

AIR PRODUCTS & CHEMICALS INC /DE/  
Form 11-K  
March 27, 2018  
UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

FORM 11-K

FOR ANNUAL REPORTS OF EMPLOYEE STOCK PURCHASE, SAVINGS AND SIMILAR PLANS  
PURSUANT TO SECTION 15(d) OF THE SECURITIES AND EXCHANGE ACT

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended 30 September 2017

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-4534

A. Full title of the Plan and the address of the Plan, if different from that of the issuer named below:

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN

B. Name of issuer of the securities held pursuant to the Plan and the address of its principal executive offices:

AIR PRODUCTS AND CHEMICALS, INC.  
7201 HAMILTON BOULEVARD  
ALLENTOWN, PA 18195-1501

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AIR PRODUCTS AND CHEMICALS, INC.

RETIREMENT SAVINGS PLAN

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All other schedules required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 (ERISA) have been omitted because there is no information to report.

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Report of Independent Registered Public Accounting Firm

The Plan Administrator

Air Products and Chemicals, Inc.

Retirement Savings Plan:

We have audited the accompanying statements of net assets available for benefits of the Air Products and Chemicals, Inc. Retirement Savings Plan ("the Plan") as of 30 September 2017 and 2016, and the related statement of changes in net assets available for benefits for the year ended 30 September 2017. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of 30 September 2017 and 2016, and the changes in net assets available for benefits for the year ended 30 September 2017, in conformity with accounting principles generally accepted in the United States of America.

The supplemental information in the accompanying schedule of Schedule H, Line 4(i), Schedule of Assets (Held at End of Year) as of 30 September 2017 has been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental information is presented for the purpose of additional analysis and is not a required part of the financial statements but include supplemental information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental information is the responsibility of the Plan's management. Our audit procedures included determining whether the supplemental information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In forming our opinion on the supplemental information in the accompanying schedule, we evaluated whether the supplemental information, including its form and content, is presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. In our opinion, the supplemental information in the accompanying schedule of Schedule H, Line 4(i), Schedule of Assets (Held at End of Year) as of 30 September 2017 is fairly stated in all material respects in relation to the financial statements as a whole.

/s/ KPMG LLP

Philadelphia, Pennsylvania

27 March 2018

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AIR PRODUCTS AND CHEMICALS, INC.  
 RETIREMENT SAVINGS PLAN  
 Statements of Net Assets Available for Benefits  
 30 September 2017 and 2016  
 (In thousands)

	2017	2016
Assets		
Investments at fair value:		
Interest-bearing cash	\$4,273	\$6,055
Money Market Fund	32,695	32,935
Life Cycle Funds	306,197	281,943
Corporate Bond Fund	84,801	103,003
Bond Index Fund	19,809	28,436
Balanced Fund	124,383	131,461
S&P 500 Index Fund	178,583	177,701
Extended Market Index Fund	26,536	21,951
Mid Cap Core Fund	56,274	46,387
Large Cap Value Fund	176,397	185,084
Large Cap Growth Fund	84,710	82,065
International Stock Funds	96,193	91,625
Small Capitalization Equity Fund	103,982	108,133
Air Products Stock	375,513	455,761
Versum Materials Stock	28,968	—
Self-Directed Brokerage Account	57,472	58,625
Total investments at fair value	1,756,786	1,811,165
Fully benefit-responsive investment contracts at contract value:		
Fixed Income Securities Fund	168,894	196,644
Receivables:		
Notes receivable from participants	14,046	18,139
Accrued interest and dividends	370	337
Other receivables	3,716	2,329
Total receivables	18,132	20,805
Total assets	1,943,812	2,028,614
Liabilities		
Payables and accrued liabilities	153	159
Total liabilities	153	159
Net assets available for benefits	\$1,943,659	\$2,028,455

The accompanying notes are an integral part of these statements.

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## AIR PRODUCTS AND CHEMICALS, INC.

## RETIREMENT SAVINGS PLAN

## Statements of Changes in Net Assets Available for Benefits

Years ended 30 September 2017 and 2016

(In thousands)

	2017	2016
Additions:		
Participant contributions	\$44,052	\$57,202
Company matching contributions	14,546	19,130
Company core contributions, net of forfeitures	11,826	15,215
Interest income	572	696
Dividend income	79,144	44,677
Net appreciation in fair value of investments	160,302	175,981
Total additions	310,442	312,901
Deductions:		
Distributions to participants	204,125	215,639
Administrative expenses	496	354
Total deductions	204,621	215,993
Net increase prior to plan transfer	105,821	96,908
Transfer to Versum Plan (note 1d)	(190,617)	—
Net assets available for benefits:		
Beginning of year	2,028,455	1,931,547
End of year	\$1,943,659	\$2,028,455

The accompanying notes are an integral part of these statements.

