

AIR PRODUCTS & CHEMICALS INC /DE/  
Form 11-K  
March 26, 2019  
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 2018

OR

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

Commission file number 001-04534

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

---

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN

Table of Contents

<u>Report of Independent Registered Public Accounting Firm</u>	<u>1</u>
Financial Statements	
<u>Statements of Net Assets Available for Benefits, 30 September 2018 and 2017</u>	<u>2</u>
<u>Statement of Changes in Net Assets Available for Benefits, Year ended 30 September 2018</u>	<u>3</u>
<u>Notes to Financial Statements</u>	<u>4</u>
Supplemental Schedule	
<u>Schedule H, Line 4(i) – Schedule of Assets (Held at End of Year), 30 September 2018</u>	<u>17</u>
<u>Index to Exhibit</u>	<u>18</u>
<u>Signature</u>	<u>19</u>

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.

---

Table of Contents

Report of Independent Registered Public Accounting Firm

To the Plan Participants and Plan Administrator  
Air Products and Chemicals, Inc. Retirement Savings Plan:  
Opinion on the Financial Statements

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 2018 and 2017, the related statement of changes in net assets available for benefits for the year ended 30 September 2018, and the related notes (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of 30 September 2018 and 2017, and the changes in net assets available for benefits for the year ended 30 September 2018, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

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 are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Plan in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Accompanying Supplemental Information

The supplemental information in the accompanying schedule, Schedule H, Line 4(i) - Schedule of Assets (Held at End of Year) as of 30 September 2018, has been subjected to audit procedures performed in conjunction with the audit of the Plan’s financial statements. 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, 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 is fairly stated, in all material respects, in relation to the financial statements as a whole.

/s/KPMG LLP

We have served as the Plan’s auditor since 2002.  
Philadelphia, Pennsylvania  
26 March 2019

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
 RETIREMENT SAVINGS PLAN  
 Statements of Net Assets Available for Benefits  
 30 September 2018 and 2017  
 (In thousands)

	2018	2017
Assets		
Investments at fair value:		
Interest-bearing cash	\$3,237	\$4,273
Money Market Fund	32,017	32,695
Life Cycle Funds	367,642	306,197
Corporate Bond Fund	75,590	84,801
Bond Index Fund	19,465	19,809
Balanced Fund	124,547	124,383
S&P 500 Index Fund	199,546	178,583
Extended Market Index Fund	31,277	26,536
Mid-Cap Core Fund	60,053	56,274
Large Cap Value Fund	179,814	176,397
Large Cap Growth Fund	123,884	84,710
International Stock Funds	94,887	96,193
Small Cap Core Fund	113,895	103,982
Company Stock	397,301	375,513
Versum Materials Stock	—	28,968
Self-Directed Brokerage Account	57,011	57,472
Total investments at fair value	1,880,166	1,756,786
Fully benefit-responsive investment contracts at contract value:		
Fixed Income Securities Fund	169,226	168,894
Receivables:		
Notes receivable from participants	15,011	14,046
Accrued interest and dividends	369	370
Other receivables	19	3,716
Total receivables	15,399	18,132
Total assets	2,064,791	1,943,812
Liabilities		
Payables and accrued liabilities	188	153
Total liabilities	188	153
Net assets available for benefits	\$2,064,603	\$1,943,659

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
 RETIREMENT SAVINGS PLAN  
 Statement of Changes in Net Assets Available for Benefits  
 Year ended 30 September 2018  
 (In thousands)

	2018
Additions:	
Participant contributions	\$45,445
Company matching contributions	13,963
Company core contributions, net of forfeitures	12,507
Interest income	684
Dividend income	44,608
Net appreciation in fair value of investments	153,006
Total additions	270,213
Deductions:	
Distributions to participants	150,102
Administrative expenses	310
Total deductions	150,412
Net increase prior to plan transfer	119,801
Transfers in	1,143
Net assets available for benefits:	
Beginning of year	1,943,659
End of year	\$2,064,603

The accompanying notes are an integral part of these statements.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

(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 hourly employees of the Company and designated subsidiaries. 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. 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 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 supervise, monitor and review the investment performance of the Plan's 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 401(k) basis or after-tax Roth 401(k) 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.

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).

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

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., (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, or (6) an employee covered by the terms of a collective bargaining agreement whose terms provide for a core contribution after 31 October 2017. 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;

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 using the Enhanced Formula as follows:

\$0.75 for each \$1.00 of the first 4% of base pay that is contributed; plus

\$0.50 for each \$1.00 of the next 2% of base pay that is contributed.

