ACT OF 1939 OF A
CORPORATION DESIGNATED TO ACT AS TRUSTEE**CHECK IF AN APPLICATION TO DETERMINE**
ELIGIBILITY OF A TRUSTEE PURSUANT TO
SECTION 305(b)(2)

THE BANK OF NEW YORK MELLON
TRUST COMPANY, N.A.

(Exact name of trustee as specified in its charter)

(State of incorporation
if not a U.S. national bank)95-3571558
(I.R.S. employer
identification no.)700 South Flower Street
Suite 500
Los Angeles, California
(Address of principal executive offices)90017
(Zip code)

Air Products and Chemicals, Inc.

(Exact name of obligor 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
(Address of principal executive offices)18195-1501
(Zip code)

Debt Securities
(Title of the indenture securities)

1. General information. Furnish the following information as to the trustee:

(a) Name and address of each examining or supervising authority to which it is subject.

Name	Address
Comptroller of the Currency United States Department of the Treasury	Washington, D.C. 20219
Federal Reserve Bank	San Francisco, California 94105
Federal Deposit Insurance Corporation	Washington, D.C. 20429

(b) Whether it is authorized to exercise corporate trust powers.

Yes.

2. Affiliations with Obligor.

If the obligor is an affiliate of the trustee, describe each such affiliation.

None.

16. List of Exhibits.

Exhibits identified in parentheses below, on file with the Commission, are incorporated herein by reference as an exhibit hereto, pursuant to Rule 7a-29 under the Trust Indenture Act of 1939 (the "Act") and 17 C.F.R. 229.10(d).

1. A copy of the articles of association of The Bank of New York Mellon Trust Company, N.A., formerly known as The Bank of New York Trust Company, N.A. (Exhibit 1 to Form T-1 filed with Registration Statement No. 333-121948 and Exhibit 1 to Form T-1 filed with Registration Statement No. 333-152875).
2. A copy of certificate of authority of the trustee to commence business. (Exhibit 2 to Form T-1 filed with Registration Statement No. 333-121948).
3. A copy of the authorization of the trustee to exercise corporate trust powers (Exhibit 3 to Form T-1 filed with Registration Statement No. 333-152875).

4. A copy of the existing by-laws of the trustee (Exhibit 4 to Form T-1 filed with Registration Statement No. 333-152875).
6. The consent of the trustee required by Section 321(b) of the Act (Exhibit 6 to Form T-1 filed with Registration Statement No. 333-152875).
7. A copy of the latest report of condition of the Trustee published pursuant to law or to the requirements of its supervising or examining authority.

SIGNATURE

Pursuant to the requirements of the Act, the trustee, The Bank of New York Mellon Trust Company, N.A., a banking association organized and existing under the laws of the United States of America, has duly caused this statement of eligibility to be signed on its behalf by the undersigned, thereunto duly authorized, all in the City of Philadelphia, and Commonwealth of Pennsylvania, on the 10th day of November, 2011.

THE BANK OF NEW YORK MELLON
TRUST COMPANY, N.A.

By: /s/ Michael Judge
Name: MICHAEL JUDGE
Title: VICE PRESIDENT

Consolidated Report of Condition of
THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.
of 700 South Flower Street, Suite 200, Los Angeles, CA 90017

At the close of business September 30, 2011, published in accordance with Federal regulatory authority instructions.

	<u>Dollar Amounts in Thousands</u>
ASSETS	
Cash and balances due from depository institutions:	
Noninterest-bearing balances and currency and coin	1,454
Interest-bearing balances	369
Securities:	
Held-to-maturity securities	0
Available-for-sale securities	859,924
Federal funds sold and securities purchased under agreements to resell:	
Federal funds sold	61,500
Securities purchased under agreements to resell	0
Loans and lease financing receivables:	
Loans and leases held for sale	0
Loans and leases, net of unearned income	0
LESS: Allowance for loan and lease losses	0
Loans and leases, net of unearned income and allowance	0
Trading assets	0
Premises and fixed assets (including capitalized leases)	7,949
Other real estate owned	0
Investments in unconsolidated subsidiaries and associated companies	0
Direct and indirect investments in real estate ventures	0
Intangible assets:	
Goodwill	856,313
Other intangible assets	194,824
Other assets	136,208
Total assets	<u>\$ 2,118,541</u>

LIABILITIES

Deposits:	
In domestic offices	500
Noninterest-bearing	500
Interest-bearing	0
Not applicable	
Federal funds purchased and securities sold under agreements to repurchase:	
Federal funds purchased	0
Securities sold under agreements to repurchase	0
Trading liabilities	0
Other borrowed money:	
(includes mortgage indebtedness and obligations under capitalized leases)	268,691
Not applicable	
Not applicable	
Subordinated notes and debentures	0
Other liabilities	226,429
Total liabilities	495,620
Not applicable	

EQUITY CAPITAL

Perpetual preferred stock and related surplus	0
Common stock	1,000
Surplus (exclude all surplus related to preferred stock)	1,121,520
Not available	
Retained earnings	494,482
Accumulated other comprehensive income	5,919
Other equity capital components	0
Not available	
Total bank equity capital	1,622,921
Noncontrolling (minority) interests in consolidated subsidiaries	0
Total equity capital	1,622,921
Total liabilities and equity capital	<u>2,118,541</u>

I, Karen Bayz, CFO and Managing Director of the above-named bank do hereby declare that the Reports of Condition and Income (including the supporting schedules) for this report date have been prepared in conformance with the instructions issued by the appropriate Federal regulatory authority and are true to the best of my knowledge and belief.

Karen Bayz) CFO and Managing Director

We, the undersigned directors (trustees), attest to the correctness of the Report of Condition (including the supporting schedules) for this report date and declare that it has been examined by us and to the best of our knowledge and belief has been prepared in conformance with the instructions issued by the appropriate Federal regulatory authority and is true and correct.

Timothy Vara, President)
Frank P. Sulzberger, MD) Directors (Trustees)
William D. Lindelof, MD)