

AIR PRODUCTS & CHEMICALS INC /DE/
 Form 424B3
 January 30, 2013
Table of Contents

Filed Pursuant to Rule 424(b)(3)
 Registration No. 333-178120

The information in this preliminary prospectus supplement is not complete and may change. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and they are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JANUARY 30, 2013

PROSPECTUS SUPPLEMENT

(To prospectus dated November 22, 2011)

\$

Air Products and Chemicals, Inc.

% Notes due 2023

The notes referenced above (the Notes) will mature on , 2023. We will pay interest on the Notes on February 1 and August 1 of each year, beginning on August 1, 2013. We may redeem the Notes prior to maturity, in whole or in part, as described in this prospectus supplement.

Investing in these Notes involves risks. See Risk Factors on page S-3 of this prospectus supplement to read about important factors you should consider before buying the notes.

Per Note	Public Offering Price(1)	Underwriting Discount	Proceeds, Before Expenses, to the Company
Total	\$	\$	\$
	%	%	%

(1) Plus accrued interest, if any, from , 2013.

Neither the Securities and Exchange Commission (the SEC) nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to

the contrary is a criminal offense.

The Notes will be ready for delivery in book-entry form only through the facilities of The Depository Trust Company for the accounts of its participants, including Euroclear Bank S.A./N.V., as operator of the Euroclear System, and Clearstream Banking, société anonyme, on or about , 2013.

Joint Book-Running Managers

HSBC

The date of this prospectus supplement is , 2013.

J.P. Morgan

Table of Contents**TABLE OF CONTENTS**

	Page
	Prospectus Supplement
<u>ABOUT AIR PRODUCTS AND CHEMICALS, INC.</u>	S-3
<u>RISK FACTORS</u>	S-3
<u>DOCUMENTS INCORPORATED BY REFERENCE</u>	S-3
<u>USE OF PROCEEDS</u>	S-4
<u>DESCRIPTION OF NOTES</u>	S-4
<u>MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS</u>	S-10
<u>UNDERWRITING</u>	S-14
<u>LEGAL OPINIONS</u>	S-16
	Prospectus
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	1
<u>THE COMPANY</u>	1
<u>RATIOS OF EARNINGS TO FIXED CHARGES</u>	2
<u>USE OF PROCEEDS</u>	2
<u>DESCRIPTION OF SECURITIES</u>	3
<u>PLAN OF DISTRIBUTION</u>	14
<u>LEGAL OPINIONS</u>	15
<u>EXPERTS</u>	15

You should rely only on the information contained in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus supplement and the accompanying prospectus. We are offering to sell Notes and making offers to buy Notes only in jurisdictions in which offers and sales are permitted. The information contained in this prospectus supplement and the accompanying prospectus is accurate only as of the date of this prospectus supplement, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or any sale of the Notes. In this prospectus supplement and the accompanying prospectus, the Company, we, us and our refer to Air Products and Chemicals, Inc.

If we use a capitalized term in this prospectus supplement and do not define the term, it is defined in the accompanying prospectus.

References herein to \$ and dollars are to the currency of the United States.

Table of Contents

ABOUT AIR PRODUCTS AND CHEMICALS, INC.

Air Products and Chemicals, Inc. (the Company), a Delaware corporation originally founded in 1940, serves 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. The Company is the world's largest supplier of hydrogen and helium and has built leading positions in growth markets such as semiconductor materials, refinery hydrogen, natural gas liquefaction and advanced coatings and adhesives.

RISK FACTORS

You should carefully consider the risk factors in the documents incorporated by reference in this prospectus, and all of the other information herein and therein before making an investment decision. See Risk Factors beginning on page 9 of our Annual Report on Form 10-K for the year ended September 30, 2012.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference the information we file with the SEC under the Securities Exchange Act of 1934, as amended (which we refer to as the Exchange Act), which means that we can disclose important information to you by referring you to those documents. Information incorporated by reference is considered to be a part of this prospectus supplement, and information that we file later with the SEC will automatically update, modify and, where applicable, supersede this information. We incorporate by reference into this prospectus supplement the specific documents listed below and all documents filed by us with the SEC pursuant to Section 13(a), 13(c), 14, or 15(d) of the Exchange Act between the date of this prospectus supplement and the termination of the offering of securities under this prospectus supplement, which future filings shall be deemed to be incorporated by reference into this prospectus supplement and to be part of this prospectus supplement from the date we subsequently file such documents. Unless we specifically state otherwise, we do not incorporate by reference any documents or information deemed to be furnished and not filed in accordance with SEC rules. The SEC file number for these documents is 1-4534.

