

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 _____

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from 1 October 2018 to 31 December 2018

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**

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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.

Report of Independent Registered Public Accounting Firm

To the Plan Participants and Plan Administrator of Air Products and Chemicals, Inc. Retirement Saving Plan

Opinion on the Financial Statements

We have audited the accompanying statement of net assets available for benefits of Air Products and Chemicals, Inc. Retirement Saving Plan (the "Plan") as of December 31, 2018 and the related statement of changes in net assets available for benefits for the three months then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the net assets available for benefits as of December 31, 2018, and the changes in net assets available for benefits for three-month period ended on December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on the financial statements based on our audit. 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 audit in accordance with 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 audit 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 audit 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 audit provides a reasonable basis for our opinion.

Report on Supplemental Schedule

The supplemental schedule of assets (held at end of year) as of December 31, 2018 has been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental schedule is the responsibility of the Plan's management. Our audit procedures included determining whether the supplemental schedule 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 schedule. In forming our opinion on the supplemental schedule, we evaluated whether the supplemental schedule, including its form and content, is presented in compliance 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, such schedule is fairly stated, in all material respects, in relation to the financial statements as a whole.

/s/ DELOITTE & TOUCHE LLP

Philadelphia, Pennsylvania

June 28, 2019

We have served as the auditor of the Plan since 2019

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 statement of net assets available for benefits of the Air Products and Chemicals, Inc. Retirement Savings Plan (the Plan) as of 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, 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 audit. 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 audit 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 audit 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 audit 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 audit provides a reasonable basis for our opinion.

/s/KPMG LLP

We served as the Plan's auditor from 2002 to 2019.

Philadelphia, Pennsylvania

26 March 2019

AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN

Statements of Net Assets Available for Benefits
(In thousands)

	31 December 2018	30 September 2018
Assets		
Investments at fair value:		
Interest-bearing cash	\$ 4,609	\$ 3,237
Money Market Fund	35,015	32,017
Life Cycle Funds	338,751	367,642
Corporate Bond Fund	75,587	75,590
Bond Index Fund	19,608	19,465
Balanced Fund	117,113	124,547
S&P 500 Index Fund	170,595	199,546
Extended Market Index Fund	24,930	31,277
Mid-Cap Core Fund	49,276	60,053
Large Cap Value Fund	150,249	179,814
Large Cap Growth Fund	98,409	123,884
International Stock Funds	80,017	94,887
Small Cap Core Fund	88,755	113,895
Company Stock	380,679	397,301
Self-directed Brokerage Account	49,365	57,011
Total investments at fair value	1,682,958	1,880,166
Fully benefit-responsive investment contracts at contract value:		
Fixed Income Securities Fund	171,614	169,226
Receivables:		
Notes receivable from participants	14,796	15,011
Accrued interest and dividends	526	369
Other receivables	912	19
Total receivables	16,234	15,399
Total assets	1,870,806	2,064,791
Liabilities		
Payables and accrued liabilities	308	188
Total liabilities	308	188
Net assets available for benefits	\$ 1,870,498	\$ 2,064,603

The accompanying notes are an integral part of these statements.

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

Three Months Ended
31 December 2018

Additions:	
Participant contributions	\$ 11,869
Company matching contributions	3,616
Company core contributions	3,507
Interest income	200
Dividend income	36,228
Total additions	<u>55,420</u>
Deductions:	
Net depreciation in fair value of investments	219,713
Distributions to participants	29,744
Administrative expenses	68
Total deductions	<u>249,525</u>
Net decrease	(194,105)
Net assets available for benefits:	
Beginning of period	2,064,603
End of period	<u>\$ 1,870,498</u>

The accompanying notes are an integral part of these statements.

**AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN**

Notes to Financial Statements

31 December 2018 and 30 September 2018

(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).

Effective 1 January 2019, the Plan was amended to change the Plan's fiscal year (the "Plan Year") from the Company's fiscal year to the 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, and the period that began on 1 October 2018 and ended on 31 December 2018 is referred to as the Short Plan Year.

(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 (the "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.

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(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).

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 Company 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.

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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.

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 Company 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, Company Core Contributions, and earnings thereon.

(h) Forfeitures

Forfeitures can be used by the Company to reduce Company Core Contributions. There were no forfeitures used to reduce Company Core Contributions for the Short Plan Year, and there were no unallocated forfeitures at period-end.

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(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;
 - (ii) 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 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 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.

