

**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 OF 1934

(Mark One)

- ☒ ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES
EXCHANGE ACT OF 1934

For the fiscal year ended 31 December 2023

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.
1940 AIR PRODUCTS BOULEVARD
ALLENTOWN, PA 18106-5500**

**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 Savings Plan

Opinion on the Financial Statements

We have audited the accompanying statements of net assets available for benefits of Air Products and Chemicals, Inc. Retirement Savings Plan (the "Plan") as of 31 December 2023 and 2022, the related statement of changes in net assets available for benefits for the year ended 31 December 2023, 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 of the Plan as of 31 December 2023 and 2022, and the changes in net assets available for benefits for the year ended 31 December 2023, 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 Plan's 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.

Report on Supplemental Schedule

The supplemental schedule of assets (held at end of year) as of 31 December 2023, 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

20 June 2024

We have served as the auditor of the Plan since 2019.

AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN

Statements of Net Assets Available for Benefits

As of 31 December 2023 and 2022

(In thousands)

	2023	2022
Assets:		
Participant-directed investments at fair value:		
Interest-bearing cash	\$21,275	\$24,604
Mutual funds	648,339	515,332
Commingled funds	981,203	834,940
Company stock	502,296	576,982
Separately managed account	150,087	157,635
Self-directed brokerage account	70,325	60,901
Total participant-directed investments at fair value	2,373,525	2,170,394
Fully benefit-responsive investment contracts at contract value:		
Fixed income securities fund	200,661	237,372
Receivables:		
Notes receivable from participants	16,873	15,068
Employer contributions receivable	798	782
Accrued interest and dividends	1,746	1,026
Other receivables	188	8
Total receivables	19,605	16,884
Total assets	2,593,791	2,424,650
Liabilities:		
Payables and accrued liabilities	318	355
Total liabilities	318	355
Net assets available for benefits	\$2,593,473	\$2,424,295

See notes to financial statements.

AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN

Statement of Changes in Net Assets Available for Benefits

For the Year Ended 31 December 2023

(In thousands)

	2023
Additions:	
Contributions:	
Participant contributions	\$76,828
Company matching contributions	18,031
Company core contributions	30,807
Total contributions	125,666
Investment income:	
Interest income	2,034
Dividend income	34,360
Net appreciation in the fair value of investments	220,375
Total investment income	256,769
Total additions	382,435
Deductions:	
Distributions to participants	212,761
Administrative expenses	496
Total deductions	213,257
Net increase	169,178
Net assets available for benefits:	
Beginning of year	2,424,295
End of year	\$2,593,473

See notes to financial statements.

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

Notes to Financial Statements

As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023

(In thousands, except for share data)

(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. Capitalized terms used herein but not defined herein have the meanings set forth in the Plan.

(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. The Plan permits 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 and Finance 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, retirement savings, or welfare benefits, in accordance with its delegation with respect to the Company's pension, retirement savings, and welfare benefit plans. The Chairman has delegated some of this authority to the Senior Vice President and Chief Human Resources Officer, 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 and Finance Committee appointed the Pension 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. The Pension Investment Committee has appointed

Willis Towers Watson to serve as the Plan's investment consultant under the ERISA definition of a 3(21) investment advisor. The Pension Investment Committee also appoints various external investment managers for the management of the Plan's assets.

(c) Participant Accounts

Individual accounts are maintained for each participant of the Plan. Each participant's account is credited with the participant's contributions, Company contributions, and allocations of the Plan's earnings. Participant accounts are also charged with withdrawals and an allocation of Plan losses and 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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As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023

(In thousands, except for share data)

(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 each participant's 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 Plan is required to return contributions received during the Plan year in excess of the IRC limits.

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 and in accordance with IRC Section 401(a). 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 became 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 cash contributions made by the Company to eligible participants' accounts in accordance with the participants' investment direction election. As of 1 January 2022, the amount of Company core contribution is based on participants' service and base pay as follows:

- 5% of base pay if credited service is less than 10 years;
- 6% of base pay if credited service is between 10 and 19 years; or
- 7% 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.

As of 1 January 2022, for participants who are eligible to receive a Company matching contribution, the Company will match 50% of the first 6% of a Participant's annual salary that is deferred to the Plan as before-tax contributions or Roth 401(k) contributions. Catch-up contributions are not eligible for Company 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 of the Plan's other investment options at any time. As such, Company stock is deemed participant directed.

Employee contributions and employer matching contributions are recorded when earned.