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 using the Regular Formula as follows:

\$0.75 for each \$1.00 of the first 3% of base pay that is contributed; plus

\$0.25 for each \$1.00 of the next 3% of base pay that is contributed.

Catch-up contributions are not eligible for matching contributions.

Company matching contributions are invested in the Company's common 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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

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.

(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. 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.

(h) Forfeitures

Forfeitures can be used by the Company to reduce Company Core Contributions. Forfeitures used to reduce Company Core Contributions were approximately \$49,000 and are reflected as a reduction to the Company Core Contributions in the accompanying statement of changes in net assets available for benefits. There were no unallocated forfeitures at year-end.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

(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 from

(ii) 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 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. Participants may continue to repay any outstanding loan balances; 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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

(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 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 2018, ranged from 4.25% to 10.50%.

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.

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, loan participants may repay an amount toward the outstanding loan balance at any time in accordance with the procedures established by the Plan Administrator.

(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 Investments 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 (State Street ("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.

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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

Bond Index Fund (Vanguard Total Bond Market Index Fund Institutional Shares) – 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 Funds Inc. MidCap Fund Institutional Class) – 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

(a) Vanguard Total International Stock Index Fund Institutional Shares – 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 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.

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

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

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.

Company 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.

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.

(1) Versum Materials Stock

In October 2016, the Company distributed to its shareholders a designated number of shares of Versum Materials Stock for each share of Company Stock they held preceding the spin off. After the initial distribution, participants had the ability to sell shares, but were not able to direct new contributions or exchanges to Versum Materials Stock. Participants who held Versum Materials Stock had the opportunity to transfer their balance in Versum Materials Stock to other investments within the 12 months following the separation of Versum from the Company. Remaining balances not transferred out by participant direction were sold and the proceeds transferred into the Plan's designated default funds. The Versum Materials Stock was completely removed from the Plan as of October 2017.

(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.

(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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

(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 both 30 September 2018 and 2017, 19% 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 fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

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.

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).

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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

(b) Company Stock

Company 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 NYSE and, therefore, presented as a Level 1 asset.

(c) Versum Materials Stock

Versum Materials Stock is valued based on the number of shares held by the Plan at year-end multiplied by the closing price of Versum's stock on the NYSE 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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
 RETIREMENT SAVINGS PLAN  
 Notes to Financial Statements  
 30 September 2018 and 2017

## (f) Investments Measured at Fair Value

Investments measured at fair value at 30 September 2018 and 2017 are summarized below (in thousands):

	30 September 2018			
	Total	Level 1	Level 2	Level 3
Assets				
Interest-bearing Cash	\$3,237	\$3,237		
Money Market Fund	32,017	32,017		
Mutual Funds	692,608	692,608		
Company Stock	397,301	397,301		
Commingled Funds	755,003	755,003		
Total investments at fair value	\$1,880,166	\$1,880,166	\$ —	—
Investments measured at contract value				
Fixed Income Securities Fund	169,226			
Total Investments	\$2,049,392			
	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		
Company Stock	375,513	375,513		
Versum Materials 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			

## (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 the 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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

No valuation reserves were recorded against the contract value for credit risk of the contract issuers or otherwise for the Fund at 30 September 2018 and 2017.

Key factors that could influence future average interest crediting rates include, but are not limited to the following: the Fund's 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 the 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 2018 and 2017, 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 2011.

(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.

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
 RETIREMENT SAVINGS PLAN  
 Notes to Financial Statements  
 30 September 2018 and 2017

## (8) Related-Party Transactions

The Plan holds common stock of the Company, representing qualifying equity securities as defined by ERISA. The Plan held qualifying equity securities valued at \$397,301,000 and \$375,513,000 at 30 September 2018 and 2017, respectively, representing 19% of net assets available for benefits.

The Plan invests in funds managed by Fidelity valued at \$520,282,000 and \$487,783,000 at 30 September 2018 and 2017, respectively, representing 25% of net assets available for benefits.

## (9) Subsequent Events

Effective 1 January 2019, the Plan was amended to change the Plan Year from a fiscal year to a calendar year, and to make changes to the hardship distribution provisions. The Plan Year will be the annual period beginning on 1 January and ending on 31 December of the calendar year, and the period beginning on 1 October 2018 and ending on 31 December 2018 will be a Short Plan Year.

Hardship distribution provisions were amended in accordance with the Bipartisan Budget Act of 2018. Once effective, a Participant is not required to take a plan loan from any plan maintained by the Company or an Affiliated Company, as defined by IRC section 414, in order to obtain a hardship distribution.