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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 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 Short Plan Year, 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 V, SS Target Retirement 2015 Securities Lending Series Fund Class V, SS Target Retirement 2020 Securities Lending Series Fund Class V, SS Target Retirement 2025 Securities Lending Series Fund Class V, SS Target Retirement 2030 Securities Lending Series Fund Class V, SS Target Retirement 2035 Securities Lending Series Fund Class V, SS Target Retirement 2040 Securities Lending Series Fund Class V, SS Target Retirement 2045 Securities Lending Series Fund Class V, SS Target Retirement 2050 Securities Lending Series Fund Class V, SS Target Retirement 2055 Securities Lending Series Fund Class V, and SS Target Retirement 2060 Securities Lending Series Fund Class V) – 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.

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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 the 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.

**AIR PRODUCTS AND CHEMICALS, INC.
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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.

(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 (“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 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.

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(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 31 December 2018 and 30 September 2018, 20% and 19%, 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 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) Interest-bearing Cash and Money Market Fund

The carrying amounts of cash and cash equivalents approximate fair value due to short-term maturity.

(b) 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.

(c) Company Stock

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

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(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. The commingled funds are not subject to redemption restrictions and are 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.

(f) Investments Measured at Fair Value

Investments measured at fair value are summarized below (in thousands):

	31 December 2018			
	Total	Level 1	Level 2	Level 3
Assets				
Interest-bearing Cash	\$ 4,609	\$ 4,609	\$ —	\$ —
Money Market Fund	35,015	35,015	—	—
Mutual Funds	599,594	599,594	—	—
Company Stock	380,679	380,679	—	—
Commingled Funds	663,061	663,061	—	—
Total investments at fair value	<u>\$ 1,682,958</u>	<u>\$ 1,682,958</u>	<u>\$ —</u>	<u>\$ —</u>

Investments measured at contract value:

Fixed Income Securities Fund	171,614
Total Investments	<u>\$ 1,854,572</u>

	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	<u>\$ 1,880,166</u>	<u>\$ 1,880,166</u>	<u>\$ —</u>	<u>\$ —</u>

Investments measured at contract value:

Fixed Income Securities Fund	169,226
Total Investments	<u>\$ 2,049,392</u>

**AIR PRODUCTS AND CHEMICALS, INC.
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Notes to Financial Statements

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(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.

No valuation reserves were recorded against the contract value for credit risk of the contract issuers or otherwise for the Fund at 31 December 2018 and 30 September 2018.

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.

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 31 December 2018 and 30 September 2018, there were 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.

AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN

Notes to Financial Statements

31 December 2018 and 30 September 2018

(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.

(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 \$380,679,000 and \$397,301,000 at 31 December 2018 and 30 September 2018, representing 20% and 19% of net assets available for benefits, respectively.

The Plan invests in funds managed by Fidelity valued at \$441,973,000 and \$520,282,000 at 31 December 2018 and 30 September 2018, representing 24% and 25% of net assets available for benefits, respectively.

(9) Subsequent Events

Effective 1 January 2019 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 31 December 2018 and 30 September 2018 to Form 5500:

	31 December 2018	30 September 2018
	(In thousands)	
Net assets available for benefits per the financial statements	\$ 1,870,498	\$ 2,064,603
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	(663)	(1,508)
Amounts allocated to withdrawing participants	(239)	(22)
Net assets available for benefits per Form 5500	\$ 1,869,596	\$ 2,063,073

AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN

Notes to Financial Statements

31 December 2018 and 30 September 2018

The following is a reconciliation of benefits paid to participants per the financial statements for the three months ended 31 December 2018 to the Form 5500:

	Three Months Ended 31 December 2018
	(In thousands)
Distributions to participants per the financial statements	\$ 29,744
Amounts allocated to withdrawing participants at 31 December 2018	239
Amounts allocated to withdrawing participants at 30 September 2018	(22)
Distributions to participants per Form 5500	\$ 29,961

The following is a reconciliation of the net decrease in net assets per the financial statements for the three months ended 31 December 2018 to the Form 5500:

	Three Months Ended 31 December 2018
	(In thousands)
Decrease in net assets per the financial statements	\$ (194,105)
Change in the adjustment from contract value to fair value for fully benefit-responsive investment contracts	845
Change in amounts allocated to withdrawing participants	(217)
Net decrease per Form 5500	\$ (193,477)

Schedule H, Line 4(i) – Schedule of Assets (Held at End of Year)
 31 December 2018
 (In thousands except for share data)