Table of Contents

Our Annual Report on Form 10-K for the fiscal year ended September 30, 2012, filed with the SEC on November 20, 2012;

Our Quarterly Report on Form 10-Q for the quarter ended December 31, 2012, filed with the SEC on January 25, 2012;

Our Current Reports on Form 8-K filed with the SEC on December 20, 2012, January 28, 2013 and January 30, 2013.

Any statement contained in this prospectus supplement or the accompanying prospectus or in any document incorporated by reference into this prospectus supplement or the accompanying prospectus shall be deemed to be modified or, where applicable, superseded for the purposes of this prospectus to the extent that a statement contained in this prospectus supplement or the accompanying prospectus or any subsequently filed document that also is incorporated by reference into this prospectus supplement or the accompanying prospectus modifies or supersedes such prior statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We will provide to each person, including any beneficial owner, to whom this prospectus is delivered, upon written or oral request and without charge, a copy of the documents referred to above that we have incorporated by reference into this prospectus supplement and a copy of the registration statement of which this prospectus is a part. You can request copies of such documents if you call or write us at the following address or telephone number:

Corporate Secretary's Office

Air Products and Chemicals, Inc.

7201 Hamilton Boulevard

Allentown, Pennsylvania 18195-1501

Telephone: (610) 481-4911

Exhibits to the documents will not be sent, however, unless those exhibits have specifically been incorporated by reference into such document. You may also obtain copies of our SEC filings as described under the heading "Where You Can Find More Information" in the accompanying prospectus.

USE OF PROCEEDS

We will use the net proceeds from the sale of the Notes, which are expected to be approximately \$ _____ million after payment of underwriting discounts and estimated expenses related to the offering, for general corporate purposes, including repayment of commercial paper, a portion of which may be used to repay a \$300 million 4.15% senior note that matures on February 1, 2013. At January 29, 2013, our commercial paper borrowings had an average interest rate of 0.16%. These general corporate purposes may also include repayment and refinancing of debt, acquisitions, working capital, capital expenditures and repurchases and redemptions of securities. Pending any specific application, we may initially invest funds in short-term marketable securities or apply them to the reduction of short-term indebtedness.

DESCRIPTION OF NOTES

The following description of the particular terms of the _____ % Notes due 2023 (the "Notes") offered hereby (referred to in the prospectus as the Debt Securities) supplements the description of the general terms and provisions of the Debt Securities included in the accompanying prospectus. The following summary of the Notes is qualified in its entirety by reference in the accompanying prospectus to the description of the indenture dated as of January 10, 1995 (the "Indenture"), 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 (the "Trustee").

Table of Contents

General

The Notes will mature at par on _____, 2023. The Notes will constitute part of the senior debt of the Company and will rank *pari passu* with all other unsecured and unsubordinated indebtedness of the Company. The Notes will be issued in fully registered form only, in denominations of \$2,000 and additional multiples of \$1,000. Principal of and interest on the Notes will be payable, and the transfer of Notes will be registerable, through the Depository, as described below.

Each Note will bear interest from _____, 2013 at the annual rate of ____%. Interest on the Notes will be payable semi-annually on February 1 and August 1, commencing on August 1, 2013, to the person in whose name such Note is registered at the close of business on the 15th calendar day prior to the payment date.

Interest payable at the maturity of the Notes will be payable to registered holders of the Notes to whom principal is payable. Interest will be computed on the basis of a 360-day year of twelve 30-day months.

If any interest payment date falls on a day that is not a Business Day, the interest payment will be postponed to the next day that is a Business Day, and no interest on such payment will accrue for the period from and after such interest payment date. If the maturity date of the Notes falls on a day that is not a Business Day, the payment of interest and principal shall be made on the next succeeding Business Day, and no interest on such payment will accrue for the period from and after the maturity date.

Interest payments for the Notes will include accrued interest from and including the date of issue or from and including the last date in respect of which interest has been paid, as the case may be, to but excluding the interest payment date or the date of maturity, as the case may be.

The Notes will constitute a separate series of Debt Securities under the Indenture.

The Company may, without the consent of the holders of a series of Notes, issue additional notes having the same ranking and the same interest rate, maturity and other terms (except for the issue date and public offering price) as the Notes. Any additional notes having such similar terms, together with the Notes, will constitute a single series of Debt Securities under the Indenture. No additional notes having such similar terms may be issued if an Event of Default has occurred with respect to the Notes or if such additional notes will not be fungible with the previously issued Notes for federal income tax purposes.

As used in this prospectus supplement, *Business Day* means any day, other than a Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law or regulation to close in The City of New York.

Optional Redemption

The Notes will be redeemable as a whole at any time or in part from time to time, at the option of the Company, at a redemption price equal to the greater of (i) 100% of the principal amount of the Notes or (ii) the sum of the present values of the remaining scheduled payments of principal and interest thereon from the redemption date to the applicable maturity date (exclusive of any accrued interest) discounted to the redemption date on a semiannual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate plus ____ basis points, plus, in each case, any interest accrued but not paid to the date of redemption.