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AIR PRODUCTS AND CHEMICALS, INC.  
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(1) Description of the Plan

The following description of the Air Products and Chemicals, Inc. Retirement Savings Plan ("the Plan") provides only general information. Participants should refer to the summary plan description and the Plan Document for a more complete description of the Plan's provisions.

(a) General

The Plan is a defined-contribution plan sponsored by Air Products and Chemicals, Inc. ("the Company") covering certain full-time and part-time salaried and nonunion hourly employees of the Company and designated subsidiaries. Participants of the Plan are entitled to make before-tax contributions and Roth 401(k) contributions as allowed by Sections 401(k) and 401(m) of the Internal Revenue Code ("IRC") after having completed at least 30 days of service. Company Matching Contributions are made under IRC Section 401(m). The Plan is subject to the provisions of the Employee Retirement Income Security Act ("ERISA").

(b) Administration

The Board of Directors of the Company ("the Board") has delegated oversight for the design and administration of the Plan to its Management Development and Compensation Committee and oversight for the funding and management of assets of the Plan to its Audit Committee. The Board has delegated authority to the Chairman, President and Chief Executive Officer ("the Chairman") to take such actions as necessary to provide employee pension or welfare benefits, in accordance with its delegation with respect to the Company's pension and welfare benefit plans. The Chairman has delegated some of this authority to the Senior Vice President and Chief Human Resources Officer (role of "Plan Administrator"), who has established a Benefits Committee to have fiduciary responsibility for appeals of the denial of benefits in an ERISA plan. The Plan Administrator means the Senior Vice President and Chief or Human Resources Officer, or such other person he or she shall appoint to fill such role. The Audit Committee appointed the Pension Investment Committee ("Investment Committee") to assist with oversight of the investment of Plan assets. Fidelity Management Trust ("Fidelity") is the trustee of the Plan.

(c) Participant Accounts

Each participant's account is credited with the participant's and the Company's contributions, as well as an allocation of the Plan's earnings or losses and charged with administrative expenses. Allocations are based on investment elections made by the participant. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account balance.

(d) Contributions

Subject to certain IRC restrictions, participants may elect to contribute to the Plan on a before-tax basis from 3% to 50%, in whole percentages, of compensation, as defined in the Plan Document, through payroll deductions. The before-tax basis allows a participant to defer recognition of income for federal income tax purposes. Effective 1 January 2016, the Company added a Roth 401(k) contribution option to the Air Products and Chemicals, Inc. Retirement Savings Plan. As a result of the Roth 401(k) contribution option added, the Plan eliminated the after-tax contribution option effective 31 December 2015. Plan participants have the choice of the traditional pre-tax 401(k) contribution option and the new Roth 401(k) contribution option.

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Participants who are at least age 50 before the close of the calendar year may make catch-up contributions in accordance with, and subject to the limitations of, IRC Section 414(v).

The Company will match certain contributions to the Plan made by participants. The matching contribution calculation will depend on whether or not the participant receives Company Core Contributions under the Plan. To be eligible for Company Core Contributions, a participant must be (1) a salaried employee hired or rehired after 31 October 2004, (2) an hourly employee who transferred to a salaried status after 31 October 2004, (3) a nonunion hourly employee hired or rehired after 31 January 2011, (4) an employee who becomes a nonunion hourly employee after 31 January 2011 due to a change in employment status and is not earning credited service under the Pension Plan for Hourly Rated Employees of Air Products and Chemicals, Inc., or (5) a salaried employee who made an irrevocable election to receive Company Core Contributions under the Plan instead of continuing to earn credited service under the Air Products and Chemicals, Inc. Pension Plan for Salaried Employees. Company Core Contributions are made under IRC Section 401(a).

Company Core Contributions are cash contributions made by the Company to eligible participants' accounts in accordance with the participants' investment direction election. The amount of Company Core Contributions is based on participants' service and base pay as follows:

- 4% of base pay if credited service is less than 10 years, or
- 5% of base pay if credited service is between 10 and 19 years, or
- 6% of base pay if credited service is 20 years or more.

Eligible participants are not required to contribute to the Plan in order to receive the Company Core Contribution.