Identity of issue	Description	Current value
Interest-bearing cash:		
* Fidelity Trust Management Company	Cash	\$ 4,609
Money Market Fund:		
* Fidelity Investments Money Market Government Portfolio - Institutional Class	Money market fund; par value	35,015
Life Cycle Funds (Lending Series Fund Class V):		
SS Target Retirement Income Securities	Commingled investment pool	17,494
SS Target Retirement 2015 Securities	Commingled investment pool	15,718
SS Target Retirement 2020 Securities	Commingled investment pool	61,909
SS Target Retirement 2025 Securities	Commingled investment pool	54,939
SS Target Retirement 2030 Securities	Commingled investment pool	66,800
SS Target Retirement 2035 Securities	Commingled investment pool	29,684
SS Target Retirement 2040 Securities	Commingled investment pool	39,900
SS Target Retirement 2045 Securities	Commingled investment pool	20,446
SS Target Retirement 2050 Securities	Commingled investment pool	17,680
SS Target Retirement 2055 Securities	Commingled investment pool	12,220
SS Target Retirement 2060 Securities	Commingled investment pool	1,961
Corporate Bond Fund:		
Western Asset Core Plus Bond CIF R1	Commingled investment pool	75,587
Bond Index Fund:		
Vanguard Total Bond Market Index Fund	Mutual fund shares: 1,876,387	19,608
Balanced Fund:		
Dodge & Cox Balanced Fund	Mutual fund shares: 1,255,639	117,113
S&P 500 Index Fund:		
* Fidelity 500 Index Fund	Mutual fund shares: 1,958,609	170,595
Extended Market Index Fund:		
* Fidelity Extended Market Index Fund	Mutual fund shares: 469,312	24,930
Mid-Cap Core Fund:		
Principal Funds Inc. MidCap Fund Institutional Class	Mutual fund shares: 2,173,623	49,276
Large Cap Value Fund:		
Vanguard Windsor II Fund Admiral	Mutual fund shares: 2,721,906	150,249
Large Cap Growth Fund:		
JPMCB Large Cap Growth Fund	Commingled investment pool	98,409
International Stock Funds:		
* Fidelity International Discovery Commingled Pool	Commingled investment pool	61,559
Vanguard Total International Stock Index Fund	Mutual fund shares: 181,922	18,458
Small Cap Core Fund:		
* FIAM Small Capitalization Core Commingled Pool	Commingled investment pool	88,755
Common Stock:		
* Air Products and Chemicals, Inc. Common Stock	Common stock shares: 2,378,476; Historical Cost: \$198,121	380,679
Fixed Income Securities Fund:		
Invesco Stable Value Fund	Guaranteed investment contracts; 2.72% (average yield) in 2018	170,951
Self-directed Brokerage Account:		
* Fidelity BrokerageLink	Brokerage account for many publicly available mutual funds	49,365
Total investments		\$ 1,853,909
* Participant loans	Interest rates ranging from 4.25% to 10.50% with various maturity dates	\$ 14,796

* 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.

INDEX TO EXHIBITS

Exhibit No.	Description
23.1	Consent of Independent Registered Public Accounting Firm
23.2	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: 28 June 2019

By: /s/ Sean D. Major

Sean D. Major

Executive Vice President, General Counsel and
Secretary

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statement No. 333-204388 on Form S-8 of our report dated June 28, 2019, relating to the financial statements and financial statement schedules of Air Product and Chemical Inc. Retirement Savings Plan, appearing in this Annual Report on Form 11-KT of Air Product and Chemical Inc. Retirement Savings Plan for three months ended December 31, 2018.

/s/ DELOITTE & TOUCHE LLP

Philadelphia, Pennsylvania
June 28, 2019

Consent of Independent Registered Public Accounting Firm

The Plan Administrator Air Products and Chemicals, Inc. Retirement Savings Plan:

We consent to the incorporation by reference in the registration statement (No. 333-204388) on Form S-8 of Air Products and Chemicals, Inc. of our report dated 26 March 2019, with respect to the statement of net assets available for benefits of the Air Products and Chemicals, Inc. Retirement Savings Plan as of 30 September 2018 and the related notes (collectively, the financial statements), which report appears in the 31 December 2018 report on Form 11-KT of the Air Products and Chemicals, Inc. Retirement Savings Plan.

/s/KPMG LLP

Philadelphia, Pennsylvania
28 June 2019