Treasury Rate means, with respect to any redemption date for the Notes (i) the yield, under the heading which represents the average for the immediately preceding week, appearing in the most recently published statistical release designated H.15(519) or any successor publication that is published weekly by the Board of Governors of the Federal Reserve System and that establishes yields on actively traded United States Treasury securities adjusted to constant maturity under the caption *Treasury Constant Maturities*, for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after the maturity date for the Notes, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue shall be determined and the Treasury Rate shall be interpolated or extrapolated from such yields on a

Table of Contents

straight line basis, rounding to the nearest month) or (ii) if that release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per annum equal to the semiannual equivalent yield to maturity of the Comparable Treasury Issue, calculated using a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for that redemption date. The Treasury Rate shall be calculated on the third business day preceding the redemption date.

Comparable Treasury Issue means the United States Treasury security selected by an Independent Investment Banker as having a maturity comparable to the remaining term of the Notes to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of the Notes.

Comparable Treasury Price means with respect to any redemption date for the Notes (i) the average of four Reference Treasury Dealer Quotations for that redemption date, after excluding the highest and lowest such Reference Treasury Dealer Quotations, or (ii) if the Independent Investment Banker obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations.

Independent Investment Banker means one of the Reference Treasury Dealers appointed by the Company.

Reference Treasury Dealer means each of HSBC Securities (USA) Inc. (and its successors), J.P. Morgan Securities LLC (and its successors) and two other primary U.S. Government securities dealers in New York City (each, a Primary Treasury Dealer) appointed by the Company; *provided, however*, that if any of the foregoing shall cease to be a Primary Treasury Dealer, the Company shall substitute therefor another Primary Treasury Dealer.

Reference Treasury Dealer Quotations means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Trustee by that Reference Treasury Dealer at 5:00 p.m. (New York City time) on the third business day preceding that redemption date.

Unless the Company defaults in payment of the redemption price, on and after the redemption date interest will cease to accrue on the Notes or portions thereof called for redemption.

Defeasance of the Indenture and Notes

The provisions of the Indenture described in the accompanying prospectus under Description of Securities Debt Securities Defeasance of the Indenture and Securities will apply to the Notes. In addition, as a condition to defeasance, we must deliver to the Trustee an opinion of counsel to the effect that the holders of the Notes will not recognize income, gain, or loss for federal income tax purposes as a result of such defeasance and will be subject to federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such defeasance had not occurred.

Book-Entry, Delivery and Form

The Notes will be issued in the form of one or more fully registered global notes (the Global Notes) registered in the name of The Depository Trust Company, New York, New York (the Depository or DTC) or Cede & Co., the Depository s nominee. Beneficial interests in the Global Notes will be represented through book-entry accounts of financial institutions acting on behalf of beneficial owners as direct and indirect participants in the Depository.

Investors may elect to hold interests in the Global Notes through the Depository, Clearstream Banking, société anonyme (Clearstream) or Euroclear Bank S.A./N.V., as operator of the Euroclear System (Euroclear) if they are participants of such systems, or indirectly through organizations which are participants in such systems. Clearstream and Euroclear will hold interests on behalf of their participants through customers securities accounts in Clearstream s and Euroclear s names on the books of their respective depositories, which in turn will hold such interests in customers securities accounts in the depositories names on the books of the Depository. Citibank, N.A. will act as depository for Clearstream and JPMorgan Chase Bank, N.A., successor to The Chase Manhattan Bank, will act as depository for Euroclear (in such capacities, the U.S. Depositories).

Table of Contents

Beneficial interest in the Global Notes will be held in denominations of \$2,000 and additional multiples of \$1,000. Except as described below, the Global Notes may be transferred, in whole and not in part, only to another nominee of the Depository or to a successor of the Depository or its nominee.

The Depository has advised the Company as follows: the Depository is a limited-purpose trust company organized under the New York Banking Law, a banking organization within the meaning of the New York Banking Law, a member of the Federal Reserve System, a clearing corporation within the meaning of the New York Uniform Commercial Code, and a clearing agency registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended (the Exchange Act). The Depository holds securities deposited with it by its participants and records the settlement of transactions among its participants in such securities through electronic computerized book-entry changes in accounts of the participants, thereby eliminating the need for physical movement of securities certificates. The Depository's participants include securities brokers and dealers (including the Underwriters), banks, trust companies, clearing corporations and certain other organizations, some of whom (and/or their representatives) own the Depository. Access to the Depository book-entry system is also available to others, such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a participant, either directly or indirectly.