**AIR PRODUCTS AND CHEMICALS, INC.
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(In thousands, except for share data)

On an annual basis, the Company shall ensure that for participants who are employed by the Company on the last day of the Plan year, that the participant's Company matching contribution is equal to the maximum contribution the participant would receive under the Company matching formula for the calendar year based upon the participant's before-tax and Roth 401(k) contributions for the entire calendar year. The Company will make the appropriate additional Company matching contribution to the Plan as needed. The additional Company matching contributions to provide participants with their maximum amount were \$798 and \$782 for the Plan years 2023 and 2022, respectively, and are reflected on the statements of net assets available for benefits within "Employer contributions receivable."

(e) Contribution Percentage Changes

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

(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

The Company can use forfeitures to reduce the costs of administering the Plan. There were \$69 of forfeitures used to reduce the costs of administering the Plan in 2023. There were \$207 and \$253 of unallocated forfeitures at 31 December 2023 and 2022, respectively.

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

As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023

(In thousands, except for share data)

(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 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. A hardship withdrawal may be made without regard to whether any other withdrawal has occurred within the last 12 months. Hardship distribution provisions treat expenses and losses (including loss of income) incurred by a participant on account of a disaster as an immediate and heavy financial need. To qualify, the Federal Emergency Management Agency ("FEMA") must declare a disaster under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-707, and the participant's principal residence or principal place of employment at the time of the disaster must be located in an area designated by FEMA for individual assistance with respect to the disaster;
 - (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. 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.

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(In thousands, except for share data)

The distribution of a participant's account balance may be deferred until the earlier of age 73 or death. The entire balance of the participant's account is required to be distributed within 10 years following a participant's death, regardless of whether the participant dies before, on, or after the age for required minimum distribution.

(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 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 and 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 outstanding participant loans during the Plan year ended 31 December 2023, ranged from 4.25% to 10.50%, with maturities through 2048.

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 as defined in the Summary Plan Description. Participants can elect to have their contributions to the Plan and Company core contributions invested in mutual funds, Company stock, commingled funds, separately managed account, and a fixed income securities fund offered by the Plan.

Participants may also direct their investments through a trustee sponsored brokerage account ("Fidelity BrokerageLink"), which offers the option to invest in a range of Fidelity and non-Fidelity mutual funds. Interest-bearing cash held in the Fidelity BrokerageLink account is presented separately on the statements of net assets available for benefits.

Participant changes to investment elections can apply to future contributions, accumulated savings, or both. Participant investment election changes completed by 4:00 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 Fidelity BrokerageLink.

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Notes to Financial Statements

As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023

(In thousands, except for share data)

(1) Secure 2.0 Act of 2022

On 29 December 2022, the SECURE 2.0 Act of 2022 ("SECURE 2.0") was signed into law. SECURE 2.0 includes provisions intended to expand coverage, increase retirement savings, and simplify and clarify retirement plan rules. The Plan is continuing to evaluate the impact of SECURE 2.0 on its operations and financial statements but does not expect a significant impact at this time.

(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, 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. Net appreciation on the statement of changes in net assets available for benefits includes the Plan's gains and losses on investments bought and sold as well as held during the year.

(d) Risks and Uncertainties

Investment securities are exposed to various risks, such as interest rate, credit, and overall market volatility risks. Market volatility risks include global events which could impact the value of investment securities, such

as a pandemic or international conflict. 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 2023 and 2022, 19% and 24%, respectively, of the Plan's net assets available for benefits were invested in the Company stock. 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.

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

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(In thousands, except for share data)

(e) Payment of Benefits

Benefits are recorded when paid. Amounts allocated to accounts of participants who have elected to withdraw from the Plan, but have not yet been paid, were \$688 at 31 December 2023. There was \$369 allocated to accounts of participants who elected to withdraw from the Plan, but that had not yet been paid at 31 December 2022.

(3) Fair Value Measurements

Fair value is defined as an exit price, or 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:

Interest-bearing Cash

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

Mutual Funds

Shares of mutual funds are valued at the daily closing price as reported by the fund. The mutual funds are required to publish their daily net asset value ("NAV") and to transact at that price. The mutual funds are deemed to be actively traded and are classified as Level 1 assets.

Commingled Funds

Commingled funds are valued at NAV, 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.

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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Notes to Financial Statements

As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023

(In thousands, except for share data)

Separately Managed Account

The separately managed account consists of a portfolio of individual securities (equity securities) managed on the participant's behalf. The Plan directly owns the individual equity securities. The individual assets of the fund are held in the name of the Plan and are considered separately as individual investments for accounting, auditing and financial statement reporting purposes. The portfolio of individual equity securities are valued based on the closing price reported on the active market on which the individual securities are traded and are presented as Level 1 assets.

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.