For participants who are receiving Company Core Contributions, the Company will match participant contributions as follows:

- \$0.75 for each \$1.00 of the first 4% of base pay that is contributed, if it is before-tax, plus
- \$0.50 for each \$1.00 of the next 2% of base pay that is contributed, if it is before-tax.

For participants who are not receiving Company Core Contributions but rather are earning credited service in the Air Products and Chemicals, Inc. Pension Plan for Salaried Employees or in the Pension Plan for Hourly Rated Employees of Air Products and Chemicals, Inc., the Company will match participant contributions as follows:

- \$0.75 for each \$1.00 of the first 3% of base pay that is contributed, if it is before-tax, plus
- \$0.25 for each \$1.00 of the next 3% of base pay that is contributed, either before or after-tax.

Catch-up contributions are not eligible for matching contributions.

Company Matching Contributions are invested in Air Products Company Stock ("Company Stock"). Company Matching Contributions may be transferred by the Plan's participants to any other of the Plan's investment options at any time. As such, Company Stock is deemed participant directed.

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In September 2015, the Company announced plans to separate its Materials Technologies business, which contains two divisions, Electronic Materials (EMD) and Performance Materials (PMD), into an independent publicly traded company and distribute to Air Products shareholders all of the shares of the new public company in a tax-free distribution (a "spin-off"). Versum Materials, Inc. ("Versum"), was formed as the new company to hold the Materials Technologies business subject to spin-off. On 6 May 2016, the Company entered into an agreement to sell certain subsidiaries and assets comprising the PMD division to Evonik Industries AG for \$3.8 billion in cash and the assumption of certain liabilities. As a result, the Company moved forward with the planned spin-off of Versum containing only EMD.

On 1 October 2016 (the distribution date), Air Products completed the spin-off of Versum into a separate and independent public company by way of a distribution to the Air Products' stockholders of all of the then issued and outstanding shares of common stock of Versum on the basis of one share of Versum common stock for every two shares of Air Products' common stock held as of the close of business on 21 September 2016 (the record date for the distribution). Fractional shares of Versum common stock were not distributed to Air Products common stockholders. Air Products' stockholders received cash in lieu of fractional shares. As a result of the distribution, Versum is now an independent public company and its common stock is listed under the symbol "VSM" on the New York Stock Exchange. On 3 January 2017, the Company completed the sale of the PMD business to Evonik.

In connection with the disposition of the two divisions comprising the Materials Technologies segment, the Plan Document was amended as follows:

Effective 30 September 2016, a participant who was an employee of Versum on 30 September 2016 shall have a vested, nonforfeitable right to the portion of the participant's account attributable to Company Core Contributions, including any related investment earnings and losses. Following the spin-off of Versum from the Company, the Investment Committee authorized the Plan's Trustee on 10 October 2016 to transfer the investments of employees of Versum who are participants in the Plan valued at \$187,297,000, and Notes receivable from participants of \$3,320,000 to an IRC Section 401(a) qualified plan established by Versum.

Effective 3 January 2017, PMD employees who became employees of Evonik or one of its affiliates shall have a vested, nonforfeitable right to the portion of the Participant's account attributable to Company Core Contributions, including any related investment earnings and losses.

(e) Contribution Percentage Changes

Contribution percentage changes are effective as soon as administratively possible after receipt of request.

(f) Rollovers

A participant or any other employee who is entitled to make a rollover contribution to the Plan under the IRC may make a cash contribution to the Plan of all or a portion of any such rollover contribution amount.

(g) Vesting

Participants are immediately vested in 100% of their elected salary deferrals, rollover contributions, the Company's matching contributions, and earnings thereon. A participant vests in Company Core Contributions plus investment earnings thereon, 20% for each year of service reaching 100% after five years of service, or, if earlier, upon reaching age 65.



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(h) Forfeitures

Forfeitures can be used by the Company to reduce Company Core Contributions. Forfeitures used to reduce Company Core Contributions were approximately \$723,000 for 2017 and \$624,000 for 2016 and are reflected as a reduction to the Company Core Contributions in the accompanying statements of changes in net assets available for benefits. There were no unallocated forfeitures at year-end.