Clearstream advises that it is incorporated under the laws of Luxembourg as a bank. Clearstream holds securities for its customers (Clearstream Customers) and facilitates the clearance and settlement of securities transactions between Clearstream Customers through electronic book-entry transfers between their accounts. Clearstream provides to Clearstream Customers, among other things, services for safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Clearstream interfaces with domestic securities markets in over 30 countries through established depository and custodial relationships. As a bank, Clearstream is subject to regulation by the Luxembourg Commission for the Supervision of the Financial Sector (Commission de Surveillance du Secteur Financier). Clearstream Customers are recognized financial institutions around the world, including underwriters, securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. Clearstream's U.S. customers are limited to securities brokers and dealers and banks. Indirect access to Clearstream is also available to other institutions such as banks, brokers, dealers and trust companies, that clear through or maintain a custodial relationship with a Clearstream Customer.

Distributions with respect to the Notes held through Clearstream will be credited to cash accounts of Clearstream Customers in accordance with its rules and procedures, to the extent received by the U.S. Depository for Clearstream.

Euroclear advises that it was created in 1968 to hold securities for its participants (Euroclear Participants) and to clear and settle transactions between Euroclear Participants through simultaneous electronic book-entry delivery against payment, thereby eliminating the need for physical movement of certificates and any risk from lack of simultaneous transfers of securities and cash. Euroclear provides various other services, including securities lending and borrowing, and interfaces with domestic markets in several countries. Euroclear is operated by Euroclear Bank S.A./N.A. (the Euroclear Operator), under contract with Euroclear Clearance Systems, S.C., a Belgian cooperative corporation (the Cooperative).

All operations are conducted by the Euroclear Operator, and all Euroclear securities clearance accounts and Euroclear cash accounts are accounts with the Euroclear Operator, not the Cooperative. The Cooperative establishes policy for Euroclear on behalf of Euroclear Participants. Euroclear Participants include banks (including central banks), securities brokers and dealers and other professional financial intermediaries and may include the Underwriters. Indirect access to Euroclear is also available to other firms that clear through or maintain a custodial relationship with a Euroclear Participant, either directly or indirectly.

Securities clearance accounts and cash accounts with the Euroclear Operator are governed by the Terms and Conditions Governing Use of Euroclear and the related Operating Procedures of the Euroclear System, and applicable Belgian law (collectively, the Terms and Conditions). The Terms and Conditions govern transfers of securities and cash within Euroclear, withdrawals of securities and cash from Euroclear, and receipts of payments with respect to securities in Euroclear. All securities in Euroclear are held on a fungible basis without attribution

Table of Contents

of specific certificates to specific securities clearance accounts. The Euroclear Operator acts under the Terms and Conditions only on behalf of Euroclear Participants and has no record of or relationship with persons holding through Euroclear Participants.

Distributions with respect to the Notes held beneficially through Euroclear will be credited to the cash accounts of Euroclear Participants in accordance with the Terms and Conditions, to the extent received by the U.S. Depository for Euroclear.

Euroclear further advises that investors that acquire, hold and transfer interests in the Notes by book-entry through accounts with the Euroclear Operator or any other securities intermediary are subject to the laws and contractual provisions governing their relationship with their intermediary, as well as the laws and contractual provisions governing the relationship between such an intermediary and each other intermediary, if any, standing between themselves and the Global Notes.

The Euroclear Operator advises as follows: under Belgian law, investors that are credited with securities on the records of the Euroclear Operator have a co-property right in the fungible pool of interests in securities on deposit with the Euroclear Operator in an amount equal to the amount of interests in securities credited to their accounts. In the event of the insolvency of the Euroclear Operator, Euroclear Participants would have a right under Belgian law to the return of the amount and type of interests in securities credited to their accounts with the Euroclear Operator. If the Euroclear Operator did not have a sufficient amount of interests in securities on deposit of a particular type to cover the claims of all Participants credited with such interests in securities on the Euroclear Operator's records, all Participants having an amount of interests in securities of such type credited to their accounts with the Euroclear Operator would have the right under Belgian law to the return of their *pro rata* share of the amount of interests in securities actually on deposit.

Under Belgian law, the Euroclear Operator is required to pass on the benefits of ownership in any interests in securities on deposit with it (such as dividends, voting rights and other entitlements) to any person credited with such interests in securities on its records.

Individual certificates in respect of the Notes will not be issued in exchange for the Global Notes, except in very limited circumstances. If DTC notifies the Company that it is unwilling or unable to continue as a clearing system in connection with the Global Notes, or ceases to be a clearing agency registered under the Exchange Act, and a successor clearing system is not appointed by the Company within 90 days after receiving such notice from DTC or upon becoming aware that DTC is no longer so registered, the Company will issue or cause to be issued individual certificates in registered form on registration of transfer of, or in exchange for, book-entry interests in the Notes represented by such Global Notes upon delivery of such Global Notes for cancellation.