Investments Measured at Fair Value

Investments measured at fair value at 31 December 2023 and 2022 are summarized below:

	31 December 2023			
	Total	Level 1	Level 2	Level 3
Assets				
Interest-bearing cash	\$21,275	\$21,275	\$—	\$—
Mutual funds	718,664	718,664	—	—
Commingled funds	981,203	981,203	—	—
Company stock	502,296	502,296	—	—
Separately managed account	150,087	150,087	—	—
Total investments at fair value	\$2,373,525	\$2,373,525	\$—	\$—
Investments measured at contract value:				
Fixed income securities fund	200,661			
Total Investments	\$2,574,186			

31 December 2022				
	Total	Level 1	Level 2	Level 3
Assets				
Interest-bearing cash	\$24,604	\$24,604	\$—	\$—
Mutual funds	576,233	576,233	—	—
Commingled funds	834,940	834,940	—	—
Company stock	576,982	576,982	—	—
Separately managed account	157,635	157,635	—	—
Total investments at fair value	\$2,170,394	\$2,170,394	\$—	\$—
Investments measured at contract value:				
Fixed income securities fund	237,372			
Total Investments	<u>\$2,407,766</u>			

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Notes to Financial Statements

As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023

(In thousands, except for share data)

(4) Fixed Income Securities Fund

Contributions made to the fixed income securities fund (the "Fund") can be invested in varying allocations of 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 currently synthetic and 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, contract value is the relevant measurement attributable for the contracts held in the Fund because the contracts are deemed fully benefit-responsive. 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 2023 and 2022.

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 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.

(6) Expenses of the Plan

The Plan has paid all reasonable third-party fees and expenses for administration of the Plan, including (but not limited to) trustee fees, record-keeping fees, investment consulting 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.

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Notes to Financial Statements

As of 31 December 2023 and 2022, and for the Year Ended 31 December 2023
(In thousands, except for share data)

(8) Related-Party Transactions

The Plan holds Company stock, representing qualifying equity securities as defined by ERISA. The Plan held Company stock valued at \$502,296 and \$576,982 at 31 December 2023 and 2022, representing 19% and 24% of net assets available for benefits, respectively. At 31 December 2023 and 2022, the Plan held 1,834,399 and 1,871,659 shares with a cost basis of \$251,180 and \$233,993, respectively, of Company stock. During the Plan year ended 31 December 2023, the Plan recorded dividend income of \$12,507 received from dividends on Company stock.

Plan investments include shares of funds managed by Fidelity. Fidelity is the trustee and record keeper, as defined by the Plan. Therefore, these transactions qualify as exempt party-in-interest transactions. Fees paid for investment management services were included as a reduction of the return earned on each fund. The Plan's investments in funds managed by Fidelity are valued at \$513,038 and \$414,062 at 31 December 2023 and 2022, representing 20% and 17% of net assets available for benefits, respectively.

The Plan also issues loans to participants, which are secured by the vested balances in the participants' accounts.

(9) Reconciliations of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements at 31 December 2023 and 2022 to Form 5500:

	2023	2022
Net assets available for benefits per the financial statements	\$2,593,473	\$2,424,295
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	(11,640)	(15,832)
Amounts allocated to withdrawing participants	(688)	(369)
Net assets available for benefits per Form 5500	\$2,581,145	\$2,408,094

The following is a reconciliation of benefits paid to participants per the financial statements for the year ended 31 December 2023 to the Form 5500:

	2023
Distributions to participants per the financial statements	\$212,761
Amounts allocated to withdrawing participants at 31 December 2023	688
Amounts allocated to withdrawing participants at 31 December 2022	(369)
Distributions to participants per Form 5500	\$213,080

The following is a reconciliation of the net increase in net assets per the financial statements for the year ended 31 December 2023 to the Form 5500:

	2023
Increase in net assets per the financial statements	\$169,178
Change in the adjustment from contract value to fair value for fully benefit-responsive investment contracts	4,192
Change in amounts allocated to withdrawing participants	(319)
Net increase per Form 5500	\$173,051

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Air Products and Chemicals, Inc. Retirement Savings Plan
Employer ID No: 23-1274455, Plan No: 001
Schedule H, Part IV, Line 4(i) – Schedule of Assets (Held at End of Year)
As of 31 December 2023
(In thousands, except for share data)

Identity of issue	Description	Current value
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Interest-bearing cash:

* Fidelity Trust Management Company	Cash	\$12,627
Snyder Small Mid Cap	Cash	2,170
Invesco Stable Value Fund	Cash	6,478

Life Cycle Funds (Lending Series Fund Class V):