(i) Withdrawal Provisions

Upon application, but no sooner than 12 months after any earlier withdrawal:

- (a) a participant may withdraw all or a portion of after-tax contributions, which have been in the Plan for at least two years;
- (b) after withdrawing all amounts described in subparagraph (a), a participant may withdraw any company matching contributions, which have been in the Plan for at least two years;
- (c) after withdrawing all amounts described in subparagraphs (a) and (b), a participant may withdraw before-tax contributions, Roth 401(k) contributions, and then vested Company Core Contributions upon

(i) Attaining age 59½;

Providing satisfactory evidence that the withdrawal is required on account of a “hardship.” Hardship withdrawals will be limited to situations in which a participant has an immediate and heavy financial need and a distribution

- (ii) from the Plan is necessary to meet that need. A plan loan must be pursued first. A hardship withdrawal may be made without regard to whether any other withdrawal has occurred within the last 12 months and will result in the suspension of the right to contribute to the Plan for the next 6 months;

(iii) A Qualified Reservist Distribution; or

- (iv) A distribution pursuant to the Heroes Earnings Assistance and Relief Tax Act of 2008.

A participant, upon separation of employment, is entitled to receive all amounts credited to his or her account, including before-tax, Roth 401(k), after-tax, catch-up, company matching contributions, and all vested Company Core Contributions. This distribution will automatically occur on or about 60 days after the end of the month in which employment ends if the participant’s account balance is less than \$1,000. Any outstanding loan balance, which is not repaid within 90 days, will be treated as a taxable distribution. At the discretion of the Plan Administrator, loan balances may be transferred to a successor employer for participants whose employment ends due to a divestiture of a business or segment of the Company. Participants may elect to rollover distributions directly into another qualified plan or an Individual Retirement Account. The distribution of a participant’s account balance may be deferred until the earlier of age 70½ or death.

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(j) Notes Receivable from Participants

The Plan may make a loan or loans to any participant upon electronic request through Fidelity. Loans may be made in an amount that, when added to the outstanding balance of any other loan, will not exceed the lesser of \$50,000 reduced by any loan amounts repaid during the preceding year, or one half of the present value of the participant's vested account balance. Participant loans are valued at the sum of the unpaid principal balance, plus accrued but unpaid interest. The loan must be adequately secured, bear a reasonable interest rate, and be repaid within a maximum of five years, unless such loan is for a principal residence, in which case the loan is to be repaid within a maximum of 25 years. The interest rate charged on all outstanding participant loans during the Plan year ended 30 September 2017, ranged from 4.25% to 10.5%.

Loan principal and interest repayments are credited directly to the borrowing participant's plan account and invested in accordance with the participant's then-current investment directions.

Effective 1 November 2016, all Plan participant loans may be directly rolled over to a qualified plan of a subsequent employer of the Participant pursuant to an agreement between the Company and the subsequent employer at the discretion of the Plan Administrator. In addition, all loan participants may now repay an amount toward the outstanding loan balance at any time in accordance with the procedures established by the Plan Administrator. Previously, prepayment of participant loans were not allowed unless paid in full.

(k) Investment Directions

Participant investment fund elections can be made in increments of 1% provided the percentages total 100%. Designated default funds for the Plan are the State Street Global Advisor Target Retirement Date Funds. Company Matching Contributions are invested in Company Stock, which may be transferred by the Plan's participants to any other investment option at any time, provided they are not in violation of frequent trading rules, in which case transfers may be limited to the Money Market Fund. Participants can elect to have their contributions to the Plan and Company Core Contributions invested in the following funds:

Money Market Fund (Fidelity Institutional Money Market Government Portfolio - Institutional Class) – This fund seeks to provide as high a level of current income as is consistent with the preservation of principal and liquidity, by investing primarily in U.S. government securities and repurchase agreements.

Life Cycle Funds (SS Target Retirement Income Securities Lending Series Fund Class II, SS Target Retirement 2015 Securities Lending Series Fund Class II, SS Target Retirement 2020 Securities Lending Series Fund Class II, SS Target Retirement 2025 Securities Lending Series Fund Class II, SS Target Retirement 2030 Securities Lending Series Fund Class II, SS Target Retirement 2035 Securities Lending Series Fund Class II, SS Target Retirement 2040 Securities Lending Series Fund Class II, SS Target Retirement 2045 Securities Lending Series Fund Class II, SS Target Retirement 2050 Securities Lending Series Fund Class II, SS Target Retirement 2055 Securities Lending Series Fund Class II, and SS Target Retirement 2060 Securities Lending Series Fund Class II) – These funds of funds invest in a portfolio of index commingled funds tracking U.S. stocks, U.S. bonds, and international stocks. The allocation of assets shifts from one weighted more heavily to stocks to one more heavily weighted to bonds as the target date approaches and continues this transition for five additional years.