Title to book-entry interests in the Notes will pass by book-entry registration of the transfer within the records of Clearstream, Euroclear or DTC, as the case may be, in accordance with their respective procedures. Book-entry interests in the Notes may be transferred within Clearstream and within Euroclear and between Clearstream and Euroclear in accordance with procedures established for these purposes by Clearstream and Euroclear. Book-entry interests in the Notes may be transferred within DTC in accordance with procedures established for this purpose by DTC. Transfers of book-entry interests in the Notes among Clearstream and Euroclear and DTC may be effected in accordance with procedures established for this purpose by Clearstream, Euroclear and DTC.

A further description of the Depository's procedures with respect to the Global Notes is set forth in the accompanying prospectus under Description of Securities Debt Securities Global Securities. The Depository has confirmed to the Company, the Underwriters and the Trustee that it intends to follow such procedures.

Global Clearance and Settlement Procedures

Initial settlement for the Notes will be made in immediately available funds. We will make all payments of principal, premium, if any, and interest in respect of the Notes in immediately available funds while the Notes are held in book-entry only form. Secondary market trading between DTC participants will occur in the ordinary way in accordance with the Depository's rules and will be settled in immediately available funds using

Table of Contents

the Depository's Same-Day Funds Settlement System. Secondary market trading between Clearstream Customers and/or Euroclear Participants will occur in the ordinary way in accordance with the applicable rules and operating procedures of Clearstream and Euroclear and will be settled using the procedures applicable to conventional Eurobonds in immediately available funds.

Cross-market transfers between persons holding directly or indirectly through the Depository on the one hand, and directly or indirectly through Clearstream Customers or Euroclear Participants, on the other, will be effected in the Depository in accordance with the Depository's rules on behalf of the relevant European international clearing system by its U.S. Depository; however, such cross-market transactions will require delivery of instructions to the relevant European international clearing system by the counterparty in such system in accordance with its rules and procedures and within its established deadlines (European time). The relevant European international clearing system will, if the transaction meets its settlement requirements, deliver instructions to its U.S. Depository to take action to effect final settlement on its behalf by delivering interests in the Notes to or receiving interests in the Notes from the Depository, and making or receiving payment in accordance with normal procedures for same-day funds settlement applicable to the Depository. Clearstream Customers and Euroclear Participants may not deliver instructions directly to their respective U.S. Depositories.

Because of time-zone differences, credits of interests in the Notes received in Clearstream or Euroclear as a result of a transaction with a DTC participant will be made during subsequent securities settlement processing and dated the business day following the Depository settlement date. Such credits or any transactions involving interests in such Notes settled during such processing will be reported to the relevant Clearstream Customers or Euroclear Participants on such business day. Cash received in Clearstream or Euroclear as a result of sales of interests in the Notes by or through a Clearstream Customer or a Euroclear Participant to a DTC participant will be received with value on the Depository settlement date but will be available in the relevant Clearstream or Euroclear cash account only as of the business day following settlement in the Depository.

Although the Depository, Clearstream and Euroclear have agreed to the foregoing procedures in order to facilitate transfers of interests in the Notes among participants of the Depository, Clearstream and Euroclear, they are under no obligation to perform or continue to perform such procedures and such procedures may be changed or discontinued at any time.

Applicable Law

The Notes and the Indenture will be governed by and construed in accordance with the laws of the State of New York.

Table of Contents

MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

In General

The following discussion is a summary of the material U.S. federal income tax consequences relevant to the purchase, ownership and disposition (including an exchange) of the Notes, but this summary does not purport to be a complete analysis of all potential tax effects to holders of the Notes.

The discussion is based on provisions of the Internal Revenue Code of 1986, as amended (the Code), U.S. Treasury Regulations issued thereunder, Internal Revenue Service rulings and pronouncements and judicial decisions now in effect, all of which are subject to change at any time and subject to differing interpretations. Any such change may be applied retroactively in a manner that could adversely affect a holder of the Notes and the continued validity of this summary.

This discussion does not address all of the U.S. federal income tax consequences that may be relevant to you in light of your particular circumstances (such as the application of the alternative minimum tax) or that may be relevant to you because you are subject to special rules, including but not limited to rules applicable to certain financial institutions, U.S. expatriates, insurance companies, dealers in securities or currencies, traders in securities, U.S. holders whose functional currency is not the U.S. Dollar, tax-exempt organizations and persons holding the Notes as part of a straddle, hedge, constructive sale, conversion transaction or other integrated transaction.

