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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM 8-A**

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**FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES  
PURSUANT TO SECTION 12(b) OR 12(g) OF  
THE SECURITIES EXCHANGE ACT OF 1934**

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**AIR PRODUCTS AND CHEMICALS, INC.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State of Incorporation  
or Organization)

**23-1274455**  
(IRS Employer  
Identification No.)

**1940 Air Products Boulevard**  
**Allentown, Pennsylvania**  
(Address of principal executive offices)

**18106-5500**  
(Zip Code)

**Securities to be registered pursuant to Section 12(b) of the Act:**

**Title of each class  
to be so registered**  
**4.000% Notes due 2035**

**Name of each exchange on which  
each class is to be registered**  
**New York Stock Exchange**

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), check the following box.

If this form relates to the registration of a class of securities concurrently with a Regulation A offering, check the following box.

**Securities Act registration statement file number to which this form relates:**

**No. 333-250809**

**Securities to be registered pursuant to Section 12(g) of the Act:**

**NONE**  
(Title of class)

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## INFORMATION REQUIRED IN REGISTRATION STATEMENT

### Item 1. Description of Registrant's Securities to be Registered.

This Registration Statement on Form 8-A relates to the 4.000% Notes due 2035 (the "Notes") of Air Products and Chemicals, Inc. (the "Company"). For a description of such securities, reference is made to the information under the heading "Description of Notes" and "Description of Debt Securities," respectively, in the prospectus supplement, dated February 27, 2023, which was filed with the Securities and Exchange Commission (the "Commission") on March 1, 2023, pursuant to Rule 424(b)(5) under the Securities Act of 1933, and the prospectus, dated November 20, 2020, contained in the Company's effective Registration Statement on Form S-3 (Registration No. 333-250809), which registration statement was filed with the Commission on November 20, 2020, and all of which information is incorporated herein by reference and made part of this Registration Statement in its entirety.

### Item 2. Exhibits.

No.	Description
4.1	<a href="#"><u>Indenture, dated as of April 30, 2020, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated herein by reference to Exhibit 4.1 to the Current Report on Form 8-K, filed with the Commission on April 30, 2020).</u></a>
4.2	<a href="#"><u>Officer's Certificate setting forth the terms and form of the 4.000% Notes due 2035 (incorporated herein by reference to Exhibit 4.3 to the Current Report on Form 8-K, filed with the Commission on March 3, 2023).</u></a>
4.3	<a href="#"><u>Form of 4.000% Notes due 2035 (incorporated herein by reference to Exhibit 4.3 to the Current Report on Form 8-K, filed with the Commission on March 3, 2023).</u></a>

**SIGNATURE**

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

**AIR PRODUCTS AND CHEMICALS, INC.**

By: /s/ Sean D. Major

Name: Sean D. Major

Title: Executive Vice President,  
General Counsel and Secretary

Date: March 3, 2023