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Corporate Bond Fund (Western Asset Core Plus Bond CIF R1) – This collective investment trust seeks to maximize total return, consistent with prudent investment management and liquidity needs, by investing to obtain an average duration of within 30% of the duration of the domestic bond market as a whole.

Bond Index Fund (Vanguard Total Bond Market Index Fund) – This mutual fund seeks to track the performance of a broad, market-weighted bond index. The fund employs a “passive management,” or indexing investment approach, designed to track the performance of the Barclays Capital U.S. Aggregate Float Adjusted Index.

Balanced Fund (Dodge & Cox Balanced Fund) – This mutual fund seeks to provide regular income, conservation of principal, and an opportunity for long-term growth of principal and income through investments in a diversified portfolio of common stocks, preferred stocks, bonds, and cash equivalents.

S&P 500 Index Fund (Fidelity 500 Index Fund) – This mutual fund seeks to provide investment results that parallel the performance results of the Standard and Poor’s 500 Index by investing in common stocks of companies that comprise this index.

Extended Market Index Fund (Fidelity Extended Market Index Fund) – This mutual fund seeks to provide investment results that correspond to the total return of stocks of mid-to-small-capitalization United States companies that are not included in the Standard and Poor’s 500 Index. The fund normally invests at least 80% of its assets in common stocks included in the Dow Jones U.S. Completion Total Stock Market Index.

Mid Cap Core Fund (Principal Institutional Fund) – This mutual fund seeks long-term growth of capital by investing primarily in common stocks and other equity securities of medium-capitalization companies. It normally invests at least 80% of net assets in companies with market capitalizations similar to those of companies in the Russell Midcap Index.

Large Cap Value Fund (Vanguard Windsor II Fund Admiral) – This mutual fund seeks to generate long-term growth of capital as well as income from dividends. This fund invests in common stocks of large companies that the fund’s management believes are out of favor or undervalued.

Large Cap Growth Fund (JPMCB Large Cap Growth Fund) – This commingled fund seeks long-term capital appreciation by investing in a diversified portfolio of equity securities of companies with market capitalizations similar to those within the universe of the Russell 1000 Growth Index (the Benchmark) and attempts to outperform the Benchmark over a full market cycle.

International Stock Funds

Vanguard Total International Stock Index Fund – This mutual fund seeks to track the performance of the MSCI All Country World ex USA Investable Market Index, an index designed to measure equity market performance in

(a) developed and emerging markets, excluding the United States. The fund employs a “passive management” or indexing-investment approach.

(b) Fidelity International Discovery Commingled Pool – This collective investment trust seeks long-term growth of capital by investing primarily in non-U.S. securities and common stocks.

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Small Capitalization Equity Fund (FIAM Small Capitalization Core Commingled Pool) – This commingled fund seeks long-term capital growth within the arena of domestic small capitalization companies.

Fixed Income Securities Fund (Invesco Stable Value Fund) – This fund invests in a diversified portfolio of high-quality bonds that are “wrapped” by high-quality financial institutions that guarantee principal and a predetermined interest rate yield. This fund also invests in traditional investment contracts with insurance companies and banks that guarantee principal and a predetermined interest rate yield.

Self-Directed Brokerage Account (Fidelity BrokerageLink) – A brokerage account that offers a range of Fidelity and Non-Fidelity mutual funds. Interest-bearing cash held in the account is presented separately as a short-term investment.

Air Products Company Stock – Effective as of the market close on 21 July 2016, the Air Products Company Stock Fund was converted to a real-time traded stock. This investment option is designed to provide participants with an opportunity to share in the potential growth of the Company’s common stock. This is a nonleveraged employee stock ownership plan within the Plan allowing participants to have dividends reinvested in their Company Stock account or to receive quarterly dividend checks.

Versum Materials Company Stock – In October 2016, the Company distributed to its shareholders a designated number of shares of Versum Company Stock for each share of Air Products Company Stock they held preceding the spin off. This distribution is reflected in dividend income on the Statement of Changes in Net Assets Available for Benefits. After the initial distribution, participants had the ability to sell shares, but were not able to direct new contributions or exchanges to Versum Company Stock. Participants who held Versum Company Stock had the opportunity to transfer their balance in Versum Company Stock to other investments within the 12 months following the separation of Versum from the Company.

The Versum Company Stock has been completely removed from the Plan in October 2017, with remaining balances not transferred out by participant direction sold and the proceeds transferred into the Plan's designated default funds. Participant changes to investment elections can apply to future contributions, accumulated savings, or both.