In addition, this discussion only applies to you if you purchase your Notes for cash in the original issue and at the Notes issue price within the meaning of Section 1273 of the Code (i.e., the first price at which a substantial amount of Notes is sold for cash to persons other than bond houses, brokers or similar persons or organizations acting in the capacity of underwriters, placement agents, or wholesalers).

Moreover, except where specifically indicated, this summary does not discuss the effect of any other federal tax laws (i.e., estate and gift tax), or any state, local or foreign tax laws.

In addition, if a partnership or other entity taxable as a partnership holds the Notes, the tax treatment of a partner will generally depend on the status of a partner and the activities of the partnership. This discussion does not address the tax consequences to you if you hold the Notes through a partnership, an entity taxable as a partnership or any other pass-through entity.

This discussion does not discuss any reporting requirements of or other consequences under the Treasury Regulations relating to certain tax shelter transactions.

Finally, the discussion deals only with Notes held as capital assets within the meaning of Section 1221 of the Code. As used herein, U.S. Holder means a beneficial owner of the Notes that is:

an individual who is a citizen or resident of the U.S., including an alien individual who is a lawful permanent resident of the U.S. or who meets the substantial presence test under Section 7701(b) of the Code,

a corporation or other entity taxable as a corporation created or organized in or under the laws of the U.S. or of any state thereof or of the District of Columbia,

an estate, the income of which is subject to U.S. federal income tax regardless of its source, or

a trust, if a U.S. court can exercise primary supervision over the administration of the trust and one or more U.S. persons can control all substantial trust decisions (or if a valid election is in place to treat the trust as a U.S. person).

A non-U.S. Holder is a beneficial owner of the Notes that is an individual, corporation, estate or trust who or that is not a U.S. Holder.

We have not sought and will not seek any rulings from the Internal Revenue Service (the IRS), with respect to the matters discussed below. There can be no assurances that the IRS will not take a different position concerning the tax consequences of the purchase, ownership or disposition (including an exchange) of the Notes or that any such position would not be sustained.

S-10

Table of Contents

Please consult your own tax advisors with regard to the application of the tax consequences discussed below to your particular situation and the application of any other federal as well as state, local or foreign tax laws and tax treaties, including gift and estate tax laws.

U.S. Holders

This section applies to you if you are a U.S. Holder.

Interest

Stated interest on the Notes will generally be treated as qualified stated interest for U.S. federal income tax purposes and generally will be taxable to a U.S. Holder as ordinary interest income at the time it is paid or accrued in accordance with such holder's regular method of accounting for U.S. federal income tax purposes.

Sale or Other Taxable Disposition of the Notes

On the sale, exchange (other than in a tax-free transaction), redemption, retirement or other taxable disposition of your Note:

You will recognize taxable gain or loss equal to the difference between the amount realized upon such disposition (less a portion allocable to any accrued and unpaid interest, which will be taxable to you as ordinary income at that time if not previously included in your income) and your tax basis in the Note.

Your gain or loss will be a capital gain or loss and will be a long-term capital gain or loss if you have held the Note for more than one year. Otherwise, your gain or loss will be a short-term gain or loss. For some non-corporate taxpayers (including individuals) long-term capital gains are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitation.

Information Reporting and Backup Withholding

Certain non-exempt U.S. Holders will be subject to information reporting in respect of any payments that we may make or are made on our behalf on the Notes and the proceeds of any sale or other disposition of the Notes. In addition, backup withholding at a rate of 28% may apply unless the U.S. Holder supplies a taxpayer identification number and other information, certified under penalty of perjury, or otherwise establishes, in the manner prescribed by applicable law, an exemption from backup withholding. Amounts withheld under the backup withholding rules are not an additional tax and may be allowable as a refund or a credit against the U.S. Holder's U.S. federal income tax liability upon furnishing the required information on a timely basis to the IRS.

Medicare Tax on Investment Income

For taxable years beginning on or after January 1, 2013, a new 3.8% Medicare contribution tax will be imposed on the net investment income, including interest, dividends and capital gain, of certain U.S. individuals, estates and trusts.

Non-U.S. Holders

This section applies to you if you are a non-U.S. Holder.

Interest Payments

Subject to the discussion below concerning effectively connected income and backup withholding, payments of interest on the Notes by us or any paying agent to you will not be subject to U.S. federal withholding tax, provided that you satisfy one of two tests.

The first test (the portfolio interest test) is satisfied if:

Edgar Filing: AIR PRODUCTS & CHEMICALS INC /DE/ - Form 424B3

you do not own, actually or constructively, 10% or more of the combined voting power of all classes of our stock entitled to vote;

you are not a controlled foreign corporation (within the meaning of the Code) that is related, directly or indirectly, to us;

S-11

Table of Contents

you are not a bank receiving interest on the Notes on an extension of credit made pursuant to a loan arrangement entered into in the ordinary course of your trade or business; and

you certify to us or our paying agent on IRS Form W-8BEN (or appropriate substitute form) under penalties of perjury, that you are not a U.S. person. If you hold the Notes through a financial institution or other agent acting on your behalf, you will be required to provide appropriate documentation to the agent who will then be required to provide certification to us or our paying agent, either directly or through other intermediaries.