SS Target Retirement Income Securities	Commingled investment pool	36,116
SS Target Retirement 2020 Securities	Commingled investment pool	47,259
SS Target Retirement 2025 Securities	Commingled investment pool	100,382
SS Target Retirement 2030 Securities	Commingled investment pool	137,220
SS Target Retirement 2035 Securities	Commingled investment pool	84,004
SS Target Retirement 2040 Securities	Commingled investment pool	88,233
SS Target Retirement 2045 Securities	Commingled investment pool	59,173
SS Target Retirement 2050 Securities	Commingled investment pool	49,912
SS Target Retirement 2055 Securities	Commingled investment pool	40,299
SS Target Retirement 2060 Securities	Commingled investment pool	15,447
SS Target Retirement 2065 Securities	Commingled investment pool	4,639

Corporate Bond Fund:

Western Asset Core Plus Bond CIF R1	Commingled investment pool	51,987
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Bond Index Fund:

Vanguard Total Bond Market Index Fund	Mutual fund shares: 4,131,760	40,119
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S&P 500 Index Fund:

* Fidelity 500 Index Fund	Mutual fund shares: 1,907,447	315,663
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Extended Market Index Fund:

* Fidelity Extended Market Index Fund	Mutual fund shares: 558,676	43,610
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Large Cap Value Fund:

Vanguard Windsor II Fund Admiral	Mutual fund shares: 2,831,086	215,332
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Large Cap Growth Fund:

JPMCB Large Cap Growth Fund	Commingled investment pool	202,197
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Small Mid-Cap Corporate Common Stock

** Snyder Small Mid Cap	Equity Securities	150,087
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International Stock Funds:

* Fidelity International Discovery Commingled Pool	Commingled investment pool	64,335
Vanguard Total International Stock Index Fund	Mutual fund shares: 269,997	33,615

Common Stock:

* Air Products and Chemicals, Inc. Common Stock	Common stock shares: 1,834,399; Historical Cost: 251,180	502,296
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Fixed Income Securities Fund:

** Invesco Stable Value Fund	Guaranteed investment contracts	189,021
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Self-Directed Brokerage Account:

* Fidelity BrokerageLink	Brokerage account for many publicly available mutual funds	70,325
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* Represents investments with a party-in-interest.

** Refer to Attachment A for listing of underlying holdings.

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

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Air Products and Chemicals, Inc. Retirement Savings Plan
Employer ID No: 23-1274455, Plan No: 001
Attachment A
As of 31 December 2023
(In thousands)

Identity of issue	Description	Current value
AMETEK Inc.	Common Stock	\$6,938
Amphenol Corp. CI A	Common Stock	6,524
BWX Technologies	Common Stock	6,277
Bio Techne Corp	Common Stock	4,004
Brown & Brown Inc.	Common Stock	4,513
Cabot Corp.	Common Stock	4,472
Charles River Laboratories	Common Stock	4,744
Clean Harbors Inc.	Common Stock	8,915
Coherent Corp	Common Stock	2,502
Copart Inc.	Common Stock	2,936
Dolby Laboratories Inc. CI A	Common Stock	3,632
Entegris Inc.	Common Stock	8,000
FMC Corp	Common Stock	3,153
First American Financial	Common Stock	2,570
Graco Inc.	Common Stock	2,534
HEICO Corp - Class A	Common Stock	3,143
Halozyme Therapeutics Inc.	Common Stock	4,542
Helen of Troy Ltd.	Common Stock	1,954
Henry Schein, Inc.	Common Stock	4,640
Hexcel Corp	Common Stock	2,068
Huntington Bancshares Inc.	Common Stock	4,300
IDEX Corp.	Common Stock	2,393
Ingredion Inc.	Common Stock	5,126
Keysight Technologies	Common Stock	2,447
LKQ Corp	Common Stock	4,298
Markel Group Inc.	Common Stock	1,742
Mid-America Apartment Communities	Common Stock	923
NNN REIT, Inc.	Common Stock	3,666
OPENLANE, Inc.	Common Stock	2,434
Prosperity Bancshares, Inc.	Common Stock	3,368
SS&C Technologies Holdings	Common Stock	5,566
STERIS PLC	Common Stock	3,246
Synopsys Inc.	Common Stock	8,363
UGI Corp.	Common Stock	3,199
Waste Connections Inc.	Common Stock	7,816
Woodward Inc.	Common Stock	3,139
Snyder Small Mid Cap		<u>\$150,087</u>

Dodge & Cox Core Fixed Income Fund	Synthetic	9,868
Invesco Core Fixed Income Fund	Synthetic	9,862
Invesco Intermediate Fund	Synthetic	19,944
Invesco Short Term Bond Fund	Synthetic	89,626
Jennison Intermediate Fund	Synthetic	19,948
Loomis Sayles Core Fixed Income Fund	Synthetic	9,874
Loomis Sayles Intermediate Fund	Synthetic	19,994

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: 20 June 2024

By: /s/ Sean D. Major

Sean D. Major
Executive Vice President,
General Counsel and
Secretary