Participant investment election changes completed by 4 p.m. (Eastern Time) are effective the same New York Stock Exchange (NYSE) business day and are reflected in the participant’s account the next NYSE business day.

Participants may not redirect accumulated savings directly from the Fixed Income Securities Fund to the Money Market Fund or to Fidelity BrokerageLink.

(2) Summary of Significant Accounting Policies

(a) Basis of Accounting

The financial statements and accompanying footnotes were prepared on the accrual basis of accounting in conformity with accounting principles generally accepted in the United States of America ("U.S. GAAP"). The Company has elected to file these financial statements with the Securities and Exchange Commission prepared in conformity with guidelines issued under ERISA, as amended.

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(b) Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of net assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

(c) Investment Valuation and Income Recognition

The Plan's investments are stated at fair value, except for fully benefit responsive contracts which are carried at contract value (see Note 4, Fixed Income Securities Fund, for additional information). Quoted market prices are used to value investments.

Purchases and sales are recorded on a trade-date basis. Interest is recorded on an accrual basis. Dividends are recorded on the ex-dividend date.

(d) Risks and Uncertainties

Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility risks. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and could materially impact participants' account balances and the amounts reported in the accompanying statements of net assets available for benefits. The Plan's exposure to a concentration of credit risk is dependent upon the investment allocations selected by the Plan's participants. At 30 September 2017 and 2016, 19% and 22%, respectively, of the Plan's Net Assets Available for Benefits were invested in the common stock of the Company. The underlying value of the Company's stock is impacted by the performance of the Company, the market's evaluation of such performance, and other factors.

(e) Payment of Benefits

Benefits are recorded when paid.

(3) Fair Value Measurements

Fair value is defined as an exit price (i.e., the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date). The three-level fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value includes:

• Level 1 – Quoted prices (unadjusted) in active markets for identical assets or liabilities;

• Level 2 – Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability; and

• Level 3 – Inputs that are unobservable for the asset or liability based on the Company's own assumptions (about the assumptions market participants would use in pricing the asset or liability).

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If the inputs used to measure the financial assets and liabilities fall within more than one level described above, the categorization is based on the lowest level input that is significant to the fair value measurement of the instrument. Within the Plan, investments are recorded at fair value as follows:

(a) Mutual Funds

The Mutual funds are valued by obtaining quoted active market prices from nationally recognized securities exchanges and are classified as Level 1 assets.

(b) Air Products Stock

Air Products Stock is valued based on the number of shares held by the Plan at year-end multiplied by the closing price of the Company's stock on the New York Stock Exchange and, therefore, presented as a Level 1 asset.

(c) Versum Stock

Versum Stock is valued based on the number of shares held by the Plan at year-end multiplied by the closing price of the Company's stock on the New York Stock Exchange and, therefore, presented as a Level 1 asset.

(d) Commingled Funds

Commingled funds are valued at net asset value, determined by each fund's trustee based on the fair value of the underlying securities within the funds, which are traded on active markets and presented as a Level 1 asset.

(e) Fixed Income Securities Fund

The Fixed Income Securities Fund invests in fully-benefit responsive investment contracts that are held at contract value. See Note 4, Fixed Income Securities Fund, for additional information on the fund.

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## (f) Investments Measured at Fair Value

Investments measured at fair value at 30 September 2017 and 2016 are summarized below (in thousands):  
 30 September 2017

	Total	Level 1	Level 2	Level 3
Assets:				
Interest-bearing Cash	\$4,273	\$4,273		
Money Market Fund	32,695	32,695		
Mutual Funds	659,129	659,129		
Air Products Stock	375,513	375,513		
Versum Stock	28,968	28,968		
Commingled Funds	656,208	656,208		
Total investments at fair value	\$1,756,786	\$1,756,786	\$ —	—

Investments measured at contract value:

Fixed Income Securities Fund	168,894
Total Investments	\$1,925,680

30 September 2016

	Total	Level 1	Level 2	Level 3
Assets:				
Interest-bearing Cash	\$6,055	\$6,055		
Money Market Fund	32,935	32,935		
Mutual Funds	664,203	664,203		
Air Products Stock	455,761	455,761		
Commingled Funds	652,211	652,211		
Total investments at fair value	\$1,811,165	\$1,811,165	\$ —	—

Investments measured at contract value:

Fixed Income Securities Fund	196,644
Total Investments	\$2,007,809

## (4) Fixed Income Securities Fund

Contributions made to the Fixed Income Securities Fund ("the Fund") are invested in traditional investment contracts with insurance companies and other financial institutions, and short to intermediate-term fixed income securities or portfolios that are "wrapped" by third-party financial institutions that guarantee principal and a predetermined interest rate yield. The contract issuers of the traditional investment contracts and the wrap providers are highly rated financial institutions. The contracts held in this Fund are deemed fully benefit-responsive as they provide that the Plan's participants may make withdrawals at contract value. As described in Note 2, Summary of Significant Accounting Policies, because the contracts are deemed fully benefit-responsive, contract value is the relevant measurement attributable for the contracts held in the Fund. Contract value represents contributions made under the contract, plus earnings, less participant withdrawals and administrative expenses.

No valuation reserves were recorded against the contract value for credit risk of the contract issuers or otherwise for the Fund at 30 September 2017 and 2016.





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Key factors that could influence future average interest crediting rates include, but are not limited to the following: Fund cash flows, changes in interest rates, total return performance of the bond strategies underlying each of the Fund's contracts, and default or credit failures of any of the securities, investment contracts, or other investments held in the Fund.

Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value. Certain events, although considered unlikely and not probable, such as a change in administration or operation of the Plan or Fund, group terminations, layoffs, or exclusion of group eligibility in the Plan, may limit the ability of participants to access their investments at contract value. The contract issuers may terminate the contracts in the unlikely event of a default by the Plan.

(5)Income Tax Status

The Internal Revenue Service ("IRS") has determined and informed the Company, by letter dated 16 February 2017, that the Plan is designed in accordance with applicable sections of the IRC. The determination letter covered Plan amendments adopted through 14 December 2015. Although the Plan has been amended since receiving the determination letter, the Plan Administrator and the Plan's tax counsel believe that the Plan is designed and is currently being operated in compliance with the applicable requirements of the IRC and, therefore, believe that the Plan is qualified as tax-exempt.

U.S. GAAP requires Plan management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the IRS. The Plan Administrator has analyzed the tax positions taken by the Plan, and has concluded that as of 30 September 2017 and 2016, there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress. The Plan Administrator believes it is no longer subject to income tax examinations for years prior to 2010.

(6)Expenses of the Plan

All reasonable third-party fees and expenses for administration of the Plan have been paid by the Plan, including (but not limited to) trustee fees, record-keeping fees, audit fees, proxy voting fees, and communication expenses. Such expenses may be assessed to participant accounts as a quarterly administrative charge. Expenses incident to the management of the Plan's investments are deducted from the earnings of the respective investments.

(7)Plan Termination

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA. In the event of plan termination, the entire amount credited to each participant's account will be fully vested.

(8)Related-Party Transactions

The Plan holds common stock of the Company, representing qualifying equity securities as defined by ERISA. At 30 September 2017 and 2016, securities valued at \$375,513,000 and \$455,761,000, representing 19% and 22% of net assets available for plan benefits, respectively.

The Plan invests in funds managed by Fidelity valued at \$487,783,000 and \$494,823,000, representing 25% and 24% of net assets available for plan benefits at 30 September 2017 and 2016, respectively.

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## (9) Subsequent Events

Effective 1 November 2017, the Plan permitted participation by employees whose terms and conditions of employment are covered by the terms of a collective bargaining agreement provided such collective bargaining agreement provides for Plan participation.

Effective 1 January 2018, a Plan participant shall have a vested, nonforfeitable right to the portion of the participant's account attributable to Company Core Contributions, including any related investment earnings and losses.

Effective 1 January 2018, on an annual basis, the Company shall ensure that a participant's Company Matching Contribution is equal to the maximum contribution the participant would receive under the Enhanced Formula for Core Contribution Participants and the Regular Formula for all other eligible participants for the calendar year based upon the participant's before-tax and Roth 401(k) Contributions for the entire calendar year.