The second test is satisfied if you are otherwise entitled to the benefits of an income tax treaty under which such interest is exempt from U.S. federal withholding tax, and you (or your agent) provide to us a properly executed IRS Form W-8BEN (or an appropriate substitute form) claiming eligibility for the exemption.

Payments of interest on the Notes that do not meet the above-described requirements will be subject to a U.S. federal income tax of 30% (or such lower rate provided by an applicable income tax treaty if you establish that you qualify to receive the benefits of such treaty) collected by means of withholding.

Sale or Other Taxable Disposition of the Notes

Subject to the discussion below concerning effectively connected income and backup withholding, you will not be subject to U.S. federal income tax on any gain realized on the sale, exchange, redemption, retirement or other taxable disposition of the Notes unless you are an individual, you are present in the U.S. for at least 183 days during the year in which you dispose of the Notes, and other conditions are satisfied.

Effectively Connected Income

The preceding discussion assumes that the interest and gain received by you is not effectively connected with your conduct of a trade or business in the U.S. If you are engaged in a trade or business in the U.S. (or, if an applicable income tax treaty so applies, you maintain a permanent establishment in the U.S.) and your investment in a Note is effectively connected with such trade or business (or such permanent establishment):

You will be exempt from the 30% withholding tax on the interest (provided a certification requirement, generally on IRS Form W-8ECI, is met) and will instead generally be subject to regular U.S. federal income tax on any interest and gain with respect to the Notes in the same manner as if you were a U.S. Holder.

If you are a foreign corporation, you may also be subject to an additional branch profits tax of 30% (or such lower rate provided by an applicable income tax treaty if you establish that you qualify to receive the benefits of such treaty).

If you are eligible for the benefits of an applicable tax treaty, any effectively connected income or gain will generally be subject to U.S. federal income tax only if it is also attributable to a permanent establishment maintained by you in the U.S.

U.S. Federal Estate Tax

A Note held or beneficially owned by an individual who, for estate tax purposes, is not a citizen or resident of the U.S. at the time of death will not be includable in the decedent's gross estate for U.S. estate tax purposes, provided that (i) such holder or beneficial owner did not at the time of death actually or constructively own 10% or more of the combined voting power of all classes of our stock entitled to vote and (ii) at the time of death, payments with respect to such Note would not have been effectively connected with the conduct by such holder of a trade or business in the U.S. In addition, the U.S. estate tax may not apply with respect to such Note under the terms of an applicable estate tax treaty.

Foreign Account Tax Compliance Act

Legislation enacted in 2010 generally imposes a withholding tax of 30% on interest income paid on a debt obligation and on the gross proceeds from the sale or other disposition of a debt obligation, unless certain obligations are satisfied. Under recently finalized regulations, these rules

will not apply to a debt obligation that is issued before January 1, 2014.

S-12

Table of Contents

Information Reporting and Backup Withholding

U.S. rules concerning information reporting and backup withholding applicable to a non-U.S. Holder are as follows:

Interest payments you receive will be automatically exempt from the usual backup withholding rules if such payments are subject to the 30% withholding tax on interest or if they are exempt from that tax by application of a tax treaty or the portfolio interest exception. The exemption does not apply if the withholding agent or an intermediary knows or has reason to know that you should be subject to the usual information reporting or backup withholding rules. In addition, information reporting may still apply to payments of interest (on IRS Form 1042-S) even if certification is provided and the interest is exempt from the 30% withholding tax.

Disposition proceeds received by you on a disposition of your Notes through a broker may be subject to information reporting and/or backup withholding if you are not eligible for an exemption, or do not provide the certification described above or the broker has actual knowledge or reason to know that you are a U.S. person. In particular, information reporting and backup withholding may apply if you use the U.S. office of a broker, and information reporting (but generally not backup withholding) may apply if you use the foreign office of a broker that has certain connections to the U.S.

Amounts withheld under the backup withholding rules are not an additional tax and may be allowable as a refund or a credit against the non-U.S. Holder's U.S. federal income tax liability upon furnishing the required information on a timely basis to the IRS.

We suggest that you consult your tax advisors concerning the application of information reporting and backup withholding rules.