## (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 2018 and 2017 to Form 5500:

	2018	2017
	(In thousands)	
Net assets available for benefits per the financial statements	\$2,064,603	\$1,943,659
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	(1,508	) 3,126
Amounts allocated to withdrawing participants	(22	) (297
Net assets available for benefits per Form 5500	\$2,063,073	\$1,946,488

The following is a reconciliation of benefits paid to participants per the financial statements for the year ended 30 September 2018 to the Form 5500:

	2018
	(In thousands)
Distributions to participants per the financial statements	\$ 150,102
Amounts allocated to withdrawing participants at 30 September 2018	22
Amounts allocated to withdrawing participants at 30 September 2017	(297
Distributions to participants per Form 5500	) \$ 149,827

Table of Contents

AIR PRODUCTS AND CHEMICALS, INC.  
RETIREMENT SAVINGS PLAN  
Notes to Financial Statements  
30 September 2018 and 2017

The following is a reconciliation of the net increase in net assets per the financial statements for the year ended 30 September 2018 to the Form 5500:

	2018 (In thousands)
Increase in net assets per the financial statements	\$ 120,944
Change in the adjustment from contract value to fair value for fully benefit-responsive investment contracts	(4,634 )
Change in amounts allocated to withdrawing participants	275
Net increase per Form 5500	\$ 116,585

Table of Contents

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

30 September 2018

(In thousands)

Identity of issue	Description	Current value
Interest-bearing cash:		
*Fidelity Trust Management Company	Cash	\$3,237
Money Market Fund:		
*Fidelity Investments Money Market Government Portfolio - Institutional Class	Money market fund; par value	32,017
Life Cycle Funds (Lending Series Fund Class II):		
SS Target Retirement Income Securities	Commingled investment pool	17,472
SS Target Retirement 2015 Securities	Commingled investment pool	16,765
SS Target Retirement 2020 Securities	Commingled investment pool	67,204
SS Target Retirement 2025 Securities	Commingled investment pool	59,536
SS Target Retirement 2030 Securities	Commingled investment pool	72,525
SS Target Retirement 2035 Securities	Commingled investment pool	32,302
SS Target Retirement 2040 Securities	Commingled investment pool	44,624
SS Target Retirement 2045 Securities	Commingled investment pool	22,833
SS Target Retirement 2050 Securities	Commingled investment pool	18,862
SS Target Retirement 2055 Securities	Commingled investment pool	13,306
SS Target Retirement 2060 Securities	Commingled investment pool	2,213
Corporate Bond Fund:		
Western Asset Core Plus Bond CIF R1	Commingled investment pool	75,590
Bond Index Fund:		
Vanguard Total Bond Market Index Fund	Mutual fund shares: 1,878,861	19,465
Balanced Fund:		
Dodge & Cox Balanced Fund	Mutual fund shares: 1,146,635	124,547
S&P 500 Index Fund:		
*Fidelity 500 Index Fund	Mutual fund shares: 1,950,975	199,546
Extended Market Index Fund:		
*Fidelity Extended Market Index Fund	Mutual fund shares: 455,537	31,277
Mid-Cap Core Fund:		
Principal Funds Inc. MidCap Fund Institutional Class	Mutual fund shares: 2,046,796	60,053
Large Cap Value Fund:		
Vanguard Windsor II Fund Admiral	Mutual fund shares: 2,546,576	179,814
Large Cap Growth Fund:		
JPMCB Large Cap Growth Fund	Commingled investment pool	123,884
International Stock Funds:		
*Fidelity International Discovery Commingled Pool	Commingled investment pool	73,992
Vanguard Total International Stock Index Fund	Mutual fund shares: 179,993	20,895
Small Cap Core Fund:		
*FIAM Small Capitalization Core Commingled Pool	Commingled investment pool	113,895
Common Stock:		
*Air Products and Chemicals, Inc. Common Stock	Common stock shares: 2,378,336; Historical Cost: \$194,124	397,301
Fixed Income Securities Fund:		
Invesco Stable Value Fund		167,718

Guaranteed investment contracts; 2.72%  
(average yield) in 2018

Self-Directed Brokerage Account:

*Fidelity BrokerageLink	Brokerage account for many publicly available mutual funds	57,011
Total investments		\$2,047,884
*Participant loans	Interest rates ranging from 4.25% to 10.50% with various maturity dates	\$15,011

\* 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.

Table of Contents

INDEX TO EXHIBIT

Exhibit No. Description

23.1 Consent of Independent Registered Public Accounting Firm

18

---

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: 26 March 2019 By: /s/ Sean D. Major  
Sean D. Major  
Executive Vice President, General Counsel and Secretary