## (10) Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements at 30 September 2017 and 2016 to Form 5500:

	2017	2016
	(In thousands)	
Net assets available for benefits per the financial statements	\$ 1,943,659	\$ 2,028,455
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	3,126	6,627
Amounts allocated to withdrawing participants	(297	) (656
Net assets available for benefits per Form 5500	\$ 1,946,488	\$ 2,034,426

The following is a reconciliation of benefits paid to participants per the financial statements for the year ended 30 September 2017 to the Form 5500:

	2017
	(In thousands)
Distributions to participants per the financial statements	\$ 204,125
Amounts allocated to withdrawing participants at 30 September 2017	297
Amounts allocated to withdrawing participants at 30 September 2016	(656
Distributions to participants per Form 5500	) \$ 203,766

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The following is a reconciliation of the net decrease in net assets per the financial statements for the year ended 30 September 2017 to the Form 5500:

	2017 (In thousands)
Decrease in net assets per the financial statements	\$ (84,796 )
Change in the adjustment from contract value to fair value for fully benefit-responsive investment contracts	(3,501 )
Change in amounts allocated to withdrawing participants	359
Net decrease per Form 5500	\$ (87,938 )

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Schedule H, Line 4(i) – Schedule of Assets (Held at End of Year)

30 September 2017

(In thousands)

Identity of issue	Description	Current value
Fidelity Trust Management Company:		
*Interest-bearing cash	Cash	\$4,273
Money Market Fund:		
* Fidelity Institutional Money Market Government Portfolio – Institutional Class	Money market fund; par value	32,695
Life Cycle Funds (Lending Series Fund Class II):		
SS Target Retirement Income Securities	Commingled investment pool	15,695
SS Target Retirement 2015 Securities	Commingled investment pool	15,424
SS Target Retirement 2020 Securities	Commingled investment pool	64,916
SS Target Retirement 2025 Securities	Commingled investment pool	46,052
SS Target Retirement 2030 Securities	Commingled investment pool	59,453
SS Target Retirement 2035 Securities	Commingled investment pool	22,752
SS Target Retirement 2040 Securities	Commingled investment pool	37,944
SS Target Retirement 2045 Securities	Commingled investment pool	17,639
SS Target Retirement 2050 Securities	Commingled investment pool	14,968
SS Target Retirement 2055 Securities	Commingled investment pool	9,929
SS Target Retirement 2060 Securities	Commingled investment pool	1,425
Corporate Bond Fund:		
Western Asset Core Plus Bond CIF R1	Commingled investment pool	84,801
Bond Index Fund:		
Vanguard Total Bond Market Index Fund	Mutual fund shares: 1,837,533 shares	19,809
Balanced Fund:		
Dodge and Cox Balanced Fund	Mutual fund shares: 1,143,749 shares	124,383
S&P 500 Index Fund:		
*Fidelity 500 Index Fund	Mutual fund shares: 2,017,430 shares	178,583
Extended Market Index Fund:		
*Fidelity Extended Market Index Fund	Mutual fund shares: 429,036 shares	26,536
Mid Cap Core Fund:		
Principal Institutional Fund	Mutual fund shares: 2,094,314 shares	56,274
Large Cap Value Fund:		
Vanguard Windsor II Fund Class Admiral	Mutual fund shares: 2,589,888 shares	176,397
Large Cap Growth Fund:		
JPMCB Large Cap Growth Trust	Commingled investment pool	84,710
International Stock Funds:		
*Fidelity International Discovery Commingled Pool	Commingled investment pool	76,518
Vanguard Total International Stock Index Fund	Mutual fund shares: 167,460 shares	19,675
Small Capitalization Equity Fund:		
*FIAM Small Capitalization Core Commingled Pool	Commingled investment pool	103,982
Common Stock:		
* Air Products and Chemicals, Inc. Common Stock	Common stock: 2,483,225 shares, Historical cost: \$186,989	375,513
Versum Materials Inc. Common Stock	Common stock: 746,202 shares, Historical cost: \$9,603	28,968

Fixed Income Securities Fund:

Invesco Stable Value Fund	Guaranteed investment contracts, 2.37% (average yield) in 2017	172,020
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Self-Directed Brokerage Account:

*Fidelity BrokerageLink	Brokerage account for many publicly available mutual funds	57,472
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Total investments		\$1,928,806
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*Participant loans	Interest rates ranging from 4.25% to 10.5% with various maturity dates	\$14,046
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\* Represents investments with a party in interest.

Note: Cost information not presented because investments are participant directed.

See accompanying Report of Independent Registered Public Accounting Firm.

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INDEX TO EXHIBIT

Exhibit No. Description

23.1      Consent of Independent Registered Public Accounting Firm

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this Annual Report to be signed on its behalf by the undersigned hereunto duly authorized.

Air Products and Chemicals, Inc. Retirement Savings Plan  
(Name of Plan)

Date: 27 March 2018 By: /s/ Sean D. Major

Sean D. Major

Executive Vice President, General Counsel and Secretary