Table of Contents**UNDERWRITING**

Under the terms and subject to the conditions set forth in the underwriting agreement, dated January , 2013 (the Underwriting Agreement), the underwriters named below (the Underwriters) for whom HSBC Securities (USA) Inc. and J.P. Morgan Securities LLC are acting as representatives, have severally agreed to purchase, and the Company has agreed to sell to them, severally, the respective principal amount of the Notes set forth opposite their respective names below:

Name	Principal Amount of Notes
HSBC Securities (USA) Inc.	\$
J.P. Morgan Securities LLC	
Total	\$

The Underwriting Agreement provides that the obligations of the several Underwriters to pay for and accept delivery of the Notes are subject to, among other things, the approval of certain legal matters by their counsel and certain other conditions. The offering of the Notes by the Underwriters is subject to receipt and acceptance and subject to the Underwriters' right to reject any order in whole or in part. The Underwriters are obligated to take and pay for all the Notes if any are taken.

The Underwriters propose initially to offer the Notes to the public at the public offering price set forth on the cover page hereof and may offer the Notes to certain dealers at prices that represent a concession not in excess of % of the principal amount of the Notes. Any Underwriter may allow, and such dealers may reallow, a concession not in excess of % of the principal amount of the Notes to certain other dealers. After the initial offering of the Notes, the offering price and other selling terms may from time to time be varied by the Underwriters.

Expenses associated with this offering, to be paid by the Company, are estimated to be \$.

The Company has agreed to indemnify against, or contribute to payments that the Underwriters may be required to make in respect of, certain liabilities, including liabilities under the Securities Act of 1933, as amended.

The Notes are a new issue of securities with no established trading market. The Notes will not be listed on any securities exchange or on any automated dealer quotation system. The Underwriters have advised the Company that the Underwriters intend to make a market in the Notes. The Underwriters are not obligated, however, to do so and may discontinue their market making at any time without notice. No assurance can be given as to the liquidity of the trading market for the Notes.

In connection with the offering, the Underwriters may purchase and sell Notes in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the Underwriters of a greater number of Notes than they are required to purchase in the offering. Stabilizing transactions consist of certain bids or purchases made for the purpose of preventing or retarding a decline in the market price of the notes while the offering is in progress.

The Underwriters also may impose a penalty bid. This occurs when a particular Underwriter repays to the Underwriters a portion of the underwriting discount received by it because the representatives have repurchased Notes sold by or for the account of such Underwriter in stabilizing or short covering transactions.

These activities by the Underwriters, as well as other purchases by the Underwriters for their own accounts, may stabilize, maintain or otherwise affect the market price of the Notes. As a result, the price of the Notes may

Table of Contents

be higher than the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the Underwriters at any time without notice. These transactions may be effected in the over-the-counter market or otherwise.

Certain of the Underwriters and their respective affiliates engage in transactions with, and perform services for, the Company in the ordinary course of business and have engaged, and may in the future engage, in commercial banking and investment banking transactions with the Company, for which they received or will receive customary fees and expenses.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. Certain of the underwriters or their affiliates that have a lending relationship with us routinely hedge their credit exposure to us consistent with their customary risk management policies. Typically, such underwriters and their affiliates would hedge such exposure by entering into transactions which consist of either the purchase of credit default swaps or the creation of short positions in our securities, including potentially the notes offered hereby. Any such credit default swaps or short positions could adversely affect future trading prices of the notes offered hereby. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

The Notes are offered for sale in those jurisdictions in the United States, Europe, Asia and elsewhere where it is lawful to make such offers.

Selling Restrictions

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a Relevant Member State), each Underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the Relevant Implementation Date) it has not made and will not make an offer of Notes which are the subject of the offering contemplated by this prospectus supplement to the public in that Relevant Member State other than:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of Notes shall require the Company or any Underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an offer of Notes to the public in relation to any Notes in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression Prospectus Directive means Directive 2003/71/EC (and

Table of Contents

amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in each Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

Each Underwriter has represented and agreed that:

- (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA")) received by it in connection with the issue or sale of the Notes in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the United Kingdom.

LEGAL OPINIONS

The validity of the Notes offered hereby will be passed on for the Company by its internal legal counsel. The Underwriters have been represented in connection with this offering by Cravath, Swaine & Moore LLP. Cravath, Swaine & Moore LLP provides legal services to the Company from time to time.

Table of Contents

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

Table of Contents

TABLE OF CONTENTS

	Page
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	1
<u>THE COMPANY</u>	1
<u>RATIOS OF EARNINGS TO FIXED CHARGES</u>	2
<u>USE OF PROCEEDS</u>	2
<u>DESCRIPTION OF SECURITIES</u>	3
<u>PLAN OF DISTRIBUTION</u>	14
<u>LEGAL OPINIONS</u>	15
<u>EXPERTS</u>	15

Table of Contents

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.

Table of Contents

RATIOS OF EARNINGS TO FIXED CHARGES

YEAR ENDED SEPTEMBER 30,
2007 2008 2009 2010 2011